

## **ANNEX A**

# **GENERAL PROVISIONS AND PROVISIONS CONCERNING DANGEROUS SUBSTANCES AND ARTICLES**

# **PART 1**

## **General provisions**

## CHAPTER 1.1

### SCOPE AND APPLICABILITY

#### 1.1.1      **Structure**

Annexes A and B of ADR are grouped into nine parts. Annex A consists of Parts 1 to 7, and Annex B of Parts 8 and 9. Each part is subdivided into chapters and each chapter into sections and sub-sections. Within each part the number of the part is included with the numbers of the chapters, sections and sub-sections, for example Part 4, Chapter 2, Section 1 is numbered "4.2.1".

#### 1.1.2      **Scope**

1.1.2.1      For the purposes of Article 2 of ADR, Annex A specifies:

- (a)    Dangerous goods which are barred from international carriage;
- (b)    Dangerous goods which are authorized for international carriage and the conditions attaching to them (including exemptions) particularly with regard to:
  - classification of goods, including classification criteria and relevant test methods;
  - use of packagings (including mixed packing);
  - use of tanks (including filling);
  - consignment procedures (including marking and labelling of packages and placarding and marking of means of transport as well as documentation and information required);
  - provisions concerning the construction, testing and approval of packagings and tanks;
  - use of means of transport (including loading, mixed loading and unloading).

1.1.2.2      Annex A contains certain provisions which, according to Article 2 of ADR, pertain to Annex B or to both Annexes A and B, as follows:

- 1.1.1      Structure
- 1.1.2.3      (Scope of Annex B)
- 1.1.2.4
- 1.1.3.1      Exemptions related to the nature of the transport operation
- 1.1.3.6      Exemptions related to quantities carried per transport unit
- 1.1.4      Applicability of other regulations
- 1.1.4.5      Carriage other than by road
- Chapter 1.2      Definitions and units of measurements
- Chapter 1.3      Training of persons involved in the carriage of dangerous goods
- Chapter 1.4      Safety obligations of the participants
- Chapter 1.5      Derogations
- Chapter 1.6      Transitional measures
- Chapter 1.8      Checks and other support measures to ensure compliance with safety requirements

|              |  |
|--------------|--|
| Chapter 1.9  | Transport restrictions by the competent authorities  |
| Chapter 1.10 | Security provisions  |
| Chapter 3.1  | General  |
| Chapter 3.2  | Columns (1), (2), (14), (15) and (19) (application of provisions of Parts 8 and 9 to individual substances or articles). |

1.1.2.3 For the purposes of Article 2 of ADR, Annex B specifies the conditions regarding the construction, equipment and operation of vehicles carrying dangerous goods authorized for carriage:

- requirements for vehicle crews, equipment, operation and documentation;
- requirements concerning the construction and approval of vehicles.

1.1.2.4 In Article 1(c) of ADR, the word "vehicles" need not refer to one and the same vehicle. An international transport operation may be performed by several different vehicles provided that the operation takes place on the territory of at least two Contracting Parties to ADR between the consignor and the consignee indicated in the transport document.

### **1.1.3 Exemptions**

#### **1.1.3.1 *Exemptions related to the nature of the transport operation***

The provisions laid down in ADR do not apply to:

- (a) The carriage of dangerous goods by private individuals where the goods in question are packaged for retail sale and are intended for their personal or domestic use or for their leisure or sporting activities provided that measures have been taken to prevent any leakage of contents in normal conditions of carriage. When these goods are flammable liquids carried in refillable receptacles filled by, or for, a private individual, the total quantity shall not exceed 60 litres per receptacle and 240 litres per transport unit. Dangerous goods in IBCs, large packagings or tanks are not considered to be packaged for retail sale;
- (b) The carriage of machinery or equipment not specified in this Annex and which happen to contain dangerous goods in their internal or operational equipment, provided that measures have been taken to prevent any leakage of contents in normal conditions of carriage;
- (c) The carriage undertaken by enterprises which is ancillary to their main activity, such as deliveries to or returns from building or civil engineering sites, or in relation to surveying, repairs and maintenance, in quantities of not more than 450 litres per packaging and within the maximum quantities specified in 1.1.3.6. Measures shall be taken to prevent any leakage of contents in normal conditions of carriage. These exemptions do not apply to Class 7.

Carriage undertaken by such enterprises for their supply or external or internal distribution does not fall within the scope of this exemption;

- (d) The carriage undertaken by or under the supervision of the emergency services, insofar as such carriage is necessary in relation to the emergency response, in particular carriage undertaken:
  - by breakdown vehicles carrying vehicles which have been involved in accidents or have broken down and contain dangerous goods; or



- to contain and recover the dangerous goods involved in an incident or accident and move them to a safe place;
- (e) Emergency transport intended to save human lives or protect the environment provided that all measures are taken to ensure that such transport is carried out in complete safety;
- (f) The carriage of uncleaned empty static storage vessels which have contained gases of Class 2, groups A, O or F, substances of Class 3 or Class 9 belonging to packing group II or III or pesticides of Class 6.1 belonging to packing group II or III, subject to the following conditions:
  - All openings with the exception of pressure relief devices (when fitted) are hermetically closed;
  - Measures have been taken to prevent any leakage of contents in normal conditions of carriage; and
  - The load is fixed in cradles or crates or other handling devices or to the vehicle or container in such a way that they will not become loose or shift during normal conditions of carriage.

This exemption does not apply to static storage vessels which have contained desensitized explosives or substances the carriage of which is prohibited by ADR.

**NOTE:** For radioactive material, see 1.7.1.4.

#### **1.1.3.2      *Exemptions related to the carriage of gases***

The provisions laid down in ADR do not apply to the carriage of:

- (a) Gases contained in the tanks of a vehicle, performing a transport operation and destined for its propulsion or for the operation of any of its equipment (e.g. refrigerating equipment);
- (b) Gases contained in the fuel tanks of vehicles transported. The fuel cock between gas tank and engine shall be closed and the electric contact open;
- (c) Gases of Groups A and O (according to 2.2.2.1), if the pressure of the gas in the receptacle or tank at a temperature of 20 °C does not exceed 200 kPa (2 bar) and if the gas is not a liquefied or a refrigerated liquefied gas. This includes every kind of receptacle or tank, e.g. also parts of machinery and apparatus;
- (d) Gases contained in the equipment used for the operation of the vehicle (e.g. fire extinguishers), including in spare parts (e.g. inflated pneumatic tyres); this exemption also applies to inflated pneumatic tyres carried as a load;
- (e) Gases contained in the special equipment of vehicles and necessary for the operation of this special equipment during transport (cooling systems, fish-tanks, heaters, etc.) as well as spare receptacles for such equipment or uncleaned empty exchange receptacles, transported in the same transport unit; and
- (f) Gases contained in foodstuffs or beverages.

**1.1.3.3** *Exemptions related to the carriage of liquid fuels*

The provisions laid down in ADR do not apply to the carriage of:

- (a) Fuel contained in the tanks of a vehicle performing a transport operation and destined for its propulsion or for the operation of any of its equipment.

The fuel may be carried in fixed fuel tanks, directly connected to the vehicle's engine and/or auxiliary equipment, which comply with the pertinent legal provisions, or may be carried in portable fuel containers (such as jerricans).

The total capacity of the fixed tanks shall not exceed 1500 litres per transport unit and the capacity of a tank fitted to a trailer shall not exceed 500 litres. A maximum of 60 litres per transport unit may be carried in portable fuel containers. These restrictions shall not apply to vehicles operated by the emergency services;

- (b) Fuel contained in the tanks of vehicles or of other means of conveyance (such as boats) which are carried as a load, where it is destined for their propulsion or the operation of any of their equipment. Any fuel cocks between the engine or equipment and the fuel tank shall be closed during carriage unless it is essential for the equipment to remain operational. Where appropriate, the vehicles or other means of conveyance shall be loaded upright and secured against falling.

**1.1.3.4** *Exemptions related to special provisions or to dangerous goods packed in limited or excepted quantities*

**NOTE:** For radioactive material, see 1.7.1.4.

- 1.1.3.4.1 Certain special provisions of Chapter 3.3 exempt partially or totally the carriage of specific dangerous goods from the requirements of ADR. The exemption applies when the special provision is referred to in Column (6) of Table A of Chapter 3.2 against the dangerous goods entry concerned.

- 1.1.3.4.2 Certain dangerous goods may be subject to exemptions provided that the conditions of Chapter 3.4 are met.

- 1.1.3.4.3 Certain dangerous goods may be subject to exemptions provided that the conditions of Chapter 3.5 are met.

**1.1.3.5** *Exemptions related to empty uncleaned packagings*

Empty uncleaned packagings (including IBCs and large packagings) which have contained substances of Classes 2, 3, 4.1, 5.1, 6.1, 8 and 9 are not subject to the conditions of ADR if adequate measures have been taken to nullify any hazard. Hazards are nullified if adequate measures have been taken to nullify all hazards of Classes 1 to 9.

**1.1.3.6** *Exemptions related to quantities carried per transport unit*

- 1.1.3.6.1 For the purposes of this sub-section, dangerous goods are assigned to transport categories 0, 1, 2, 3, or 4, as indicated in Column (15) of Table A of Chapter 3.2. Empty uncleaned packagings having contained substances assigned to transport category "0" are also assigned to transport category "0". Empty uncleaned packagings having contained substances assigned to a transport category other than "0" are assigned to transport category "4".

1.1.3.6.2      Where the quantity of dangerous goods carried on a transport unit does not exceed the values indicated in column (3) of the table in 1.1.3.6.3 for a given transport category (when the dangerous goods carried in the transport unit belong to the same category) or the value calculated in accordance with 1.1.3.6.4 (when the dangerous goods carried in the transport unit belong to different transport categories), they may be carried in packages in one transport unit without application of the following provisions:

- Chapter 1.10, except for Class 1 explosives of Division 1.4 of UN Nos. 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 and 0500;
- Chapter 5.3;
- Section 5.4.3;
- Chapter 7.2, except for V5 and V8 of 7.2.4;
- CV1 of 7.5.11;
- Part 8 except for    8.1.2.1 (a),  
                              8.1.4.2 to 8.1.4.5,  
                              8.2.3,  
                              8.3.3,  
                              8.3.4,  
                              8.3.5,  
                              Chapter 8.4,  
                              S1(3) and (6),  
                              S2(1),  
                              S4 and  
                              S14 to S21 of Chapter 8.5;
- Part 9.

1.1.3.6.3 Where the dangerous goods carried in the transport unit belong to the same category, the maximum total quantity per transport unit is indicated in column (3) of the table below.

| Transport category<br>(1) | Substances or articles<br>packing group or classification code/group or UN No.<br>(2)  | Maximum total<br>quantity per<br>transport unit<br>(3) |
|---------------------------|--|--|
| 0                         | Class 1: 1.1A/1.1L/1.2L/1.3L and UN No. 0190<br>Class 3: UN No. 3343<br>Class 4.2: Substances belonging to packing group I<br>Class 4.3: UN Nos. 1183, 1242, 1295, 1340, 1390, 1403, 1928, 2813, 2965, 2968, 2988, 3129, 3130, 3131, 3134, 3148, 3396, 3398 and 3399<br>Class 5.1: UN No. 2426<br>Class 6.1: UN Nos. 1051, 1600, 1613, 1614, 2312, 3250 and 3294<br>Class 6.2: UN Nos. 2814 and 2900<br>Class 7: UN Nos. 2912 to 2919, 2977, 2978 and 3321 to 3333<br>Class 8: UN No. 2215 (MALEIC ANHYDRIDE, MOLTEN)<br>Class 9: UN Nos. 2315, 3151, 3152 and 3432 and apparatus containing such substances or mixtures and empty uncleaned packagings, except those classified under UN No. 2908, having contained substances classified in this transport category. | 0  |
| 1                         | Substances and articles belonging to packing group I and not classified in transport category 0 and substances and articles of the following classes:<br>Class 1: 1.1B to 1.1J <sup>a</sup> /1.2B to 1.2J/1.3C/1.3G/1.3H/1.3J/1.5D <sup>a</sup><br>Class 2: groups T, TC <sup>a</sup> , TO, TF, TOC and TFC<br>aerosols: groups C, CO, FC, T, TF, TC, TO, TFC and TOC<br>Class 4.1: UN Nos. 3221 to 3224 and 3231 to 3240<br>Class 5.2: UN Nos. 3101 to 3104 and 3111 to 3120  | 20   |
| 2                         | Substances or articles belonging to packing group II and not classified in transport categories 0, 1 or 4 and substances of the following classes:<br>Class 1: 1.4B to 1.4G and 1.6N<br>Class 2: group F<br>aerosols: group F<br>Class 4.1: UN Nos. 3225 to 3230<br>Class 5.2: UN Nos. 3105 to 3110<br>Class 6.1: substances and articles belonging to packing group III<br>Class 9: UN No. 3245   | 333  |
| 3                         | Substances and articles belonging to packing group III and not classified in transport categories 0, 2 or 4 and substances and articles of the following classes:<br>Class 2: groups A and O<br>aerosols: groups A and O<br>Class 3: UN No. 3473<br>Class 4.3: UN No. 3476<br>Class 8: UN Nos. 2794, 2795, 2800, 3028 and 3477<br>Class 9: UN Nos. 2990 and 3072   | 1 000  |
| 4                         | Class 1: 1.4S<br>Class 4.1: UN Nos. 1331, 1345, 1944, 1945, 2254 and 2623<br>Class 4.2: UN Nos. 1361 and 1362 packing group III<br>Class 7: UN Nos. 2908 to 2911<br>Class 9: UN No. 3268<br>and empty, uncleaned packagings having contained dangerous goods, except for those classified in transport category 0  | unlimited  |

<sup>a</sup> For UN Nos. 0081, 0082, 0084, 0241, 0331, 0332, 0482, 1005 and 1017, the total maximum quantity per transport unit shall be 50 kg.

In the above table, "maximum total quantity per transport unit" means:

- For articles, gross mass in kilograms (for articles of Class 1, net mass in kilograms of the explosive substance; for dangerous goods in machinery and equipment specified in this Annex, the total quantity of dangerous goods contained therein in kilograms or litres as appropriate);
- For solids, liquefied gases, refrigerated liquefied gases and dissolved gases, net mass in kilograms;
- For liquids and compressed gases, nominal capacity of receptacles (see definition in 1.2.1) in litres.

1.1.3.6.4 Where dangerous goods of different transport categories are carried in the same transport unit, the sum of:

- The quantity of substances and articles of transport category 1 multiplied by "50";
- The quantity of substances and articles of transport category 1 referred to in Note a to the table in 1.1.3.6.3 multiplied by "20";
- The quantity of substances and articles of transport category 2 multiplied by "3"; and
- The quantity of substances and articles of transport category 3;

shall not exceed "1 000".

1.1.3.6.5 For the purposes of this sub-section, dangerous goods exempted in accordance with 1.1.3.2 to 1.1.3.5 shall not be taken into account.

#### **1.1.3.7      *Exemptions related to the carriage of lithium batteries***

The provisions laid down in ADR do not apply to:

- (a) Lithium batteries installed in a vehicle, performing a transport operation and destined for its propulsion or for the operation of any of its equipment;
- (b) Lithium batteries contained in equipment for the operation of this equipment used or intended for use during carriage (e.g. a laptop).

### **1.1.4      *Applicability of other regulations***

#### **1.1.4.1      *(Reserved)***

#### **1.1.4.2      *Carriage in a transport chain including maritime or air carriage***

1.1.4.2.1 Packages, containers, portable tanks and tank-containers, which do not entirely meet the requirements for packing, mixed packing, marking, labelling of packages or placarding and orange plate marking, of ADR, but are in conformity with the requirements of the IMDG Code or the ICAO Technical Instructions shall be accepted for carriage in a transport chain including maritime or air carriage subject to the following conditions:

- (a) If the packages are not marked and labelled in accordance with ADR, they shall bear markings and danger labels in accordance with the requirements of the IMDG Code or the ICAO Technical Instructions;

- (b) The requirements of the IMDG Code or the ICAO Technical Instructions shall be applicable to mixed packing within a package;
- (c) For carriage in a transport chain including maritime carriage, if the containers, portable tanks or tank-containers are not marked and placarded in accordance with Chapter 5.3 of this Annex, they shall be marked and placarded in accordance with Chapter 5.3 of the IMDG Code. In such case, only 5.3.2.1.1 of this Annex is applicable to the marking of the vehicle itself. For empty, uncleaned portable tanks and tank-containers, this requirement shall apply up to and including the subsequent transfer to a cleaning station.

This derogation does not apply in the case of goods classified as dangerous goods in classes 1 to 9 of ADR and considered as non-dangerous goods according to the applicable requirements of the IMDG Code or the ICAO Technical Instructions.

1.1.4.2.2 Transport units composed of a vehicle or vehicles other than those carrying containers, portable tanks or tank containers as provided for in 1.1.4.2.1 (c), which are not placarded in accordance with the provisions of 5.3.1 of ADR but which are marked and placarded in accordance with Chapter 5.3 of the IMDG Code, shall be accepted for carriage in a transport chain including maritime transport provided that the orange-coloured plate marking provisions of 5.3.2 of ADR are complied with.

1.1.4.2.3 For carriage in a transport chain including maritime or air carriage, the information required under 5.4.1 and 5.4.2 and under any special provision of Chapter 3.3 may be substituted by the transport document and information required by the IMDG Code or the ICAO Technical Instructions respectively provided that any additional information required by ADR is also included.

**NOTE:** For carriage in accordance with 1.1.4.2.1, see also 5.4.1.1.7. For carriage in containers, see also 5.4.2.

#### **1.1.4.3 Use of IMO type portable tanks approved for maritime transport**

IMO type portable tanks (types 1, 2, 5 and 7) which do not meet the requirements of Chapters 6.7 or 6.8, but which have been built and approved before 1 January 2003 in accordance with the provisions (including transitional provisions) of the IMDG Code (Amdt. 29-98) may be used until 31 December 2009 provided they are found to meet the applicable inspection and test provisions of the IMDG Code (Amdt. 29-98) and that the instructions referred to in Columns (12) and (14) of Chapter 3.2 of the IMDG Code (Amdt. 33-06) are fully complied with. They may continue to be used after 31 December 2009 if they meet the applicable inspection and test provisions of the IMDG Code, but provided that the instructions of Columns (10) and (11) of Chapter 3.2 of ADR and of Chapter 4.2 are complied with.<sup>1</sup>

#### **1.1.4.4 (Reserved)**

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<sup>1</sup> The International Maritime Organization (IMO) has issued "Guidance on the Continued Use of Existing IMO Type Portable Tanks and Road Tank Vehicles for the Transport of Dangerous Goods" as circular DSC.1/Circ.12 and Corrigenda. The text of this guidance can be found on the IMO website at: [www.imo.org](http://www.imo.org).

**1.1.4.5      *Carriage other than by road***

1.1.4.5.1      If the vehicle carrying out a transport operation subject to the requirements of ADR is conveyed over a section of the journey otherwise than by road haulage, then any national or international regulations which, on the said section, govern the carriage of dangerous goods by the mode of transport used for conveying the road vehicle shall alone be applicable to the said section of the journey.

1.1.4.5.2      In the cases referred to in 1.1.4.5.1 above, the involved ADR Contracting Parties may agree to apply the requirements of ADR to the section of a journey where a vehicle is conveyed otherwise than by road haulage, supplemented, if they consider it necessary, by additional requirements, unless such agreements between the involved ADR Contracting Parties would contravene clauses of the international conventions governing the carriage of dangerous goods by the mode of transport used for conveying the road vehicle on the said section of the journey, e.g. the International Convention for the Safety of Life at Sea (SOLAS), to which these ADR Contracting Parties would also be contracting parties.

These agreements shall be notified by the Contracting Party which has taken the initiative thereof to the Secretariat of the United Nations Economic Commission for Europe which shall bring them to the attention of the Contracting Parties.

1.1.4.5.3      In cases where a transport operation subject to the provisions of ADR is likewise subject over the whole or a part of the road journey to the provisions of an international convention which regulates the carriage of dangerous goods by a mode of transport other than road carriage by virtue of clauses extending the applicability of that convention to certain motor-vehicle services, then the provisions of that international convention shall apply over the journey in question concurrently with those of ADR which are not incompatible with them; the other clauses of ADR shall not apply over the journey in question.

## CHAPTER 1.2

### DEFINITIONS AND UNITS OF MEASUREMENT

#### 1.2.1 Definitions

**NOTE:** *This section contains all general or specific definitions.*

For the purposes of ADR:

##### A

"ADN" means the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways;

"Aerosol or aerosol dispenser" means any non-refillable receptacle meeting the requirements of 6.2.6, made of metal, glass or plastics and containing a gas, compressed, liquefied or dissolved under pressure, with or without a liquid, paste or powder, and fitted with a release device allowing the contents to be ejected as solid or liquid particles in suspension in a gas, as a foam, paste or powder or in a liquid state or in a gaseous state;

"Animal material" means animal carcasses, animal body parts, or animal foodstuffs;

"Applicant" means, in the case of conformity assessment, the manufacturer or its authorised representative in a country Contracting Party. In the case of periodic testing and exceptional checks, *applicant* means the testing facility, the operator or their authorised representative in a country Contracting Party;

**NOTE:** *Exceptionally a third party (for instance an operator in accordance with the definition of 1.2.1) may apply for the conformity assessment.*

##### "Approval"

*Multilateral approval*, for the carriage of Class 7 material, means approval by the relevant competent authority of the country of origin of the design or shipment, as applicable, and by the competent authority of each country through or into which the consignment is to be carried. The term "through or into" specifically excludes "over", i.e. the approval and notification requirements shall not apply to a country over which radioactive material is carried in an aircraft, provided that there is no scheduled stop in that country;

*Unilateral approval*, for the carriage of Class 7 material, means an approval of a design which is required to be given by the competent authority of the country of origin of the design only. If the country of origin is not a Contracting Party to ADR, the approval shall require validation by the competent authority of the first Contracting Party to ADR reached by the consignment (see 6.4.22.6);

"ASTM" means the American Society for Testing and Materials (ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959, United States of America);



**B**

"*Bag*" means a flexible packaging made of paper, plastics film, textiles, woven material or other suitable material;

"*Battery-vehicle*" means a vehicle containing elements which are linked to each other by a manifold and permanently fixed to a transport unit. The following elements are considered to be elements of a battery-vehicle: cylinders, tubes, bundles of cylinders (also known as frames), pressure drums as well as tanks destined for the carriage of gases of Class 2 with a capacity of more than 450 litres;

"*Body*" (for all categories of IBC other than composite IBCs) means the receptacle proper, including openings and closures, but does not include service equipment;

"*Box*" means a packaging with complete rectangular or polygonal faces, made of metal, wood, plywood, reconstituted wood, fibreboard, plastics or other suitable material. Small holes for purposes of ease of handling or opening or to meet classification requirements, are permitted as long as they do not compromise the integrity of the packaging during carriage;

"*Bulk containers*" means containment systems (including any liner or coating) intended for the carriage of solid substances which are in direct contact with the containment system. Packagings, intermediate bulk containers (IBCs), large packagings and tanks are not included.

Bulk containers are:

- of a permanent character and accordingly strong enough to be suitable for repeated use;
- specially designed to facilitate the carriage of goods by one or more modes of carriage without intermediate reloading;
- fitted with devices permitting its ready handling;
- of a capacity of not less than 1.0 m<sup>3</sup>;

Examples of bulk containers are containers, offshore bulk containers, skips, bulk bins, swap bodies, trough-shaped containers, roller containers, load compartments of vehicles;

"*Bundle of cylinders*" means an assembly of cylinders that are fastened together and which are interconnected by a manifold and carried as a unit. The total water capacity shall not exceed 3 000 litres except that bundles intended for the carriage of toxic gases of Class 2 (groups starting with letter T according to 2.2.2.1.3) shall be limited to 1 000 litres water capacity;

**C**

"*Calculation pressure*" means a theoretical pressure at least equal to the test pressure which, according to the degree of danger exhibited by the substance being carried, may to a greater or lesser degree exceed the working pressure. It is used solely to determine the thickness of the walls of the shell, independently of any external or internal reinforcing device (see also "*Discharge pressure*", "*Filling pressure*", "*Maximum working pressure (gauge pressure)*" and "*Test pressure*");

**NOTE:** For portable tanks, see Chapter 6.7.

*"Capacity of shell or shell compartment"* for tanks, means the total inner volume of the shell or shell compartment expressed in litres or cubic metres. When it is impossible to completely fill the shell or the shell compartment because of its shape or construction, this reduced capacity shall be used for the determination of the degree of filling and for the marking of the tank;

*"Carriage"* means the change of place of dangerous goods, including stops made necessary by transport conditions and including any period spent by the dangerous goods in vehicles, tanks and containers made necessary by traffic conditions before, during and after the change of place.

This definition also covers the intermediate temporary storage of dangerous goods in order to change the mode or means of transport (transshipment). This shall apply provided that transport documents showing the place of dispatch and the place of reception are presented on request and provided that packages and tanks are not opened during intermediate storage, except to be checked by the competent authorities;

*"Carriage in bulk"* means the carriage of unpackaged solids or articles in vehicles or containers. The term does not apply to packaged goods nor to substances carried in tanks;

*"Carrier"* means the enterprise which carries out the transport operation with or without a transport contract;

*"CGA"* means the Compressed Gas Association (CGA, 4221 Walney Road, 5th Floor, Chantilly VA 20151-2923, United States of America);

*"Closed container"*, see *"Container"*;

*"Closed vehicle"* means a vehicle having a body capable of being closed;

*"Closure"* means a device which closes an opening in a receptacle;

*"Collective entry"* means an entry for a well defined group of substances or articles (see 2.1.1.2, B, C and D);

*"Combination packaging"* means a combination of packagings for transport purposes, consisting of one or more inner packagings secured in an outer packing in accordance with 4.1.1.5;

**NOTE:** The *"inners"* of *"combination packagings"* are always termed *"inner packagings"* and not *"inner receptacles"*. A glass bottle is an example of such an *"inner packaging"*.

*"Combustion heater"* means a device directly using liquid or gaseous fuel and not using the waste heat from the engine used for propulsion of the vehicle;

*"Competent authority"* means the authority or authorities or any other body or bodies designated as such in each State and in each specific case in accordance with domestic law;

*"Compliance assurance"* (radioactive material) means a systematic programme of measures applied by a competent authority which is aimed at ensuring that the requirements of ADR are met in practice;

*"Composite IBC with plastics inner receptacle"* means an IBC comprising structural equipment in the form of a rigid outer casing encasing a plastics inner receptacle together with any service or other structural equipment. It is so constructed that the inner receptacle

and outer casing once assembled form, and are used as, an integrated single unit to be filled, stored, transported or emptied as such;

**NOTE:** "Plastics material", when used in connection with inner receptacles for composite IBCs, is taken to include other polymeric materials such as rubber.

"Composite packaging (plastics material)" is a packaging consisting of an inner plastics receptacle and an outer packaging (made of metal, fibreboard, plywood, etc.). Once assembled such a packaging remains thereafter an inseparable unit; it is filled, stored, despatched and emptied as such;

**NOTE:** See **NOTE** under "Composite packagings (glass, porcelain or stoneware)".

"Composite packaging (glass, porcelain or stoneware)" is a packaging consisting of an inner glass, porcelain or stoneware receptacle and an outer packaging (made of metal, wood, fibreboard, plastics material, expanded plastics material, etc.). Once assembled, such a packaging remains thereafter an inseparable unit; it is filled, stored, despatched and emptied as such;

**NOTE:** The "inners" of "composite packagings" are normally termed "inner receptacles". For example, the "inner" of a 6HA1 (composite packaging, plastics material) is such an "inner receptacle" since it is normally not designed to perform a containment function without its "outer packaging" and is not therefore an "inner packaging".

"Confinement system", for the carriage of Class 7 material, means the assembly of fissile material and packaging components specified by the designer and agreed to by the competent authority as intended to preserve criticality safety;

"Conformity assessment" means the process of verifying the conformity of a product according to the provisions of sections 1.8.6 and 1.8.7 related to type approval, supervision of manufacture and initial inspection and testing;

"Consignee" means the consignee according to the contract for carriage. If the consignee designates a third party in accordance with the provisions applicable to the contract for carriage, this person shall be deemed to be the consignee within the meaning of ADR. If the transport operation takes place without a contract for carriage, the enterprise which takes charge of the dangerous goods on arrival shall be deemed to be the consignee;

"Consignment" means any package or packages, or load of dangerous goods, presented by a consignor for carriage;

"Consignor" means the enterprise which consigns dangerous goods either on its own behalf or for a third party. If the transport operation is carried out under a contract for carriage, consignor means the consignor according to the contract for carriage;

"Container" means an article of transport equipment (lift van or other similar structure):

- of a permanent character and accordingly strong enough to be suitable for repeated use;
- specially designed to facilitate the carriage of goods, by one or more means of transport, without breakage of load;
- fitted with devices permitting its ready stowage and handling, particularly when being transloaded from one means of transport to another;

- so designed as to be easy to fill and empty;
- having an internal volume of not less than 1 m<sup>3</sup>, except for containers for the carriage of radioactive material.

In addition:

*"Small container"* means a container which has either any overall outer dimension (length, width or height) less than 1.5 m, or an internal volume of not more than 3 m<sup>3</sup>;

*"Large container"* means

- (a) A container which does not meet the definition of a small container;
- (b) In the meaning of the CSC, a container of a size such that the area enclosed by the four outer bottom corners is either
  - (i) at least 14 m<sup>2</sup> (150 square feet); or
  - (ii) at least 7 m<sup>2</sup> (75 square feet) if fitted with top corner fittings;

*"Closed container"* means a totally enclosed container having a rigid roof, rigid side walls, rigid end walls and a floor. The term includes containers with an opening roof where the roof can be closed during transport;

*"Open container"* means an open top container or a platform based container;

*"Sheeted container"* means an open container equipped with a sheet to protect the goods loaded;

A *"swap body"* is a container which, in accordance with EN 283:1991 has the following characteristics:

- from the point of view of mechanical strength, it is only built for carriage on a wagon or a vehicle on land or by roll-on roll-off ship;
- it cannot be stacked;
- it can be removed from vehicles by means of equipment on board the vehicle and on its own supports, and can be reloaded;

**NOTE:** The term *"container"* does not cover conventional packagings, IBCs, tank-containers or vehicles. Nevertheless, a container may be used as a packaging for the carriage of radioactive material.

*"Containment system"*, for the carriage of Class 7 material, means the assembly of components of the packaging specified by the designer as intended to retain the radioactive material during carriage;

*"Control temperature"* means the maximum temperature at which the organic peroxide or the self-reactive substance can be safely carried;

*"Criticality safety index (CSI) assigned to a package, overpack or container containing fissile material"*, for the carriage of Class 7 material, means a number which is used to provide control over the accumulation of packages, overpacks or containers containing fissile material;

"CSC" means the International Convention for Safe Containers (Geneva, 1972) as amended and published by the International Maritime Organization (IMO), London;

"Crate" means an outer packaging with incomplete surfaces;

"Critical temperature" means the temperature above which the substance cannot exist in the liquid state;

"Cryogenic receptacle" means a transportable thermally insulated pressure receptacle for refrigerated liquefied gases of a water capacity of not more than 1 000 litres;

"Cylinder" means a transportable pressure receptacle of a water capacity not exceeding 150 litres (see also "*Bundle of cylinders*");

## D

"Dangerous goods" means those substances and articles the carriage of which is prohibited by ADR, or authorized only under the conditions prescribed therein;

"Dangerous reaction" means:

- (a) Combustion or evolution of considerable heat;
- (b) Evolution of flammable, asphyxiant, oxidizing or toxic gases;
- (c) The formation of corrosive substances;
- (d) The formation of unstable substances; or
- (e) Dangerous rise in pressure (for tanks only);

"Demountable tank" means a tank, other than a fixed tank, a portable tank, a tank-container or an element of a battery-vehicle or a MEGC which has a capacity of more than 450 litres, is not designed for the carriage of goods without breakage of load, and normally can only be handled when it is empty;

"Design", for the carriage of Class 7 material, means the description of special form radioactive material, low dispersible radioactive material, package or packaging which enables such an item to be fully identified. The description may include specifications, engineering drawings, reports demonstrating compliance with regulatory requirements, and other relevant documentation;

"Discharge pressure" means the maximum pressure actually built up in the tank when it is being discharged under pressure (see also "*Calculation pressure*", "*Filling pressure*", "*Maximum working pressure (gauge pressure)*" and "*Test pressure*");

"Drum" means a flat-ended or convex-ended cylindrical packaging made out of metal, fibreboard, plastics, plywood or other suitable materials. This definition also includes packagings of other shapes, e.g. round, taper-necked packagings or pail-shaped packagings. Wooden barrels and jerricans are not covered by this definition;

## E

"EC Directive" means provisions decided by the competent institutions of the European Community and which are binding, as to the result to be achieved, upon each Member State to which it is addressed, but shall leave to the national authorities the choice of form and methods;

"*ECE Regulation*" means a regulation annexed to the Agreement concerning the adoption of uniform technical prescriptions for wheeled vehicles equipment and parts which can be fitted and or used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions (1958 Agreement, as amended);

"*Emergency temperature*" means the temperature at which emergency procedures shall be implemented in the event of loss of temperature control;

"*EN*" (standard) means a European standard published by the European Committee for Standardization (CEN) (CEN – 36 rue de Stassart. B-1050 Brussels);

"*Enterprise*" means any natural person, any legal person, whether profit-making or not, any association or group of persons without legal personality, whether profit-making or not, or any official body, whether it has legal personality itself or is dependent upon an authority that has such personality;

"*Exclusive use*", for the carriage of Class 7 material, means the sole use, by a single consignor, of a vehicle or of a large container, in respect of which all initial, intermediate and final loading and unloading is carried out in accordance with the directions of the consignor or consignee;

## F

"*Fibreboard IBC*" means a fibreboard body with or without separate top and bottom caps, if necessary an inner liner (but no inner packagings), and appropriate service and structural equipment;

"*Filler*" means any enterprise which loads dangerous goods into a tank (tank-vehicle, demountable tank, portable tank or tank-container) and/or into a vehicle, large container or small container for carriage in bulk, or into a battery-vehicle or MEGC;

"*Filling pressure*" means the maximum pressure actually built up in the tank when it is being filled under pressure (see also "*Calculation pressure*", "*Discharge pressure*", "*Maximum working pressure (gauge pressure)*" and "*Test pressure*");

"*Filling ratio*" means the ratio of the mass of gas to the mass of water at 15 °C that would fill completely a pressure receptacle fitted ready for use;

"*Fixed tank*" means a tank having a capacity of more than 1 000 litres which is permanently attached to a vehicle (which then becomes a tank-vehicle) or is an integral part of the frame of such vehicle;

"*Flammable component*" (for aerosols) means flammable liquids, flammable solids or flammable gases and gas mixtures as defined in Notes 1 to 3 of sub-section 31.1.3 of Part III of the Manual of Tests and Criteria. This designation does not cover pyrophoric, self-heating or water-reactive substances. The chemical heat of combustion shall be determined by one of the following methods ASTM D 240, ISO/FDIS 13943:1999 (E/F) 86.1 to 86.3 or NFPA 30B;

"*Flash-point*" means the lowest temperature of a liquid at which its vapours form a flammable mixture with air;

"*Flexible IBC*" means a body constituted of film, woven fabric or any other flexible material or combinations thereof, and if necessary, an inner coating or liner, together with any appropriate service equipment and handling devices;

"Full load" means any load originating from one consignor for which the use of a vehicle or of a large container is exclusively reserved and all operations for the loading and unloading of which are carried out in conformity with the instructions of the consignor or of the consignee;

**NOTE:** The corresponding term for Class 7 is "exclusive use".

## G

"Gas" means a substance which:

- (a) At 50 °C has a vapour pressure greater than 300 kPa (3 bar); or
- (b) Is completely gaseous at 20 °C under standard pressure of 101.3 kPa;

"Gas cartridge" means any non-refillable receptacle containing, under pressure, a gas or a mixture of gases. It may be fitted with a valve;

"GHS" means the second revised edition of the Globally Harmonized System of Classification and Labelling of Chemicals, published by the United Nations as document ST/SG/AC.10/30/Rev.2;

## H

"Handling device" (for flexible IBCs) means any sling, loop, eye or frame attached to the body of the IBC or formed from the continuation of the IBC body material;

"Hermetically closed tank" means a tank intended for the carriage of liquid substances with a calculation pressure of at least 4 bar or intended for the carriage of solid substances (powdery or granular) regardless of its calculation pressure, the openings of which are hermetically closed and which:

- is not equipped with safety valves, bursting discs, other similar safety devices or vacuum valves; or
- is not equipped with safety valves, bursting discs or other similar safety devices, but is equipped with vacuum valves, in accordance with the requirements of 6.8.2.2.3; or
- is equipped with safety valves preceded by a bursting disc according to 6.8.2.2.10, but is not equipped with vacuum valves; or
- is equipped with safety valves preceded by a bursting disc according to 6.8.2.2.10 and vacuum valves, in accordance with the requirements of 6.8.2.2.3;

## I

"IAEA" means the International Atomic Energy Agency (IAEA), (IAEA, P.O. Box 100 – A - 1400 Vienna);

"IBC", see "Intermediate bulk container";

"ICAO" means the International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada);

"ICAO Technical Instructions" means the Technical Instructions for the Safe Transport of Dangerous Goods by Air, which complement Annex 18 to the Chicago Convention on



International Civil Aviation (Chicago 1944), published by the International Civil Aviation Organization (ICAO) in Montreal;

"*IMDG Code*" means the International Maritime Dangerous Goods Code, for the implementation of Chapter VII, Part A, of the International Convention for the Safety of Life at Sea, 1974 (SOLAS Convention), published by the International Maritime Organization (IMO), London;

"*IMO*" means the International Maritime Organization (IMO, 4 Albert Embankment, London SE1 7SR, United Kingdom);

"*Inner packaging*" means a packaging for which an outer packaging is required for carriage;

"*Inner receptacle*" means a receptacle which requires an outer packaging in order to perform its containment function;

"*Inspection body*" means an independent inspection and testing body approved by the competent authority;

"*Intermediate bulk container*" (*IBC*) means a rigid, or flexible portable packaging, other than those specified in Chapter 6.1, that:

- (a) Has a capacity of:
  - (i) not more than 3 m<sup>3</sup> for solids and liquids of packing groups II and III;
  - (ii) not more than 1.5 m<sup>3</sup> for solids of packing group I when packed in flexible, rigid plastics, composite, fibreboard and wooden IBCs;
  - (iii) not more than 3 m<sup>3</sup> for solids of packing group I when packed in metal IBCs;
  - (iv) not more than 3 m<sup>3</sup> for radioactive material of Class 7;
- (b) Is designed for mechanical handling;
- (c) Is resistant to the stresses produced in handling and transport as determined by the tests specified in Chapter 6.5;

(see also "*Composite IBC with plastics inner receptacle*", "*Fibreboard IBC*", "*Flexible IBC*", "*Metal IBC*", "*Rigid plastics IBC*" and "*Wooden IBC*").

**NOTE 1:** *Portable tanks or tank-containers that meet the requirements of Chapter 6.7 or 6.8 respectively are not considered to be intermediate bulk containers (IBCs).*

**NOTE 2:** *Intermediate bulk containers (IBCs) which meet the requirements of Chapter 6.5 are not considered to be containers for the purposes of ADR.*

"*Remanufactured IBC*" means a metal, rigid plastics or composite IBC that:

- (a) Is produced as a UN type from a non-UN type; or
- (b) Is converted from one UN design type to another UN design type.

Remanufactured IBCs are subject to the same requirements of ADR that apply to new IBCs of the same type (see also design type definition in 6.5.6.1.1);



*"Repaired IBC"* means a metal, rigid plastics or composite IBC that, as a result of impact or for any other cause (e.g. corrosion, embrittlement or other evidence of reduced strength as compared to the design type) is restored so as to conform to the design type and to be able to withstand the design type tests. For the purposes of ADR, the replacement of the rigid inner receptacle of a composite IBC with a receptacle conforming to the original manufacturer's specification is considered repair. However, routine maintenance of rigid IBCs is not considered repair. The bodies of rigid plastics IBCs and the inner receptacles of composite IBCs are not repairable. Flexible IBCs are not repairable unless approved by the competent authority;

*"Routine maintenance of flexible IBCs"* means the routine performance on plastics or textile flexible IBCs of operations, such as:

- (a) Cleaning; or
- (b) Replacement of non-integral components, such as non-integral liners and closure ties, with components conforming to the original manufacturer's specification;

provided that these operations do not adversely affect the containment function of the flexible IBC or alter the design type.

*"Routine maintenance of rigid IBCs"* means the routine performance on metal, rigid plastics or composite IBCs of operations such as:

- (a) Cleaning;
- (b) Removal and reinstallation or replacement of body closures (including associated gaskets), or of service equipment, conforming to the original manufacturer's specifications, provided that the leaktightness of the IBC is verified; or
- (c) Restoration of structural equipment not directly performing a dangerous goods containment or discharge pressure retention function so as to conform to the design type (e.g. the straightening of legs or lifting attachments) provided that the containment function of the IBC is not affected;

*"Intermediate packaging"* means a packaging placed between inner packagings or articles, and an outer packaging;

*"ISO"* (standard) means an international standard published by the International Organization for Standardization (ISO) (ISO - 1, rue de Varembé. CH-1204 Geneva 20);

## **J**

*"Jerrican"* means a metal or plastics packaging of rectangular or polygonal cross-section with one or more orifices;

## **L**

*"Large container "*, see *"Container"*;

*"Large packaging"* means a packaging consisting of an outer packaging which contains articles or inner packagings and which

- (a) Is designed for mechanical handling;

- (b) Exceeds 400 kg net mass or 450 litres capacity but has a volume of not more than 3 m<sup>3</sup>;

*"Leakproofness test"* means a test to determine the leakproofness of a tank, a packaging or an IBC and of the equipment and closure devices;

**NOTE:** *For portable tanks, see Chapter 6.7.*

*"Light-gauge metal packaging"* means a packaging of circular, elliptical, rectangular or polygonal cross-section (also conical) and taper-necked and pail-shaped packaging made of metal, having a wall thickness of less than 0.5 mm (e.g. tinplate), flat or convex bottomed and with one or more orifices, which is not covered by the definitions for drums or jerricans;

*"Liner"* means a tube or bag inserted into a packaging, including large packagings or IBCs, but not forming an integral part of it, including the closures of its openings;

*"Liquid"* means a substance which at 50 °C has a vapour pressure of not more than 300 kPa (3 bar), which is not completely gaseous at 20 °C and 101.3 kPa, and which

- (a) Has a melting point or initial melting point of 20 °C or less at a pressure of 101.3 kPa; or
- (b) Is liquid according to the ASTM D 4359-90 test method; or
- (c) Is not pasty according to the criteria applicable to the test for determining fluidity (penetrometer test) described in 2.3.4;

**NOTE:** *"Carriage in the liquid state", for the purpose of tank requirements, means:*

- *Carriage of liquids according to the above definition; or*
- *Solids handed over for carriage in the molten state.*

*"Loader"* means any enterprise which loads dangerous goods into a vehicle or large container;

## M

*"Manual of Tests and Criteria"* means the fourth revised edition of the United Nations Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, published by the United Nations Organization (ST/SG/AC.10/11/Rev.4 as amended by documents ST/SG/AC.10/11/Rev.4/Amend.1 and ST/SG/AC.10/11/Rev.4/Amend.2);

*"Mass of package"* means gross mass of the package unless otherwise stated. The mass of containers and tanks used for the carriage of goods is not included in the gross mass;

*"Maximum capacity"* means the maximum inner volume of receptacles or packagings including intermediate bulk containers (IBCs) and large packagings expressed in cubic metres or litres;

*"Maximum net mass"* means the maximum net mass of contents in a single packaging or maximum combined mass of inner packagings and the contents thereof expressed in kilograms;

*"Maximum normal operating pressure"*, for the carriage of Class 7 material, means the maximum pressure above atmospheric pressure at mean sea-level that would develop in the containment system in a period of one year under the conditions of temperature and solar radiation corresponding to environmental conditions in the absence of venting, external cooling by an ancillary system, or operational controls during carriage;

*"Maximum permissible gross mass"*

- (a) (for all categories of IBCs other than flexible IBCs) means the mass of the IBC and any service or structural equipment together with the maximum net mass;
- (b) (for tanks) means the tare of the tank and the heaviest load authorized for carriage;

**NOTE:** *For portable tanks, see Chapter 6.7.*

*"Maximum permissible load"* (for flexible IBCs) means the maximum net mass for which the IBC is intended and which it is authorized to carry;

*"Maximum working pressure (gauge pressure)"* means the highest of the following three pressures:

- (a) The highest effective pressure allowed in the tank during filling (maximum filling pressure allowed);
- (b) The highest effective pressure allowed in the tank during discharge (maximum discharge pressure allowed); and
- (c) The effective gauge pressure to which the tank is subjected by its contents (including such extraneous gases as it may contain) at the maximum working temperature.

Unless the special requirements prescribed in Chapter 4.3 provide otherwise, the numerical value of this working pressure (gauge pressure) shall not be lower than the vapour pressure (absolute pressure) of the filling substance at 50 °C.

For tanks equipped with safety valves (with or without bursting disc) other than tanks for the carriage of compressed, liquefied or dissolved gases of Class 2, the maximum working pressure (gauge pressure) shall however be equal to the prescribed opening pressure of such safety valves.

(See also *"Calculation pressure"*, *"Discharge pressure"*, *"Filling pressure"* and *"Test pressure"*);

**NOTE 1:** *For portable tanks, see Chapter 6.7.*

**NOTE 2:** *For closed cryogenic receptacles, see NOTE to 6.2.1.3.6.5.*

*"MEGC"*, see *"Multiple-element gas container"*;

*"Member of a vehicle crew"* means a driver or any other person accompanying the driver for safety, security, training or operational reasons;

*"MEMU"*, see *"Mobile explosives manufacturing unit"*;

*"Metal IBC"* means a metal body together with appropriate service and structural equipment;

"Mild steel" means a steel having a minimum tensile strength between 360 N/mm<sup>2</sup> and 440 N/mm<sup>2</sup>;

**NOTE:** For portable tanks, see Chapter 6.7.

"Mobile explosives manufacturing unit" (MEMU) means a unit, or a vehicle mounted with a unit, for manufacturing and charging explosives from dangerous goods that are not explosives. The unit consists of various tanks and bulk containers and process equipment as well as pumps and related equipment. The MEMU may have special compartments for packaged explosives;

**NOTE:** Even though the definition of MEMU includes the expression "manufacturing and charging explosives" the requirements for MEMUs apply only to carriage and not to manufacturing and charging of explosives.

"Multiple-element gas container" (MEGC) means a unit containing elements which are linked to each other by a manifold and mounted on a frame. The following elements are considered to be elements of a multiple-element gas container: cylinders, tubes, pressure drums and bundles of cylinders as well as tanks for the carriage of gases of Class 2 having a capacity of more than 450 litres;

**NOTE:** For UN MEGCs, see Chapter 6.7.

## N

"Nominal capacity of the receptacle" means the nominal volume of the dangerous substance contained in the receptacle expressed in litres. For compressed gas cylinders the nominal capacity shall be the water capacity of the cylinder;

"N.O.S. entry (not otherwise specified entry)" means a collective entry to which substances, mixtures, solutions or articles may be assigned if they:

- (a) Are not mentioned by name in Table A of Chapter 3.2; and
- (b) Exhibit chemical, physical and/or dangerous properties corresponding to the Class, classification code, packing group and the name and description of the n.o.s. entry;

## O

"Offshore bulk container" means a bulk container specially designed for repeated use for carriage to, from and between offshore facilities. An offshore bulk container is designed and constructed in accordance with the guidelines for the approval of offshore containers handled in open seas specified by the International Maritime Organization (IMO) in document MSC/Circ.860;

"Open container", see "Container";

"Open vehicle" means a vehicle the platform of which has no superstructure or is merely provided with side boards and a tailboard;

"Outer packaging" means the outer protection of the composite or combination packaging together with any absorbent materials, cushioning and any other components necessary to contain and protect inner receptacles or inner packagings;

"Overpack" means an enclosure used (by a single consignor in the case of Class 7) to contain one or more packages, consolidated into a single unit easier to handle and stow during carriage;

Examples of overpacks:

- (a) A loading tray such as a pallet, on which several packages are placed or stacked and secured by a plastics strip, shrink or stretch wrapping or other appropriate means; or
- (b) An outer protective packaging such as a box or a crate;

## P

"Package" means the complete product of the packing operation, consisting of the packaging or large packaging or IBC and its contents prepared for dispatch. The term includes receptacles for gases as defined in this section as well as articles which, because of their size, mass or configuration may be carried unpackaged or carried in cradles, crates or handling devices. Except for the carriage of radioactive material, the term does not apply to goods which are carried in bulk, nor to substances carried in tanks;

**NOTE:** For radioactive material, see 2.2.7.2, 4.1.9.1.1 and Chapter 6.4.

"Packaging" means one or more receptacles and any other components or materials necessary for the receptacles to perform their containment and other safety functions (see also "Combination packaging", "Composite packaging (plastics material)", "Composite packaging (glass, porcelain or stoneware)", "Inner packaging", "Intermediate bulk container (IBC)", "Intermediate packaging", "Large packaging", "Light-gauge metal packaging", "Outer packaging", "Reconditioned packaging", "Remanufactured packaging", "Reused packaging", "Salvage packaging" and "Sift-proof packaging");

"Packer" means any enterprise which puts dangerous goods into packagings, including large packagings and intermediate bulk containers (IBCs) and, where necessary, prepares packages for carriage;

"Packing group" means a group to which, for packing purposes, certain substances may be assigned in accordance with their degree of danger. The packing groups have the following meanings which are explained more fully in Part 2:

- Packing group I: Substances presenting high danger;
- Packing group II: Substances presenting medium danger; and
- Packing group III: Substances presenting low danger;

**NOTE:** Certain articles containing dangerous goods are assigned to a packing group.

"Portable tank" means a multimodal tank having, when used for the carriage of Class 2 substances, a capacity of more than 450 litres in accordance with the definitions in Chapter 6.7 or the IMDG Code and indicated by a portable tank instruction (T-Code) in Column (10) of Table A of Chapter 3.2;

"Portable tank operator", see "Tank-container/portable tank operator";

"Pressure drum" means a welded transportable pressure receptacle of a water capacity exceeding 150 litres and of not more than 1 000 litres, (e.g. cylindrical receptacles equipped with rolling hoops, spheres on skids);"

*"Pressure receptacle"* means a collective term that includes cylinders, tubes, pressure drums, closed cryogenic receptacles and bundles of cylinders;

*"Pressurized gas cartridge"*, see *"Aerosol or aerosol dispenser"*;

*"Protected IBC"* (for metal IBCs) means an IBC provided with additional protection against impact, the protection taking the form of, for example, a multi-layer (sandwich) or double-wall construction, or a frame with a metal lattice-work casing;

## Q

*"Quality assurance"* means a systematic programme of controls and inspections applied by any organization or body which is aimed at providing confidence that the safety prescriptions in ADR are met in practice;

## R

*"Radiation level"*, for the carriage of Class 7 material, means the corresponding dose rate expressed in millisieverts per hour;

*"Radioactive contents"*, for the carriage of Class 7 material, mean the radioactive material together with any contaminated or activated solids, liquids, and gases within the packaging;

*"Receptacle"* (Class 1) includes boxes, bottles, cans, drums, jars and tubes, including any means of closure used in the inner or intermediate packaging;

*"Receptacle"* means a containment vessel for receiving and holding substances or articles, including any means of closing. This definition does not apply to shells (see also *"Cryogenic receptacle"*, *"Inner receptacle"*, *"Pressure receptacle"*, *"Rigid inner receptacle"* and *"Gas cartridge"*);

*"Reconditioned packaging"* means in particular

(a) Metal drums that are:

- (i) cleaned to original materials of construction, with all former contents, internal and external corrosion, and external coatings and labels removed;
- (ii) restored to original shape and contour, with chimes (if any) straightened and sealed and all non-integral gaskets replaced; and
- (iii) inspected after cleaning but before painting, with rejection of packagings with visible pitting, significant reduction in the material thickness, metal fatigue, damaged threads or closures or other significant defects;

(b) Plastics drums and jerricans that:

- (i) are cleaned to original materials of construction, with all former contents, external coatings and labels removed;
- (ii) have all non-integral gaskets replaced; and
- (iii) are inspected after cleaning with rejection of packagings with visible damage such as tears, creases or cracks, or damaged threads or closures or other significant defects;

*"Recycled plastics material"* means material recovered from used industrial packagings that has been cleaned and prepared for processing into new packagings;

*"Reel"* (Class 1) means a device made of plastics, wood, fibreboard, metal or other suitable material comprising a central spindle with, or without, side walls at each end of the spindle. Articles and substances can be wound onto the spindle and may be retained by side walls;

*"Reference steel"* means a steel with a tensile strength of 370 N/mm<sup>2</sup> and an elongation at fracture of 27%;

*"Remanufactured IBC"*, see *"Intermediate Bulk Container (IBC)"*;

*"Remanufactured packaging"* means in particular

(a) Metal drums that:

- (i) are produced as a UN type complying with the requirements of Chapter 6.1 from a non-UN type;
- (ii) are converted from one UN type complying with the requirements of Chapter 6.1 to another UN type; or
- (iii) undergo the replacement of integral structural components (such as non-removable heads);

(b) Plastics drums that:

- (i) are converted from one UN type to another UN type (e.g. 1H1 to 1H2); or
- (ii) undergo the replacement of integral structural components.

Remanufactured drums are subject to the requirements of Chapter 6.1 which apply to new drums of the same type;

*"Repaired IBC"*, see *"Intermediate Bulk Container (IBC)"*;

*"Reused packaging"* means a packaging which has been examined and found free of defects affecting the ability to withstand the performance tests. The term includes those which are refilled with the same or similar compatible contents and are carried within distribution chains controlled by the consignor of the product;

*"RID"* means Regulations concerning the International Carriage of Dangerous Goods by Rail (Appendix C of COTIF (Convention concerning international carriage by rail));

*"Rigid inner receptacle"* (for composite IBCs) means a receptacle which retains its general shape when empty without its closures in place and without benefit of the outer casing. Any inner receptacle that is not "rigid" is considered to be "flexible";

*"Rigid plastics IBC"* means a rigid plastics body, which may have structural equipment together with appropriate service equipment;

*"Routine maintenance of flexible IBCs"*, see *"Intermediate Bulk Container (IBC)"*;

*"Routine maintenance of rigid IBCs"*, see *"Intermediate Bulk Container (IBC)"*;



**S**

"*Safety valve*" means a spring-loaded device which is activated automatically by pressure the purpose of which is to protect the tank against unacceptable excess internal pressure;

"*SADT*" see "*Self-accelerating decomposition temperature*";

"*Salvage packaging*" means a special packaging into which damaged, defective or leaking dangerous goods packages, or dangerous goods that have spilled or leaked are placed for purposes of carriage for recovery or disposal;

"*Self-accelerating decomposition temperature*" (SADT), means the lowest temperature at which self-accelerating decomposition may occur with substance in the packaging as used during carriage. Provisions for determining the SADT and the effects of heating under confinement are contained in Part II of the Manual of Tests and Criteria;

"*Service equipment*"

- (a) Of the tank means filling and emptying, venting, safety, heating and heat insulating devices and measuring instruments;
- (b) Of the elements of a battery-vehicle or of a MEGC means filling and emptying devices, including the manifold, safety devices and measuring instruments;
- (c) Of an IBC means the filling and discharge devices and any pressure-relief or venting, safety, heating and heat insulating devices and measuring instruments;

**NOTE:** For portable tanks, see Chapter 6.7.

"*Settled pressure*" means the pressure of the contents of a pressure receptacle in thermal and diffusive equilibrium;

"*Sheeted container*", see "*Container*";

"*Sheeted vehicle*" means an open vehicle provided with a sheet to protect the load;

"*Shell*" means the sheathing containing the substance (including the openings and their closures);

**NOTE 1:** This definition does not apply to receptacles.

**NOTE 2:** For portable tanks, see Chapter 6.7.

"*Sift-proof packaging*" means a packaging impermeable to dry contents, including fine solid material produced during carriage;

"*Small container*", see "*Container*";

"*Small receptacle containing gas*", see "*Gas cartridge*";

"*Solid*" means:

- (a) A substance with a melting point or initial melting point of more than 20 °C at a pressure of 101.3 kPa; or



- (b) A substance which is not liquid according to the ASTM D 4359-90 test method or which is pasty according to the criteria applicable to the test for determining fluidity (penetrometer test) described in 2.3.4;

*"Structural equipment"*

- (a) For tanks of a tank-vehicle or demountable tank, means the external or internal reinforcing, fastening, protective or stabilizing members of the shell;
- (b) For tanks of a tank-container, means the external or internal reinforcing, fastening, protective or stabilizing members of the shell;
- (c) For elements of a battery-vehicle or an MEGC means the external or internal reinforcing, fastening, protective or stabilizing members of the shell or receptacle;
- (d) For IBCs other than flexible IBCs means the reinforcing, fastening, handling, protective or stabilizing members of the body (including the base pallet for composite IBCs with plastics inner receptacle);

**NOTE:** For portable tanks, see Chapter 6.7.

*"Swap-body"*, see *"Container"*;

## T

*"Tank"* means a shell, including its service and structural equipment. When used alone, the term tank means a tank-container, portable tank, demountable tank or fixed tank as defined in this Part, including tanks forming elements of battery-vehicles or MEGCs (see also *"Demountable tank"*, *"Fixed tank"*, *"Portable tank"* and *"Multiple-element gas container"*);

**NOTE:** For portable tanks, see 6.7.4.1.

*"Tank-container"* means an article of transport equipment meeting the definition of a container, and comprising a shell and items of equipment, including the equipment to facilitate movement of the tank-container without significant change of attitude, used for the carriage of gases, liquid, powdery or granular substances and, when used for the carriage of Class 2 substances, having a capacity of more than 0.45 m<sup>3</sup> (450 litres);

**NOTE:** IBCs which meet the requirements of Chapter 6.5 are not considered to be tank-containers.

*"Tank-container/portable tank operator"* means any enterprise in whose name the tank-container/portable tank is registered;

*"Tank record"* means a file containing all the important technical information concerning a tank, a battery-vehicle or a MEGC, such as certificates referred to in 6.8.2.3, 6.8.2.4 and 6.8.3.4;

*"Tank swap body"* is considered to be a tank-container;

*"Tank-vehicle"* means a vehicle built to carry liquids, gases or powdery or granular substances and comprising one or more fixed tanks. In addition to the vehicle proper, or the units of running gear used in its stead, a tank-vehicle comprises one or more shells, their items of equipment and the fittings for attaching them to the vehicle or to the running-gear units;

"*Technical name*" means a recognized chemical name, if relevant a biological name, or other name currently used in scientific and technical handbooks, journals and texts (see 3.1.2.8.1.1);

"*Test pressure*" means the required pressure applied during a pressure test for initial or periodic inspection (see also "*Calculation pressure*", "*Discharge pressure*", "*Filling pressure*" and "*Maximum working pressure (gauge pressure)*");

**NOTE:** For portable tanks, see Chapter 6.7.

"*Transport index (TI) assigned to a package, overpack or container, or to unpackaged LSA-I or SCO-I*", for the carriage of Class 7 material, means a number which is used to provide control over radiation exposure;

"*Transport unit*" means a motor vehicle without an attached trailer, or a combination consisting of a motor vehicle and an attached trailer;

"*Tray*" (Class 1) means a sheet of metal, plastics, fibreboard or other suitable material which is placed in the inner, intermediate or outer packaging and achieves a close-fit in such packaging. The surface of the tray may be shaped so that packagings or articles can be inserted, held secure and separated from each other;

"*Tube*" (Class 2) means a seamless transportable pressure receptacle of a water capacity exceeding 150 litres and of not more than 3 000 litres;

## U

"*UIC*" means the International Union of Railways (UIC, 16 rue Jean Rey, F-75015 Paris, France);

"*UNECE*" means the United Nations Economic Commission for Europe (UNECE, Palais des Nations, 8-14 avenue de la Paix, CH-1211 Geneva 10, Switzerland);

"*Undertaking*", see "*Enterprise*";

"*UN Model Regulations*" means the Model Regulations annexed to the fifteenth revised edition of the Recommendations on the Transport of Dangerous Goods published by the United Nations (ST/SG/AC.10/1/Rev.15);

"*UN number*" means the four-figure identification number of the substance or article taken from the UN Model Regulations;

## V

"*Vacuum-operated waste tank*" means a fixed tank, demountable tank, tank-container or tank swap body primarily used for the carriage of dangerous wastes, with special constructional features and/or equipment to facilitate the loading and unloading of wastes as specified in Chapter 6.10. A tank which fully complies with the requirements of Chapter 6.7 or 6.8 is not considered to be a vacuum-operated waste tank;

"*Vacuum valve*" means a spring-loaded device which is activated automatically by pressure the purpose of which is to protect the tank against unacceptable negative internal pressure;

"*Vehicle*" see "*Battery-vehicle*", "*Closed vehicle*", "*Open vehicle*", "*Sheeted vehicle*" and "*Tank-vehicle*";

**W**

"*Wastes*" means substances, solutions, mixtures or articles for which no direct use is envisaged but which are transported for reprocessing, dumping, elimination by incineration or other methods of disposal;

"*Wooden barrel*" means a packaging made of natural wood, of round cross-section, having convex walls, consisting of staves and heads and fitted with hoops;

"*Wooden IBC*" means a rigid or collapsible wooden body, together with an inner liner (but no inner packaging) and appropriate service and structural equipment;

"*Working pressure*" means the settled pressure of a compressed gas at a reference temperature of 15 °C in a full pressure receptacle;

**NOTE:** For tanks, see "*Maximum working pressure*".

"*Woven plastics*" (for flexible IBCs) means a material made from stretch tapes or monofilaments of suitable plastics material.

## 1.2.2 Units of measurement

1.2.2.1 The following units of measurement <sup>a</sup> are applicable in ADR:

| Measurement of         | SI Unit <sup>b</sup>          | Acceptable alternative unit | Relationship between units                                |
|------------------------|-------------------------------|-----------------------------|---|
| Length                 | m (metre)                     | -                           | -   |
| Area                   | m <sup>2</sup> (square metre) | -                           | -   |
| Volume                 | m <sup>3</sup> (cubic metre)  | l <sup>c</sup> (litre)      | 1 l = 10 <sup>-3</sup> m <sup>3</sup>                     |
| Time                   | s (second)                    | min (minute)                | 1 min = 60 s  |
|                        |                               | h (hour)                    | 1 h = 3 600 s   |
|                        |                               | d (day)                     | 1 d = 86 400 s  |
| Mass                   | kg (kilogram)                 | g (gramme)                  | 1 g = 10 <sup>-3</sup> kg                                 |
|                        |                               | t (ton)                     | 1 t = 10 <sup>3</sup> kg                                  |
| Mass density           | kg/m <sup>3</sup>             | kg/l                        | 1 kg/l = 10 <sup>3</sup> kg/m <sup>3</sup>                |
| Temperature            | K (kelvin)                    | °C (degree Celsius)         | 0 °C = 273.15 K   |
| Temperature difference | K (kelvin)                    | °C (degree Celsius)         | 1 °C = 1 K  |
| Force                  | N (newton)                    | -                           | 1 N = 1 kg.m/s <sup>2</sup>                               |
| Pressure               | Pa (pascal)                   | -                           | 1 Pa = 1 N/m <sup>2</sup>                                 |
|                        |                               | bar (bar)                   | 1 bar = 10 <sup>5</sup> Pa                                |
| Stress                 | N/m <sup>2</sup>              | N/mm <sup>2</sup>           | 1 N/mm <sup>2</sup> = 1 MPa                               |
| Work                   |                               | kWh (kilowatt hours)        | 1 kWh = 3.6 MJ  |
| Energy                 | J (joule)                     |                             | 1 J = 1 N.m = 1 W.s                                       |
| Quantity of heat       |                               | eV (electronvolt)           | 1 eV = 0.1602 H 10 <sup>-18</sup> J                       |
| Power                  | W (watt)                      | -                           | 1 W = 1 J/s = 1 N.m/s                                     |
| Kinematic viscosity    | m <sup>2</sup> /s             | mm <sup>2</sup> /s          | 1 mm <sup>2</sup> /s = 10 <sup>-6</sup> m <sup>2</sup> /s |
| Dynamic viscosity      | Pa.s                          | mPa.s                       | 1 mPa.s = 10 <sup>-3</sup> Pa.s                           |
| Activity               | Bq (becquerel)                |                             |   |
| Dose equivalent        | Sv (sievert)                  |                             |   |

<sup>a</sup> The following round figures are applicable for the conversion of the units hitherto used into SI Units.

### Force

$$1 \text{ kg} = 9.807 \text{ N}$$

$$1 \text{ N} = 0.102 \text{ kg}$$

### Stress

$$1 \text{ kg/mm}^2 = 9.807 \text{ N/mm}^2$$

$$1 \text{ N/mm}^2 = 0.102 \text{ kg/mm}^2$$

### Pressure

$$1 \text{ Pa} = 1 \text{ N/m}^2 = 10^{-5} \text{ bar} = 1.02 \times 10^{-5} \text{ kg/cm}^2 = 0.75 \times 10^{-2} \text{ torr}$$

$$1 \text{ bar} = 10^5 \text{ Pa} = 1.02 \text{ kg/cm}^2 = 750 \text{ torr}$$

$$1 \text{ kg/cm}^2 = 9.807 \times 10^4 \text{ Pa} = 0.9807 \text{ bar} = 736 \text{ torr}$$

$$1 \text{ torr} = 1.33 \times 10^2 \text{ Pa} = 1.33 \times 10^{-3} \text{ bar} = 1.36 \times 10^{-3} \text{ kg/cm}^2$$

### Energy, Work, Quantity of heat

$$1 \text{ J} = 1 \text{ N.m} = 0.278 \times 10^{-6} \text{ kWh} = 0.102 \text{ kgm} = 0.239 \times 10^{-3} \text{ kcal}$$

$$1 \text{ kWh} = 3.6 \times 10^6 \text{ J} = 367 \times 10^3 \text{ kgm} = 860 \text{ kcal}$$

$$1 \text{ kgm} = 9.807 \text{ J} = 2.72 \times 10^{-6} \text{ kWh} = 2.34 \times 10^{-3} \text{ kcal}$$

$$1 \text{ kcal} = 4.19 \times 10^3 \text{ J} = 1.16 \times 10^{-3} \text{ kWh} = 427 \text{ kgm}$$

### Power

$$1 \text{ W} = 0.102 \text{ kgm/s} = 0.86 \text{ kcal/h}$$

$$1 \text{ kgm/s} = 9.807 \text{ W} = 8.43 \text{ kcal/h}$$

$$1 \text{ kcal/h} = 1.16 \text{ W} = 0.119 \text{ kgm/s}$$

### Kinematic viscosity

$$1 \text{ m}^2/\text{s} = 10^4 \text{ St (Stokes)}$$

$$1 \text{ St} = 10^{-4} \text{ m}^2/\text{s}$$

### Dynamic viscosity

$$1 \text{ Pa.s} = 1 \text{ N.s/m}^2 = 10 \text{ P (poise)} = 0.102 \text{ kg.s/m}^2$$

$$1 \text{ P} = 0.1 \text{ Pa.s} = 0.1 \text{ N.s/m}^2 = 1.02 \times 10^{-2} \text{ kg.s/m}^2$$

$$1 \text{ kg.s/m}^2 = 9.807 \text{ Pa.s} = 9.807 \text{ N.s/m}^2 = 98.07 \text{ P}$$

<sup>b</sup> *The International System of Units (SI) is the result of decisions taken at the General Conference on Weights and Measures (Address: Pavillon de Breteuil, Parc de St-Cloud, F-92 310 Sèvres).*

<sup>c</sup> *The abbreviation "L" for litre may also be used in place of the abbreviation "l" when a typewriter cannot distinguish between figure "1" and letter "l".*

The decimal multiples and sub-multiples of a unit may be formed by prefixes or symbols, having the following meanings, placed before the name or symbol of the unit:

| <u>Factor</u>             |                     |               | <u>Prefix</u> | <u>Symbol</u> |
|---------------------------|---------------------|---------------|---------------|---------------|
| 1 000 000 000 000 000 000 | = 10 <sup>18</sup>  | quintillion   | exa           | E             |
| 1 000 000 000 000 000     | = 10 <sup>15</sup>  | quadrillion   | peta          | P             |
| 1 000 000 000 000         | = 10 <sup>12</sup>  | trillion      | tera          | T             |
| 1 000 000 000             | = 10 <sup>9</sup>   | billion       | giga          | G             |
| 1 000 000                 | = 10 <sup>6</sup>   | million       | mega          | M             |
| 1 000                     | = 10 <sup>3</sup>   | thousand      | kilo          | k             |
| 100                       | = 10 <sup>2</sup>   | hundred       | hecto         | h             |
| 10                        | = 10 <sup>1</sup>   | ten           | deca          | da            |
| 0.1                       | = 10 <sup>-1</sup>  | tenth         | deci          | d             |
| 0.01                      | = 10 <sup>-2</sup>  | hundredth     | centi         | c             |
| 0.001                     | = 10 <sup>-3</sup>  | thousandth    | milli         | m             |
| 0.000 001                 | = 10 <sup>-6</sup>  | millionth     | micro         | μ             |
| 0.000 000 001             | = 10 <sup>-9</sup>  | billionth     | nano          | n             |
| 0.000 000 000 001         | = 10 <sup>-12</sup> | trillionth    | pico          | p             |
| 0.000 000 000 000 001     | = 10 <sup>-15</sup> | quadrillionth | femto         | f             |
| 0.000 000 000 000 000 001 | = 10 <sup>-18</sup> | quintillionth | atto          | a             |

**NOTE:** 10<sup>9</sup> billion is United Nations usage in English. By analogy, so is 10<sup>-9</sup> = 1 billionth.

1.2.2.2 Unless expressly stated otherwise, the sign "%" in ADR represents:

- (a) In the case of mixtures of solids or of liquids, and also in the case of solutions and of solids wetted by a liquid, a percentage mass based on the total mass of the mixture, the solution or the wetted solid;
- (b) In the case of mixtures of compressed gases, when filled by pressure, the proportion of the volume indicated as a percentage of the total volume of the gaseous mixture, or, when filled by mass, the proportion of the mass indicated as a percentage of the total mass of the mixture;
- (c) In the case of mixtures of liquefied gases and dissolved gases, the proportion of the mass indicated as a percentage of the total mass of the mixture.

1.2.2.3 Pressures of all kinds relating to receptacles (such as test pressure, internal pressure, safety valve opening pressure) are always indicated in gauge pressure (pressure in excess of atmospheric pressure); however, the vapour pressure of substances is always expressed in absolute pressure.

1.2.2.4 Where ADR specifies a degree of filling for receptacles, this is always related to a reference temperature of the substances of 15 °C, unless some other temperature is indicated.

## CHAPTER 1.3

### TRAINING OF PERSONS INVOLVED IN THE CARRIAGE OF DANGEROUS GOODS

#### 1.3.1 Scope and applicability

Persons employed by the participants referred to in Chapter 1.4, whose duties concern the carriage of dangerous goods, shall receive training in the requirements governing the carriage of such goods appropriate to their responsibilities and duties. Training requirements specific to security of dangerous goods in Chapter 1.10 shall also be addressed.

**NOTE 1:** With regard to the training for the safety adviser, see 1.8.3.

**NOTE 2:** With regard to the training of the vehicle crew, see Chapter 8.2.

**NOTE 3:** For training with regard to Class 7, see also 1.7.2.5.

**NOTE 4:** The training shall be effected before taking on responsibilities concerning the carriage of dangerous goods.

#### 1.3.2 Nature of the training

The training shall take the following form, appropriate to the responsibility and duties of the individual concerned.

##### 1.3.2.1 General awareness training

Personnel shall be familiar with the general requirements of the provisions for the carriage of dangerous goods.

##### 1.3.2.2 Function-specific training

Personnel shall receive detailed training, commensurate directly with their duties and responsibilities in the requirements of the regulations concerning the carriage of dangerous goods.

Where the carriage of dangerous goods involves a multimodal transport operation, the personnel shall be made aware of the requirements concerning other transport modes.

##### 1.3.2.3 Safety training

Commensurate with the degree of risk of injury or exposure arising from an incident involving the carriage of dangerous goods, including loading and unloading, personnel shall receive training covering the hazards and dangers presented by dangerous goods.

The training provided shall aim to make personnel aware of the safe handling and emergency response procedures.

##### 1.3.2.4 (Deleted)

**1.3.3****Documentation**

Details of all the training undertaken shall be kept by both the employer and the employee and shall be verified upon commencing a new employment. The training shall be periodically supplemented with refresher training to take account of changes in regulations.

## CHAPTER 1.4

### SAFETY OBLIGATIONS OF THE PARTICIPANTS

#### 1.4.1 General safety measures

1.4.1.1 The participants in the carriage of dangerous goods shall take appropriate measures according to the nature and the extent of foreseeable dangers, so as to avoid damage or injury and, if necessary, to minimize their effects. They shall, in all events, comply with the requirements of ADR in their respective fields.

1.4.1.2 When there is an immediate risk that public safety may be jeopardized, the participants shall immediately notify the emergency services and shall make available to them the information they require to take action.

1.4.1.3 ADR may specify certain of the obligations falling to the various participants.

If a Contracting Party considers that no lessening of safety is involved, it may in its domestic legislation transfer the obligations falling to a specific participant to one or several other participants, provided that the obligations of 1.4.2 and 1.4.3 are met. These derogations shall be communicated by the Contracting Party to the Secretariat of the United Nations Economic Commission for Europe which will bring them to the attention of the Contracting Parties.

The requirements of 1.2.1, 1.4.2 and 1.4.3 concerning the definitions of participants and their respective obligations shall not affect the provisions of domestic law concerning the legal consequences (criminal nature, liability, etc.) stemming from the fact that the participant in question is e.g. a legal entity, a self-employed worker, an employer or an employee.

#### 1.4.2 Obligations of the main participants

*NOTE: For radioactive material, see also 1.7.6.*

##### 1.4.2.1 Consignor

1.4.2.1.1 The consignor of dangerous goods is required to hand over for carriage only consignments which conform to the requirements of ADR. In the context of 1.4.1, he shall in particular:

- (a) Ascertain that the dangerous goods are classified and authorized for carriage in accordance with ADR;
- (b) Furnish the carrier with information and data and, if necessary, the required transport documents and accompanying documents (authorizations, approvals, notifications, certificates, etc.), taking into account in particular the requirements of Chapter 5.4 and of the tables in Part 3;
- (c) Use only packagings, large packagings, intermediate bulk containers (IBCs) and tanks (tank-vehicles, demountable tanks, battery-vehicles, MEGCs, portable tanks and tank-containers) approved for and suited to the carriage of the substances concerned and bearing the markings prescribed by ADR;
- (d) Comply with the requirements on the means of dispatch and on forwarding restrictions;



- (e) Ensure that even empty uncleaned and not degassed tanks (tank-vehicles, demountable tanks, battery-vehicles, MEGCs, portable tanks and tank-containers) or empty uncleaned vehicles and large and small bulk containers are appropriately marked and labelled and that empty uncleaned tanks are closed and present the same degree of leakproofness as if they were full.

1.4.2.1.2 If the consignor uses the services of other participants (packer, loader, filler, etc.), he shall take appropriate measures to ensure that the consignment meets the requirements of ADR. He may, however, in the case of 1.4.2.1.1 (a), (b), (c) and (e), rely on the information and data made available to him by other participants.

1.4.2.1.3 When the consignor acts on behalf of a third party, the latter shall inform the consignor in writing that dangerous goods are involved and make available to him all the information and documents he needs to perform his obligations.

#### **1.4.2.2** *Carrier*

1.4.2.2.1 In the context of 1.4.1, where appropriate, the carrier shall in particular:

- (a) Ascertain that the dangerous goods to be carried are authorized for carriage in accordance with ADR;
- (b) Ascertain that the prescribed documentation is on board the transport unit;
- (c) Ascertain visually that the vehicles and loads have no obvious defects, leakages or cracks, missing equipment, etc.;
- (d) Ascertain that the date of the next test for tank-vehicles, battery-vehicles, demountable tanks, portable tanks, tank-containers and MEGCs has not expired;

*NOTE: Tanks, battery-vehicles and MEGCs may however be carried after the expiry of this date under the conditions of 4.1.6.10 (in the case of battery-vehicles and MEGCs containing pressure receptacles as elements), 4.2.4.4, 4.3.2.4.4, 6.7.2.19.6, 6.7.3.15.6 or 6.7.4.14.6.*

- (e) verify that the vehicles are not overloaded;
- (f) ascertain that the danger labels and markings prescribed for the vehicles have been affixed;
- (g) ascertain that the equipment prescribed in the written instructions for the driver is on board the vehicle.

Where appropriate, this shall be done on the basis of the transport documents and accompanying documents, by a visual inspection of the vehicle or the containers and, where appropriate, the load.

1.4.2.2.2 The carrier may, however, in the case of 1.4.2.2.1 (a), (b), (e) and (f), rely on information and data made available to him by other participants.

1.4.2.2.3 If the carrier observes an infringement of the requirements of ADR, in accordance with 1.4.2.2.1, he shall not forward the consignment until the matter has been rectified.

1.4.2.2.4 If, during the journey, an infringement which could jeopardize the safety of the operation is observed, the consignment shall be halted as soon as possible bearing in mind the requirements of traffic safety, of the safe immobilisation of the consignment, and of public

safety. The transport operation may only be continued once the consignment complies with applicable regulations. The competent authority(ies) concerned by the rest of the journey may grant an authorization to pursue the transport operation.

In case the required compliance cannot be achieved and no authorization is granted for the rest of the journey, the competent authority(ies) shall provide the carrier with the necessary administrative assistance. The same shall apply in case the carrier informs this/these competent authority(ies) that the dangerous nature of the goods carried was not communicated to him by the consignor and that he wishes, by virtue of the law applicable in particular to the contract of carriage, to unload, destroy or render the goods harmless.

1.4.2.2.5 *(Reserved)*

### **1.4.2.3** *Consignee*

1.4.2.3.1 The consignee has the obligation not to defer acceptance of the goods without compelling reasons and to verify, after unloading, that the requirements of ADR concerning him have been complied with.

In the context of 1.4.1, he shall in particular:

- (a) Carry out in the cases provided for by ADR the prescribed cleaning and decontamination of the vehicles and containers;
- (b) Ensure that the containers once completely unloaded, cleaned and decontaminated, no longer bear danger markings conforming to Chapter 5.3.

1.4.2.3.2 If the consignee makes use of the services of other participants (unloader, cleaner, decontamination facility, etc.) he shall take appropriate measures to ensure that the requirements of ADR have been complied with.

1.4.2.3.3 If these verifications bring to light an infringement of the requirements of ADR, the consignee shall return the container to the carrier only after the infringement has been remedied.

## **1.4.3** *Obligations of the other participants*

A non-exhaustive list of the other participants and their respective obligations is given below. The obligations of the other participants flow from section 1.4.1 above insofar as they know or should have known that their duties are performed as part of a transport operation subject to ADR.

### **1.4.3.1** *Loader*

1.4.3.1.1 In the context of 1.4.1, the loader has the following obligations in particular:

- (a) He shall hand the dangerous goods over to the carrier only if they are authorized for carriage in accordance with ADR;
- (b) He shall, when handing over for carriage packed dangerous goods or uncleaned empty packagings, check whether the packaging is damaged. He shall not hand over a package the packaging of which is damaged, especially if it is not leakproof, and there are leakages or the possibility of leakages of the dangerous substance, until the damage has been repaired; this obligation also applies to empty uncleaned packagings;

- (c) He shall, when loading dangerous goods in a vehicle, or a large or small container, comply with the special requirements concerning loading and handling;
- (d) He shall, after loading dangerous goods into a container comply with the requirements concerning danger markings conforming to Chapter 5.3;
- (e) He shall, when loading packages, comply with the prohibitions on mixed loading taking into account dangerous goods already in the vehicle or large container and requirements concerning the separation of foodstuffs, other articles of consumption or animal feedstuffs.

1.4.3.1.2 The loader may, however, in the case of 1.4.3.1.1 (a), (d) and (e), rely on information and data made available to him by other participants.

#### **1.4.3.2      *Packer***

In the context of 1.4.1, the packer shall comply with in particular:

- (a) The requirements concerning packing conditions, or mixed packing conditions; and
- (b) When he prepares packages for carriage, the requirements concerning marking and labelling of the packages.

#### **1.4.3.3      *Filler***

In the context of 1.4.1, the filler has the following obligations in particular:

- (a) He shall ascertain prior to the filling of tanks that both they and their equipment are technically in a satisfactory condition;
- (b) He shall ascertain that the date of the next test for tank-vehicles, battery-vehicles, demountable tanks, portable tanks, tank-containers and MEGCs has not expired;
- (c) He shall only fill tanks with the dangerous goods authorized for carriage in those tanks;
- (d) He shall, in filling the tank, comply with the requirements concerning dangerous goods in adjoining compartments;
- (e) He shall, during the filling of the tank, observe the maximum permissible degree of filling or the maximum permissible mass of contents per litre of capacity for the substance being filled;
- (f) He shall, after filling the tank, check the leakproofness of the closing devices;
- (g) He shall ensure that no dangerous residue of the filling substance adheres to the outside of the tanks filled by him;
- (h) He shall, in preparing the dangerous goods for carriage, ensure that the orange plates and placards or labels prescribed are affixed on the tanks, on the vehicles and on the large and small containers for carriage in bulk in accordance with the requirements;
- (i) *(Reserved)*;
- (j) He shall, when filling vehicles or containers with dangerous goods in bulk, ascertain that the relevant provisions of Chapter 7.3 are complied with.

**1.4.3.4**      *Tank-container/portable tank operator*

In the context of 1.4.1, the tank-container/portable tank operator shall in particular:

- (a)    Ensure compliance with the requirements for construction, equipment, tests and marking;
- (b)    Ensure that the maintenance of shells and their equipment is carried out in such a way as to ensure that, under normal operating conditions, the tank-container/portable tank satisfies the requirements of ADR until the next inspection;
- (c)    Have an exceptional check made when the safety of the shell or its equipment is liable to be impaired by a repair, an alteration or an accident.

**1.4.3.5**      *(Reserved)*

## CHAPTER 1.5

### DEROGATIONS

#### 1.5.1 Temporary derogations

- 1.5.1.1 In accordance with Article 4, paragraph 3 of ADR, the competent authorities of the Contracting Parties may agree directly among themselves to authorize certain transport operations in their territories by temporary derogation from the requirements of ADR, provided that safety is not compromised thereby. The authority which has taken the initiative with respect to the temporary derogation shall notify such derogations to the Secretariat of the United Nations Economic Commission for Europe which shall bring them to the attention of the Contracting Parties<sup>1</sup>.

*NOTE: "Special arrangement" in accordance with 1.7.4 is not considered to be a temporary derogation in accordance with this section.*

- 1.5.1.2 The period of validity of the temporary derogation shall not be more than five years from the date of its entry into force. The temporary derogation shall automatically cease as from the date of the entry into force of a relevant amendment to ADR.
- 1.5.1.3 Transport operations on the basis of temporary derogations shall constitute transport operations in the sense of ADR.

#### 1.5.2 (Reserved)

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<sup>1</sup> *Note by the Secretariat: The special agreements concluded under this Chapter may be consulted on the web site of the Secretariat of the United Nations Economic Commission for Europe (<http://www.unece.org/trans/danger/danger.htm>).*

## CHAPTER 1.6

### TRANSITIONAL MEASURES

#### 1.6.1 General

- 1.6.1.1 Unless otherwise provided, the substances and articles of ADR may be carried until 30 June 2009 in accordance with the requirements of ADR applicable up to 31 December 2008.
- 1.6.1.2 (a) The danger labels and placards which until 31 December 2004 conformed to models No. 7A, 7B, 7C, 7D or 7E prescribed up to that date may be used until 31 December 2010.
- (b) The danger labels and placards which until 31 December 2006 conformed to model No. 5.2 prescribed up to that date may be used until 31 December 2010.
- 1.6.1.3 Substances and articles of Class 1, belonging to the armed forces of a Contracting Party, that were packaged prior to 1 January 1990 in accordance with the requirements of ADR in effect at that time may be carried after 31 December 1989 provided the packagings maintain their integrity and are declared in the transport document as military goods packaged prior to 1 January 1990. The other requirements applicable as from 1 January 1990 for this class shall be complied with.
- 1.6.1.4 Substances and articles of Class 1 that were packaged between 1 January 1990 and 31 December 1996 in accordance with the requirements of ADR in effect at that time may be carried after 31 December 1996, provided the packagings maintain their integrity and are declared in the transport document as goods of Class 1 packaged between 1 January 1990 and 31 December 1996.
- 1.6.1.5 *(Reserved)*
- 1.6.1.6 Intermediate bulk containers (IBCs) manufactured before 1 January 2003 in accordance with the requirements of marginal 3612 (1) applicable up to 30 June 2001 and which do not conform to the requirements of 6.5.2.1.1 regarding the height of letters, numerals and symbols applicable as from 1 July 2001 may continue to be used.
- 1.6.1.7 Type approvals for drums, jerricans and composite packagings made of high or medium molecular mass polyethylene issued before 1 July 2005 in accordance with the requirements of 6.1.5.2.6 in force up to 31 December 2004, but which are not in accordance with the requirements of 4.1.1.19, continue to be valid until 31 December 2009. Any such packagings manufactured and marked on the basis of these type approvals may be used until the end of their period of use determined in 4.1.1.15.
- 1.6.1.8 Existing orange-coloured plates which meet the requirements of sub-section 5.3.2.2 applicable up to 31 December 2004 may continue to be used.
- 1.6.1.9 *(Deleted)*
- 1.6.1.10 Lithium cells and batteries manufactured before 1 July 2003 which had been tested in accordance with the requirements applicable until 31 December 2002 but which had not been tested in accordance with the requirements applicable as from 1 January 2003, and appliances containing such lithium cells or batteries, may continue to be carried up to 30 June 2013 if all the other applicable requirements are fulfilled.

- 1.6.1.11 Type approvals for drums, jerricans and composite packagings made of high or medium molecular mass polyethylene, and for high molecular mass polyethylene IBCs, issued before 1 July 2007 in accordance with the requirements of 6.1.6.1 (a) in force up to 31 December 2006, but which are not in accordance with the requirements of 6.1.6.1 (a) applicable as from 1 January 2007, continue to be valid.
- 1.6.1.12 Notwithstanding the provisions of section 1.9.5, Contracting Parties may continue to apply, until 31 December 2009 at the latest, restrictions to the passage of vehicles through road tunnels in accordance with the provisions of national law.
- 1.6.1.13 For vehicles first registered or which first entered into service before 1 January 2009, the requirements of 5.3.2.2.1 and 5.3.2.2.2 that the plate, numbers and letters shall remain affixed irrespective of the orientation of the vehicle may not be applied until 31 December 2009.
- 1.6.1.14 IBCs manufactured before 1 January 2011 in accordance with the requirements in force up to 31 December 2010 and conforming to a design type which has not passed the vibration test of 6.5.6.13 may still be used.
- 1.6.1.15 IBCs manufactured, remanufactured or repaired before 1 January 2011 need not be marked with the maximum permitted stacking load in accordance with 6.5.2.2.2. Such IBCs, not marked in accordance with 6.5.2.2.2, may still be used after 31 December 2010 but must be marked in accordance with 6.5.2.2.2 if they are remanufactured or repaired after that date.
- 1.6.1.16 Animal material affected by pathogens included in Category B, other than those which would be assigned to Category A if they were in culture (see 2.2.62.1.12.2), may be carried in accordance with provisions determined by the competent authority until 31 December 2014<sup>1</sup>.
- 1.6.1.17 Substances of classes 1 to 9 other than those assigned to UN Nos. 3077 or 3082 to which the classification criteria of 2.2.9.1.10 have not been applied and which are not marked in accordance with 5.2.1.8 and 5.3.6 may still be carried until 31 December 2010 without application of the provisions concerning the carriage of environmentally hazardous substances.
- 1.6.1.18 The provisions of sections 3.4.9 to 3.4.13 need only be applied as from 1 January 2011.

## **1.6.2 Pressure receptacles and receptacles for Class 2**

- 1.6.2.1 Receptacles built before 1 January 1997 and which do not conform to the requirements of ADR applicable as from 1 January 1997, but the carriage of which was permitted under the requirements of ADR applicable up to 31 December 1996, may continue to be transported after that date if the periodic test requirements in packing instructions P200 and P203 are complied with.
- 1.6.2.2 Cylinders in accordance with the definition in 1.2.1 which were submitted to an initial inspection or periodic inspection before 1 January 1997 may be transported empty and uncleaned without a label until the date of the next refilling or the next periodic inspection.

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<sup>1</sup> Regulations for dead infected animals are contained e.g. in Regulation (EC) No. 1774/2002 of the European Parliament and of the Council of 3 October 2002 laying down health rules concerning animal by-products not intended for human consumption (Official Journal of the European Communities, No. L 273 of 10.10.2002, p. 1).

- 1.6.2.3 Receptacles intended for the carriage of Class 2 substances constructed before 1 January 2003, may continue to bear, after 1 January 2003, the markings conforming to the requirements applicable until 31 December 2002.
- 1.6.2.4 Pressure receptacles designed and constructed in accordance with technical codes no longer recognized according to 6.2.5 may still be used.
- 1.6.2.5 Pressure receptacles and their closures designed and constructed in accordance with standards applicable at the time of their construction (see 6.2.4) according to the provisions of ADR which were applicable at that time may still be used.
- 1.6.2.6 Pressure receptacles for substances other than those of Class 2, built before 1 July 2009 in accordance with the requirements of 4.1.4.4 in force up to 31 December 2008, but which do not conform to the requirements of 4.1.3.6 applicable as from 1 January 2009, may continue to be used provided that the requirements of 4.1.4.4 in force up to 31 December 2008 are complied with.
- 1.6.2.7 Contracting Parties may continue to apply the requirements of 6.2.1.4.1 to 6.2.1.4.4 applicable until 31 December 2008 instead of those of 1.8.6, 1.8.7, 6.2.2.9, 6.2.3.6 to 6.2.3.8 until 30 June 2011.

### **1.6.3 Fixed tanks (tank-vehicles), demountable tanks and battery-vehicles**

- 1.6.3.1 Fixed tanks (tank-vehicles), demountable tanks and battery-vehicles built before the entry into force of the requirements applicable as from 1 October 1978 may be kept in service if the equipment of the shell meets the requirements of Chapter 6.8. The thickness of the shell wall, except in the case of shells intended for the carriage of refrigerated liquefied gases of Class 2, shall be appropriate to a calculation pressure of not less than 0.4 MPa (4 bar) (gauge pressure) in the case of mild steel or of not less than 200 kPa (2 bar) (gauge pressure) in the case of aluminium and aluminium alloys. For other than circular cross-sections of tanks, the diameter to be used as a basis for calculation shall be that of a circle whose area is equal to that of the actual cross-section of the tank.
- 1.6.3.2 The periodic tests for fixed tanks (tank-vehicles), demountable tanks and battery-vehicles kept in service under these transitional requirements shall be conducted in accordance with the requirements of 6.8.2.4 and 6.8.3.4 and with the pertinent special requirements for the various classes. Unless the earlier requirements prescribed a higher test pressure, a test pressure of 200 kPa (2 bar) (gauge pressure) shall suffice for aluminium shells and aluminium alloy shells.
- 1.6.3.3 Fixed tanks (tank-vehicles), demountable tanks and battery-vehicles which meet the transitional requirements in 1.6.3.1 and 1.6.3.2 may be used until 30 September 1993 for the carriage of the dangerous goods for which they have been approved. This transitional period shall not apply to fixed tanks (tank-vehicles), demountable tanks and battery-vehicles intended for the carriage of substances of Class 2, or to fixed tanks (tank-vehicles), demountable tanks and battery-vehicles whose wall thickness and items of equipment meet the requirements of Chapter 6.8.
- 1.6.3.4 (a) Fixed tanks (tank-vehicles), demountable tanks and battery-vehicles constructed before 1 May 1985 in accordance with the requirements of ADR in force between 1 October 1978 and 30 April 1985 but not conforming to the requirements applicable as from 1 May 1985 may continue to be used after that date;



- (b) Fixed tanks (tank-vehicles), demountable tanks and battery-vehicles, constructed between 1 May 1985 and the entry into force of the requirements applicable as from 1 January 1988 which do not conform to those requirements but were constructed according to the requirements of ADR in force until that date, may continue to be used after that date.

1.6.3.5 Fixed tanks (tank-vehicles), demountable tanks and battery-vehicles, constructed before 1 January 1993 in accordance with the requirements in force up to 31 December 1992 but which do not conform to the requirements applicable as from 1 January 1993 may still be used.

1.6.3.6 (a) Fixed tanks (tank-vehicles), demountable tanks and battery-vehicles constructed between 1 January 1978 and 31 December 1984, if used after 31 December 2004, shall conform to the requirements of marginal 211 127 (5), applicable as from 1 January 1990, concerning shell thickness and protection against damage;

- (b) Fixed tanks (tank-vehicles), demountable tanks and battery-vehicles constructed between 1 January 1985 and 31 December 1989, if used after 31 December 2010, shall conform to the requirements of marginal 211 127 (5), applicable as from 1 January 1990, concerning shell thickness and protection against damage.

1.6.3.7 Fixed tanks (tank-vehicles), demountable tanks and battery-vehicles constructed before 1 January 1999 in accordance with the requirements in force up to 31 December 1998 but which do not, however, conform to the requirements applicable as from 1 January 1999 may still be used.

1.6.3.8 Fixed tanks (tank-vehicles), demountable tanks and battery-vehicles intended for the carriage of substances of Class 2, which were built prior to 1 January 1997, may carry markings conforming to the requirements applicable up to 31 December 1996, until the next periodic test.

When, because of amendments to ADR, some proper shipping names of gases have been modified, it is not necessary to modify the names on the plate or on the shell itself (see 6.8.3.5.2 or 6.8.3.5.3), provided that the names of the gases on the fixed tanks (tank-vehicles), demountable tanks and battery-vehicles or on the plates [see 6.8.3.5.6 (b) or (c)] are adapted at the first periodic test thereafter.

1.6.3.9 and 1.6.3.10 *(Reserved)*

1.6.3.11 Fixed tanks (tank-vehicles) and demountable tanks constructed before 1 January 1997 in accordance with the requirements in force up to 31 December 1996 but which do not, however, conform to the requirements of marginals 211 332 and 211 333 applicable as from 1 January 1997, may still be used.

1.6.3.12 *(Reserved)*

1.6.3.13 *(Deleted)*

1.6.3.14 *(Reserved)*

1.6.3.15 Fixed tanks (tank-vehicles) and demountable tanks constructed before 1 July 2007 in accordance with the requirements in force up to 31 December 2006 but which do not, however, conform to the requirements of 6.8.2.2.3 applicable as from 1 January 2007 may continue to be used until the next periodic inspection.

- 1.6.3.16 For fixed tanks (tank-vehicles), demountable tanks and battery-vehicles constructed before 1 January 2007 which do not conform to the requirements of 4.3.2, 6.8.2.3, 6.8.2.4 and 6.8.3.4 concerning the tank record, the retention of files for the tank record shall start at the latest at the next periodic inspection.
- 1.6.3.17 Fixed tanks (tank-vehicles) and demountable tanks intended for the carriage of substances of Class 3, packing group I having a vapour pressure of not more than 175 kPa (1.75 bar) (absolute) at 50 °C, constructed before 1 July 2007 in accordance with the requirements applicable up to 31 December 2006, to which tank code L1.5BN had been assigned in accordance with the requirements applicable up to 31 December 2006, may continue to be used for the carriage of the substances mentioned above, until 31 December 2018.
- 1.6.3.18 Fixed tanks (tank-vehicles), demountable tanks and battery-vehicles constructed before 1 January 2003 in accordance with the requirements in force up to 30 June 2001, but which do not, however, conform to the requirements applicable as from 1 July 2001, may still be used.
- 1.6.3.19 Fixed tanks (tank-vehicles) and demountable tanks constructed before 1 January 2003 in accordance with the requirements of 6.8.2.1.21 in force up to 31 December 2002 but which do not, however, conform to the requirements applicable as from 1 January 2003 may still be used.
- 1.6.3.20 Fixed tanks (tank-vehicles) and demountable tanks constructed before 1 July 2003 in accordance with the requirements in force up to 31 December 2002 but which do not, however, conform to the requirements of 6.8.2.1.7 applicable as from 1 January 2003 and special provision TE15 of 6.8.4 (b) applicable from 1 January 2003 to 31 December 2006 may still be used.
- 1.6.3.21 *(Deleted)*
- 1.6.3.22 to 1.6.3.24 *(Reserved)*
- 1.6.3.25 The type of the test ("P" or "L") required by 6.8.2.5.1 need not be added to the tank plate until the first test after 1 January 2007 is performed.
- 1.6.3.26 Fixed tanks (tank-vehicles) and demountable tanks constructed before 1 January 2007 in accordance with the requirements in force up to 31 December 2006 but which do not, however, conform to the requirements applicable as from 1 January 2007 regarding the marking of the external design pressure in accordance with 6.8.2.5.1, may still be used.
- 1.6.3.27 to 1.6.3.29 *(Reserved)*
- 1.6.3.30 Vacuum-operated waste fixed tanks (tank-vehicles) and demountable tanks constructed before 1 July 2005 in accordance with the requirements applicable up to 31 December 2004 but which do not conform to the requirements of 6.10.3.9 applicable as from 1 January 2005, may still be used.
- 1.6.3.31 Fixed tanks (tank-vehicles), demountable tanks and tanks forming elements of battery-vehicles designed and constructed in accordance with a technical code which was recognized at the time of their construction according to the provisions of 6.8.2.7 which were applicable at that time may still be used.
- 1.6.3.32 Fixed tanks (tank vehicles) and demountable tanks constructed before 1 July 2007 in accordance with the requirements in force up to 31 December 2006, equipped with manhole cover assemblies in accordance with the provisions of standard EN 13317:2002 referred to in the table of paragraph 6.8.2.6, applicable until 31 December 2006, including those of the

figure and table B.2 of annex B of the said standard which are no longer accepted as from 1 January 2007, or the material of which does not meet the requirements of EN 13094:2004, paragraph 5.2, may still be used.

- 1.6.3.33 When the shell of a fixed tank (tank-vehicle) or demountable tank was already divided by partitions or surge plates into sections of not more than 7 500 litres capacity before 1 January 2009, the capacity of the shell need not be supplemented with the symbol "S" in the particulars required by 6.8.2.5.1 until the next periodic inspection according to 6.8.2.4.2 is performed.
- 1.6.3.34 Notwithstanding the provisions of 4.3.2.2.4, fixed tanks (tank-vehicles) and demountable tanks intended for the carriage of liquefied gases or refrigerated liquefied gases, which meet the applicable construction requirements of ADR but which were divided, before 1 July 2009, by partitions or surge plates into sections of more than 7 500 litres capacity may still be filled to more than 20% and less than 80% of their capacity.
- 1.6.3.35 Contracting Parties need not apply the requirements of 1.8.6, 1.8.7 and 6.8.4 TA4 and TT9 before 1 July 2011.

1.6.3.36 to 1.6.3.39 (Reserved)

**1.6.3.40      *Fibre-reinforced plastics (FRP) tanks***

FRP tanks which have been constructed before 1 July 2002 in conformity with a design type approved before 1 July 2001 in accordance with the requirements of Appendix B.1c which were in force until 30 June 2001 may continue to be used until the end of their lifetime provided that all the requirements in force up to 30 June 2001 have been and continue to be complied with.

However, as from 1 July 2001, no new design type may be approved in accordance with the requirements in force until 30 June 2001.

**1.6.4            Tank-containers, portable tanks and MEGCs**

- 1.6.4.1 Tank-containers constructed before 1 January 1988 in accordance with the requirements in force up to 31 December 1987 but which do not, however, conform to the requirements applicable as from 1 January 1988, may still be used.
- 1.6.4.2 Tank-containers constructed before 1 January 1993 in accordance with the requirements in force up to 31 December 1992 but which do not, however, conform to the requirements applicable as from 1 January 1993, may still be used.
- 1.6.4.3 Tank-containers constructed before 1 January 1999 in accordance with the requirements in force up to 31 December 1998 but which do not, however, conform to the requirements applicable as from 1 January 1999, may still be used.
- 1.6.4.4 (Reserved)
- 1.6.4.5 When, because of amendments to ADR, some proper shipping names of gases have been modified, it is not necessary to modify the names on the plate or on the shell itself (see 6.8.3.5.2 or 6.8.3.5.3), provided that the names of the gases on the tank-containers and MEGCs or on the plates [see 6.8.3.5.6 (b) or (c)] are adapted at the first periodic test thereafter.

- 1.6.4.6 Tank-containers constructed before 1 January 2007 in accordance with the requirements in force up to 31 December 2006 but which do not, however, conform to the requirements applicable as from 1 January 2007 regarding the marking of the external design pressure in accordance with 6.8.2.5.1, may still be used.
- 1.6.4.7 Tank-containers constructed before 1 January 1997 in accordance with the requirements in force up to 31 December 1996 but which do not, however, conform to the requirements of marginals 212 332 and 212 333 applicable as from 1 January 1997, may still be used.
- 1.6.4.8 *(Reserved)*
- 1.6.4.9 Tank-containers and MEGCs designed and constructed in accordance with a technical code which was recognized at the time of their construction according to the provisions of 6.8.2.7 which were applicable at that time may still be used.
- 1.6.4.10 *(Deleted)*
- 1.6.4.11 *(Reserved)*
- 1.6.4.12 Tank-containers and MEGCs constructed before 1 January 2003 in accordance with the requirements applicable up to 30 June 2001, but which do not, however, conform to the requirements applicable as from 1 July 2001, may still be used.
- 1.6.4.13 Tank-containers constructed before 1 July 2003 in accordance with the requirements in force up to 31 December 2002 but which do not, however, conform to the requirements of 6.8.2.1.7 applicable as from 1 January 2003 and special provision TE15 of 6.8.4 (b) applicable from 1 January 2003 to 31 December 2006 may still be used.
- 1.6.4.14 *(Reserved)*
- 1.6.4.15 The type of the test ("P" or "L") required by 6.8.2.5.1 need not be added to the tank plate until the first test after 1 January 2007 is performed.
- 1.6.4.16 *(Deleted)*
- 1.6.4.17 Tank-containers constructed before 1 July 2007 in accordance with the requirements in force up to 31 December 2006 but which do not conform to the requirements of 6.8.2.2.3 applicable as from 1 January 2007 may continue to be used until the next periodic inspection.
- 1.6.4.18 For tank-containers and MEGCs constructed before 1 January 2007 which do not conform to the requirements of 4.3.2, 6.8.2.3, 6.8.2.4 and 6.8.3.4 concerning the tank record, the retention of files for the tank record shall start at the latest at the next periodic inspection.
- 1.6.4.19 Tank-containers intended for the carriage of substances of Class 3, packing group I having a vapour pressure of not more than 175 kPa (1.75 bar) (absolute) at 50 °C, constructed before 1 July 2007 in accordance with the requirements applicable up to 31 December 2006, to which tank code L1.5BN had been assigned in accordance with the requirements applicable up to 31 December 2006, may continue to be used for the carriage of the substances mentioned above until 31 December 2016.
- 1.6.4.20 Vacuum-operated waste tank-containers constructed before 1 July 2005 in accordance with the requirements applicable up to 31 December 2004 but which do not conform to the requirements of 6.10.3.9 applicable as from 1 January 2005, may still be used.

1.6.4.21 to 1.6.4.29    *(Reserved)*

- 1.6.4.30        Portable tanks and UN MEGCs which do not meet the design requirements applicable as from 1 January 2007 but which have been constructed according to a design approval certificate which has been issued before 1 January 2008 may continue to be used.
- 1.6.4.31        For substances where TP35 is assigned in column (11) of Table A of Chapter 3.2, portable tank instruction T14 prescribed in ADR applicable up to 31 December 2008 may continue to be applied until 31 December 2014.
- 1.6.4.32        When the shell of a tank-container was already divided by partitions or surge plates into sections of not more than 7 500 litres capacity before 1 January 2009, the capacity of the shell need not be supplemented with the symbol "S" in the particulars required by 6.8.2.5.1 until the next periodic inspection according to 6.8.2.4.2 is performed.
- 1.6.4.33        Notwithstanding the provisions of 4.3.2.2.4, tank-containers intended for the carriage of liquefied gases or refrigerated liquefied gases, which meet the applicable construction requirements of ADR but which were divided, before 1 July 2009, by partitions or surge plates into sections of more than 7 500 litres capacity may still be filled to more than 20% and less than 80% of their capacity.
- 1.6.4.34        Contracting Parties need not apply the requirements of 1.8.6, 1.8.7 and 6.8.4 TA4 and TT9 before 1 July 2011.

**1.6.5            Vehicles**1.6.5.1 and 1.6.5.2    *(Reserved)*1.6.5.3            *(Deleted)*

- 1.6.5.4        As regards the construction of EX/II, EX/III, FL, OX and AT vehicles, the requirements of Part 9 in force up to 31 December 2008 may be applied until 31 March 2010.

- 1.6.5.5        Vehicles registered or entering into service before 1 January 2003 the electric equipment of which does not comply with the requirements of 9.2.2, 9.3.7 or 9.7.8 but complies with the requirements applicable until 30 June 2001 may still be used.

1.6.5.6            *(Deleted)*

- 1.6.5.7        Complete or completed vehicles which have been type-approved before 31 December 2002 according to ECE Regulation No. 105<sup>2</sup> as amended by the 01 series of amendments or the corresponding provisions of Directive 98/91/EC<sup>3</sup> and which do not comply with the requirements of Chapter 9.2 but comply with the requirements applicable to the construction of base vehicles (marginals 220 100 to 220 540 of Appendix B.2) applicable until 30 June 2001 may continue to be approved and used provided they are first registered or they entered into service before 1 July 2003.

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<sup>2</sup>    ECE Regulation No. 105 (Uniform provisions concerning the approval of vehicles intended for the carriage of dangerous goods with regard to their specific constructional features).

<sup>3</sup>    Directive 98/91/EC of the European Parliament and of the Council of 14 December 1998 relating to motor vehicles and their trailers intended for the transport of dangerous goods by road and amending Directive 70/156/EEC relating to the type approval of motor vehicles and their trailers (Official Journal of the European Communities No. L 011 of 16 January 1999, pp. 0025-0036).

- 1.6.5.8 EX/II and EX/III vehicles which have been first approved before 1 July 2005 and which comply with the requirements of Part 9 in force up to 31 December 2004 but which do not however conform to the requirements applicable as from 1 January 2005 may still be used.
- 1.6.5.9 Tank-vehicles with fixed tanks with a capacity of more than 3 m<sup>3</sup> intended for the carriage of dangerous goods in the liquid or molten state tested with a pressure of less than 4 bar, which do not comply with the requirements of 9.7.5.2, first registered (or which entered into service if the registration is not mandatory) before 1 July 2004, may still be used.
- 1.6.5.10 Certificates of approval which conform to the model shown in 9.1.3.5 applicable up to 31 December 2006 and those which conform to the model shown in 9.1.3.5 applicable from 1 January 2007 to 31 December 2008 may continue to be used.
- 1.6.5.11 MEMUs which have been constructed and approved before 1 January 2009 in accordance with the provisions of national law but which do not, however, conform to the construction and approval requirements applicable as from 1 January 2009 may be used with the approval of the competent authorities in the countries of use.

#### **1.6.6 Class 7**

##### **1.6.6.1 *Packages not requiring competent authority approval of design under the 1985 and 1985 (as amended 1990) editions of IAEA Safety Series No. 6***

Excepted packages, Industrial packages Type IP-1, Type IP-2 and Type IP-3 and Type A packages that did not require approval of design by the competent authority and which meet the requirements of the 1985 or 1985 (as amended 1990) Editions of IAEA Regulations for the Safe Transport of Radioactive Material (IAEA Safety Series No. 6) may continue to be used subject to the mandatory programme of quality assurance in accordance with the requirements of 1.7.3 and the activity limits and material restrictions of 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6, special provision 336 of Chapter 3.3 and 4.1.9.3.

Any packaging modified, unless to improve safety, or manufactured after 31 December 2003, shall meet the requirements of ADR. Packages prepared for carriage not later than 31 December 2003 under the 1985 or 1985 (as amended 1990) Editions of IAEA Safety Series No. 6 may continue in transport. Packages prepared for carriage after this date shall meet the requirements of ADR.

##### **1.6.6.2 *Packages approved under the 1973, 1973 (as amended), 1985 and 1985 (as amended 1990) editions of IAEA Safety Series No. 6***

- 1.6.6.2.1 Packagings manufactured to a package design approved by the competent authority under the provisions of the 1973 or 1973 (as amended) Editions of IAEA Safety Series No. 6 may continue to be used, subject to: multilateral approval of package design, the mandatory programme of quality assurance in accordance with the applicable requirements of 1.7.3 and the activity limits and material restrictions of 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6, special provision 337 of Chapter 3.3 and 4.1.9.3. No new manufacture of such packaging shall be permitted to commence. Changes in the design of the packaging or in the nature or quantity of the authorized radioactive contents which, as determined by the competent authority, would significantly affect safety shall require that the requirements of ADR be met. A serial number according to the provision of 5.2.1.7.5 shall be assigned to and marked on the outside of each packaging.



- 1.6.6.2.2      Packagings manufactured to a package design approved by the competent authority under the provisions of the 1985 or 1985 (as amended 1990) Editions of IAEA Safety Series No. 6 may continue to be used, subject to: the multilateral approval of package design; the mandatory programme of quality assurance in accordance with the requirements of 1.7.3 and the activity limits and material restrictions of 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6, special provision 337 of Chapter 3.3 and 4.1.9.3. Changes in the design of the packaging or in the nature or quantity of the authorized radioactive contents which, as determined by the competent authority, would significantly affect safety shall require that the requirements of these Regulations be met. All packagings for which manufacture begins after 31 December 2006 shall meet the requirements of ADR.

**1.6.6.3      *Special form radioactive material approved under the 1973, 1973 (as amended), 1985 and 1985 (as amended 1990) Editions of IAEA Safety Series No. 6***

Special form radioactive material manufactured to a design which had received unilateral approval by the competent authority under the 1973, 1973 (as amended), 1985 or 1985 (as amended 1990) Editions of IAEA Safety Series No. 6 may continue to be used when in compliance with the mandatory programme of quality assurance in accordance with the applicable requirements of 1.7.3. All special form radioactive material manufactured after 31 December 2003 shall meet the requirements of ADR.

## CHAPTER 1.7

### GENERAL PROVISIONS CONCERNING CLASS 7

#### 1.7.1 Scope and application

**NOTE 1:** *In the event of accidents or incidents during the carriage of radioactive material, emergency provisions, as established by relevant national and/or international organizations, shall be observed to protect persons, property and the environment. Appropriate guidelines for such provisions are contained in "Planning and Preparing for Emergency Response to Transport Accidents Involving Radioactive Material", Safety Standard Series No. TS-G-1.2 (ST-3), IAEA, Vienna (2002).*

**NOTE 2:** *Emergency procedures shall take into account the formation of other dangerous substances that may result from the reaction between the contents of a consignment and the environment in the event of an accident.*

1.7.1.1 ADR establishes standards of safety which provide an acceptable level of control of the radiation, criticality and thermal hazards to persons, property and the environment that are associated with the carriage of radioactive material. These standards are based on the IAEA Regulations for the Safe Transport of Radioactive Material, 2005 edition, Safety Standards Series No. TS-R-1, IAEA, Vienna (2005). Explanatory material on the 1996 edition of TS-R-1 can be found in the "Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material", Safety Standards Series No. TS-G-1.1 (ST-2) IAEA, Vienna (2002).

1.7.1.2 The objective of ADR is to protect persons, property and the environment from the effects of radiation during the carriage of radioactive material. This protection is achieved by requiring:

- (a) Containment of the radioactive contents;
- (b) Control of external radiation levels;
- (c) Prevention of criticality; and
- (d) Prevention of damage caused by heat.

These requirements are satisfied firstly by applying a graded approach to contents limits for packages and vehicles and to performance standards applied to package designs depending upon the hazard of the radioactive contents. Secondly, they are satisfied by imposing requirements on the design and operation of packages and on the maintenance of packagings, including a consideration of the nature of the radioactive contents. Finally, they are satisfied by requiring administrative controls including, where appropriate, approval by competent authorities.

1.7.1.3 ADR applies to the carriage of radioactive material by road including carriage which is incidental to the use of the radioactive material. Carriage comprises all operations and conditions associated with and involved in the movement of radioactive material; these include the design, manufacture, maintenance and repair of packaging, and the preparation, consigning, loading, carriage including in-transit storage, unloading and receipt at the final destination of loads of radioactive material and packages. A graded approach is applied to the performance standards in ADR that is characterized by three general severity levels:



- (a) Routine conditions of carriage (incident free);
- (b) Normal conditions of carriage (minor mishaps);
- (c) Accident conditions of carriage.

1.7.1.4 The provisions laid down in ADR do not apply to the carriage of:

- (a) Radioactive material that is an integral part of the means of transport;
- (b) Radioactive material moved within an establishment which is subject to appropriate safety regulations in force in the establishment and where the movement does not involve public roads or railways;
- (c) Radioactive material implanted or incorporated into a person or live animal for diagnosis or treatment;
- (d) Radioactive material in consumer products which have received regulatory approval, following their sale to the end user;
- (e) Natural material and ores containing naturally occurring radionuclides which are either in their natural state, or have only been processed for purposes other than for extraction of the radionuclides, and which are not intended to be processed for use of these radionuclides provided the activity concentration of the material does not exceed 10 times the values specified in 2.2.7.2.2.1 (b), or calculated in accordance with 2.2.7.2.2.2 to 2.2.7.2.2.6;
- (f) Non-radioactive solid objects with radioactive substances present on any surfaces in quantities not in excess of the limit set out in the definition for "contamination" in 2.2.7.1.2.

#### 1.7.1.5 *Specific provisions for the carriage of excepted packages*

Excepted packages as specified in 2.2.7.2.4.1 shall be subject only to the following provisions of Parts 5 to 7:

- (a) The applicable requirements in 5.1.2, 5.1.3.2, 5.1.4, 5.2.1.2, 5.2.1.7.1 to 5.2.1.7.3, 5.2.1.9, 5.4.1.1.1 (a), (g) and (h) and 7.5.11 CV33 (5.2);
- (b) The requirements for excepted packages specified in 6.4.4; and
- (c) If the excepted package contains fissile material, one of the fissile exceptions provided by 2.2.7.2.3.5 shall apply and the requirement of 6.4.7.2 shall be met.

Excepted packages are subject to the relevant provisions of all other parts of ADR.

#### 1.7.2 **Radiation protection programme**

1.7.2.1 The carriage of radioactive material shall be subject to a Radiation protection programme which shall consist of systematic arrangements aimed at providing adequate consideration of radiation protection measures.

1.7.2.2 Doses to persons shall be below the relevant dose limits. Protection and safety shall be optimized in order that the magnitude of individual doses, the number of persons exposed, and the likelihood of incurring exposure shall be kept as low as reasonably achievable,

economic and social factors being taken into account within the restriction that the doses to individuals be subject to dose constraints. A structured and systematic approach shall be adopted and shall include consideration of the interfaces between carriage and other activities.

1.7.2.3 The nature and extent of the measures to be employed in the programme shall be related to the magnitude and likelihood of radiation exposures. The programme shall incorporate the requirements in 1.7.2.2, 1.7.2.4 and 1.7.2.5. Programme documents shall be available, on request, for inspection by the relevant competent authority.

1.7.2.4 For occupational exposures arising from transport activities, where it is assessed that the effective dose:

- (a) Is likely to be between 1 mSv and 6 mSv in a year, a dose assessment programme via work place monitoring or individual monitoring shall be conducted;
- (b) Is likely to exceed 6 mSv in a year, individual monitoring shall be conducted.

When individual monitoring or work place monitoring is conducted, appropriate records shall be kept.

***NOTE:** For occupational exposures arising from transport activities, where it is assessed that the effective dose is most unlikely to exceed 1 mSv in a year, no special work patterns, detailed monitoring, dose assessment programmes or individual record keeping need be required.*

1.7.2.5 Workers (see 7.5.11, CV33 Note 3) shall receive appropriate training concerning radiation protection including the precautions to be observed in order to restrict their occupational exposure and the exposure of other persons who might be affected by their actions.

### 1.7.3 Quality assurance

Quality assurance programmes based on international, national or other standards acceptable to the competent authority shall be established and implemented for the design, manufacture, testing, documentation, use, maintenance and inspection of all special form radioactive material, low dispersible radioactive material and packages and for carriage and in-transit storage operations to ensure compliance with the relevant provisions of ADR. Certification that the design specification has been fully implemented shall be available to the competent authority. The manufacturer, consignor or user shall be prepared to provide facilities for competent authority inspection during manufacture and use and to demonstrate to any cognizant competent authority that:

- (a) The manufacturing methods and materials used are in accordance with the approved design specifications; and
- (b) All packagings are periodically inspected and, as necessary, repaired and maintained in good condition so that they continue to comply with all relevant requirements and specifications, even after repeated use.

Where competent authority approval is required, such approval shall take into account and be contingent upon the adequacy of the quality assurance programme.

**1.7.4 Special arrangement**

- 1.7.4.1 Special arrangement shall mean those provisions, approved by the competent authority, under which consignments which do not satisfy all the requirements of ADR applicable to radioactive material may be transported.

*NOTE: Special arrangement is not considered to be a temporary derogation in accordance with 1.5.1.*

- 1.7.4.2 Consignments for which conformity with any provision applicable to Class 7 is impracticable shall not be transported except under special arrangement. Provided the competent authority is satisfied that conformity with the Class 7 provisions of ADR is impracticable and that the requisite standards of safety established by ADR have been demonstrated through alternative means the competent authority may approve special arrangement transport operations for single or a planned series of multiple consignments. The overall level of safety in carriage shall be at least equivalent to that which would be provided if all the applicable requirements had been met. For international consignments of this type, multilateral approval shall be required.

**1.7.5 Radioactive material possessing other dangerous properties**

In addition to the radioactive and fissile properties, any subsidiary risk of the contents of the package, such as explosiveness, flammability, pyrophoricity, chemical toxicity and corrosiveness, shall also be taken into account in the documentation, packing, labelling, marking, placarding, stowage, segregation and carriage, in order to be in compliance with all relevant provisions for dangerous goods of ADR.

**1.7.6 Non-compliance**

- 1.7.6.1 In the event of a non-compliance with any limit in ADR applicable to radiation level or contamination,

- (a) The consignor shall be informed of the non-compliance by:
  - (i) the carrier if the non-compliance is identified during carriage; or
  - (ii) the consignee if the non-compliance is identified at receipt;
- (b) The carrier, consignor or consignee, as appropriate shall:
  - (i) take immediate steps to mitigate the consequences of the non-compliance;
  - (ii) investigate the non-compliance and its causes, circumstances and consequences;
  - (iii) take appropriate action to remedy the causes and circumstances that led to the non-compliance and to prevent a recurrence of similar circumstances that led to the non-compliance; and
  - (iv) communicate to the competent authority(ies) on the causes of the non-compliance and on corrective or preventive actions taken or to be taken; and
- (c) The communication of the non-compliance to the consignor and competent authority(ies), respectively, shall be made as soon as practicable and it shall be immediate whenever an emergency exposure situation has developed or is developing.

## CHAPTER 1.8

### CHECKS AND OTHER SUPPORT MEASURES TO ENSURE COMPLIANCE WITH SAFETY REQUIREMENTS

#### 1.8.1 Administrative controls of dangerous goods

- 1.8.1.1 The competent authorities of the Contracting Parties may, on their national territory, at any time, conduct spot checks to verify whether the requirements concerning the carriage of dangerous goods have been met including, in accordance with 1.10.1.5, those concerning security measures.

These checks shall, however, be made without endangering persons, property or the environment and without major disruption of road services.

- 1.8.1.2 Participants in the carriage of dangerous goods (Chapter 1.4) shall, without delay, in the context of their respective obligations, provide the competent authorities and their agents with the necessary information for carrying out the checks.

- 1.8.1.3 The competent authorities may also, for the purposes of carrying out checks on the premises of the enterprises participating in the carriage of dangerous goods (Chapter 1.4), make inspections, consult the necessary documents and remove samples of dangerous goods or packagings for examination, provided that safety is not jeopardized thereby. The participants in the carriage of dangerous goods (Chapter 1.4) shall also make the vehicles or parts of vehicles and the equipment and installations accessible for the purpose of checking where this is possible and reasonable. They may, if they deem necessary, designate a person from the enterprise to accompany the representative of the competent authority.

- 1.8.1.4 If the competent authorities observe that the requirements of ADR have not been met, they may prohibit a consignment or interrupt a transport operation until the defects observed are rectified, or they may prescribe other appropriate measures. Immobilization may take place on the spot or at another place selected by the authorities for safety reasons. These measures shall not cause a major disruption in road services.

#### 1.8.2 Mutual administrative support

- 1.8.2.1 The Contracting Parties shall agree on mutual administrative support for the implementation of ADR.

- 1.8.2.2 When a Contracting Party has reasons to observe that the safety of the carriage of dangerous goods on its territory is compromised as a result of very serious or repeated infringements by an enterprise which has its headquarters on the territory of another Contracting Party, it shall notify the competent authorities of this Contracting Party of such infringements. The competent authorities of the Contracting Party on the territory of which the very serious or repeated infringements were observed may request the competent authorities of the Contracting Party on the territory of which the enterprise has its headquarters to take appropriate measures against the offender(s). The transmission of data referring to persons shall not be permitted unless it is necessary for the prosecution of very serious or repeated infringements.

- 1.8.2.3 The authorities notified shall communicate to the competent authorities of the Contracting Party on the territory of which the infringements were observed, the measures which have, if necessary, been taken with respect to the enterprise.

**1.8.3      Safety adviser**

1.8.3.1      Each undertaking, the activities of which include the carriage, or the related packing, loading, filling or unloading, of dangerous goods by road shall appoint one or more safety advisers for the carriage of dangerous goods, responsible for helping to prevent the risks inherent in such activities with regard to persons, property and the environment.

1.8.3.2      The competent authorities of the Contracting Parties may provide that these requirements shall not apply to undertakings:

- (a)      The activities of which concern quantities in each transport unit smaller than those referred to in 1.1.3.6, 1.7.1.4 and in Chapters 3.3, 3.4 and 3.5; or
- (b)      The main or secondary activities of which are not the carriage or the related loading or unloading of dangerous goods but which occasionally engage in the national carriage or the related loading or unloading of dangerous goods posing little danger or risk of pollution.

1.8.3.3      The main task of the adviser shall be, under the responsibility of the head of the undertaking, to seek by all appropriate means and by all appropriate action, within the limits of the relevant activities of that undertaking, to facilitate the conduct of those activities in accordance with the requirements applicable and in the safest possible way.

With regard to the undertaking's activities, the adviser has the following duties in particular:

- monitoring compliance with the requirements governing the carriage of dangerous goods;
- advising his undertaking on the carriage of dangerous goods;
- preparing an annual report to the management of his undertaking or a local public authority, as appropriate, on the undertaking's activities in the carriage of dangerous goods. Such annual reports shall be preserved for five years and made available to the national authorities at their request.

The adviser's duties also include monitoring the following practices and procedures relating to the relevant activities of the undertaking:

- the procedures for compliance with the requirements governing the identification of dangerous goods being transported;
- the undertaking's practice in taking account, when purchasing means of transport, of any special requirements in connection with the dangerous goods being transported;
- the procedures for checking the equipment used in connection with the carriage, loading or unloading of dangerous goods;
- the proper training of the undertaking's employees and the maintenance of records of such training;
- the implementation of proper emergency procedures in the event of any accident or incident that may affect safety during the carriage, loading or unloading of dangerous goods;

- investigating and, where appropriate, preparing reports on serious accidents, incidents or serious infringements recorded during the carriage, loading or unloading of dangerous goods;
- the implementation of appropriate measures to avoid the recurrence of accidents, incidents or serious infringements;
- the account taken of the legal prescriptions and special requirements associated with the carriage of dangerous goods in the choice and use of sub-contractors or third parties;
- verification that employees involved in the carriage, loading or unloading of dangerous goods have detailed operational procedures and instructions;
- the introduction of measures to increase awareness of the risks inherent in the carriage, loading and unloading of dangerous goods;
- the implementation of verification procedures to ensure the presence on board the means of transport of the documents and safety equipment which must accompany transport and the compliance of such documents and equipment with the regulations;
- the implementation of verification procedures to ensure compliance with the requirements governing loading and unloading;
- the existence of the security plan indicated in 1.10.3.2.

1.8.3.4 The adviser may also be the head of the undertaking, a person with other duties in the undertaking, or a person not directly employed by that undertaking, provided that that person is capable of performing the duties of adviser.

1.8.3.5 Each undertaking concerned shall, on request, inform the competent authority or the body designated for that purpose by each Contracting Party of the identity of its adviser.

1.8.3.6 Whenever an accident affects persons, property or the environment or results in damage to property or the environment during carriage, loading or unloading carried out by the undertaking concerned, the adviser shall, after collecting all the relevant information, prepare an accident report to the management of the undertaking or to a local public authority, as appropriate. That report shall not replace any report by the management of the undertaking which might be required under any other international or national legislation.

1.8.3.7 An adviser shall hold a vocational training certificate, valid for transport by road. That certificate shall be issued by the competent authority or the body designated for that purpose by each Contracting Party.

1.8.3.8 To obtain a certificate, a candidate shall undergo training and pass an examination approved by the competent authority of the Contracting Party.

1.8.3.9 The main aims of the training shall be to provide candidates with sufficient knowledge of the risks inherent in the carriage of dangerous goods, of the laws, regulations and administrative provisions applicable to the modes of transport concerned and of the duties listed in 1.8.3.3.

1.8.3.10 The examination shall be organized by the competent authority or by an examining body designated by the competent authority. The examining body shall not be a training provider.

The examining body shall be designated in writing. This approval may be of limited duration and shall be based on the following criteria:

- competence of the examining body;
- specifications of the form of the examinations the examining body is proposing;
- measures intended to ensure that examinations are impartial;
- independence of the body from all natural or legal persons employing safety advisers.

1.8.3.11

The aim of the examination is to ascertain whether candidates possess the necessary level of knowledge to carry out the duties incumbent upon a safety adviser as listed in 1.8.3.3, for the purpose of obtaining the certificate prescribed in sub-section 1.8.3.7, and it shall cover at least the following subjects:

- (a) Knowledge of the types of consequences which may be caused by an accident involving dangerous goods and knowledge of the main causes of accidents;
- (b) Requirements under national law, international conventions and agreements, with regard to the following in particular:
  - classification of dangerous goods (procedure for classifying solutions and mixtures, structure of the list of substances, classes of dangerous goods and principles for their classification, nature of dangerous goods transported, physical, chemical and toxicological properties of dangerous goods);
  - general packing provisions, provisions for tanks and tank-containers (types, code, marking, construction, initial and periodic inspection and testing);
  - marking and labelling, placarding and orange plates marking (marking and labelling of packages, placing and removal of placards and orange plates);
  - particulars in transport documents (information required);
  - method of consignment and restrictions on dispatch (full load, carriage in bulk, carriage in intermediate bulk containers, carriage in containers, carriage in fixed or demountable tanks);
  - transport of passengers;
  - prohibitions and precautions relating to mixed loading;
  - segregation of goods;
  - limitation of the quantities carried and quantities exemptions;
  - handling and stowage (loading and unloading - filling ratios -, stowage and segregation);
  - cleaning and/or degassing before loading and after unloading;
  - crews, vocational training;
  - vehicle documents (transport documents, instructions in writing, vehicle approval certificate, driver training certificate, copies of any derogations, other documents);

- instructions in writing (implementation of the instructions and crew protection equipment);
- supervision requirements (parking);
- traffic regulations and restrictions;
- operational discharges or accidental leaks of pollutants;
- requirements relating to transport equipment.

#### **1.8.3.12**      *Examinations*

1.8.3.12.1      The examination shall consist of a written test which may be supplemented by an oral examination.

1.8.3.12.2      The use in the written test of documentation other than international or national regulations is not permitted.

1.8.3.12.3      Electronic media may be used only if provided by the examining body. There shall be no means of a candidate introducing further data to the electronic media provided; the candidate may only answer the questions posed.

1.8.3.12.4      The written test shall consist of two parts:

(a)      Candidates shall receive a questionnaire. It shall include at least 20 open questions covering at least the subjects mentioned in the list in 1.8.3.11. However, multiple choice questions may be used. In this case, two multiple choice questions count as one open question. Amongst these subjects particular attention shall be paid to the following subjects:

- general preventive and safety measures;
- classification of dangerous goods;
- general packing provisions, including tanks, tank-containers, tank-vehicles, etc.;
- danger markings and labels;
- information in transport document;
- handling and stowage;
- crew, vocational training;
- vehicle documents and transport certificates;
- instructions in writing;
- requirements concerning transport equipment;

(b)      Candidates shall undertake a case study in keeping with the duties of the adviser referred to in 1.8.3.3, in order to demonstrate that they have the necessary qualifications to fulfil the task of adviser.



1.8.3.13      The Contracting Parties may decide that candidates who intend working for undertakings specializing in the carriage of certain types of dangerous goods need only be questioned on the substances relating to their activities. These types of goods are:

- Class 1;
- Class 2;
- Class 7;
- Classes 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 8 and 9;
- UN Nos. 1202, 1203, 1223, 3475, and aviation fuel classified under UN Nos. 1268 or 1863.

The certificate prescribed in 1.8.3.7 shall clearly indicate that it is only valid for one type of the dangerous goods referred to in this sub-section and on which the adviser has been questioned under the conditions defined in 1.8.3.12.

Certificates of training as safety advisers issued before 1 January 2009 for UN Nos. 1202, 1203 and 1223 are also valid for UN No. 3475 and aviation fuel classified under UN Nos. 1268 or 1863.

1.8.3.14      The competent authority or the examining body shall keep a running list of the questions that have been included in the examination.

1.8.3.15      The certificate prescribed in 1.8.3.7 shall take the form laid down in 1.8.3.18 and shall be recognized by all Contracting Parties.

**1.8.3.16      *Validity and renewal of certificates***

1.8.3.16.1      The certificate shall be valid for five years. The period of the validity of a certificate shall be extended from the date of its expiry for five years at a time where, during the year before its expiry, its holder has passed an examination. The examination shall be approved by the competent authority.

1.8.3.16.2      The aim of the examination is to ascertain that the holder has the necessary knowledge to carry out the duties set out in 1.8.3.3. The knowledge required is set out in 1.8.3.11 (b) and shall include the amendments to the regulations introduced since the award of the last certificate. The examination shall be held and supervised on the same basis as in 1.8.3.10 and 1.8.3.12 to 1.8.3.14. However, holders need not undertake the case study specified in 1.8.3.12.4 (b).

1.8.3.17      The requirements set out in 1.8.3.1 to 1.8.3.16 shall be considered to have been fulfilled if the relevant conditions of Council Directive 96/35/EC of 3 June 1996 on the appointment and vocational qualification of safety advisers for the transport of dangerous goods by road, rail and inland waterway <sup>1</sup> and of Directive 2000/18/EC of the European Parliament and of the Council of 17 April 2000 on minimum examination requirements for safety advisers for the transport of dangerous goods by road, rail or inland waterway <sup>2</sup> are applied.

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<sup>1</sup>      *Official Journal of the European Communities, No. L145 of 19 June 1996, page 10.*

<sup>2</sup>      *Official Journal of the European Communities, No. L118 of 19 May 2000, page 41.*

**1.8.3.18      *Form of certificate*****Certificate of training as safety adviser for the transport of dangerous goods**

Certificate No: .....

Distinguishing sign of the State issuing the certificate: .....

Surname: .....

Forename(s): .....

Date and place of birth: .....

Nationality: .....

Signature of holder: .....

Valid until ..... for undertakings which transport dangerous goods and for undertakings which carry out related loading or unloading:

☐ by road☐ by rail☐ by inland waterway

Issued by: .....

Date: ..... Signature: .....

Extended until: ..... By: .....

Date: ..... Signature: .....

**1.8.4      List of competent authorities and bodies designated by them**

The Contracting Parties shall communicate to the Secretariat of the United Nations Economic Commission for Europe the addresses of the authorities and bodies designated by them which are competent in accordance with national law to implement ADR, referring in each case to the relevant requirement of ADR and giving the addresses to which the relevant applications should be made.

The Secretariat of the United Nations Economic Commission for Europe shall establish a list on the basis of the information received and shall keep it up-to-date. It shall communicate this list and the amendments thereto to the Contracting Parties.

**1.8.5      Notifications of occurrences involving dangerous goods**

1.8.5.1      If a serious accident or incident takes place during loading, filling, carriage or unloading of dangerous goods on the territory of a Contracting Party, the loader, filler, carrier or consignee, respectively, shall ascertain that a report conforming to the model prescribed in 1.8.5.4 is made to the competent authority of the Contracting Party concerned.

1.8.5.2      The Contracting Party shall in turn, if necessary, make a report to the Secretariat of the United Nations Economic Commission for Europe with a view to informing the other Contracting Parties.

1.8.5.3      An occurrence subject to report in accordance with 1.8.5.1 has occurred if dangerous goods were released or if there was an imminent risk of loss of product, if personal injury, material or environmental damage occurred, or if the authorities were involved and one or more of the following criteria has/have been met:

Personal injury means an occurrence in which death or injury directly relating to the dangerous goods carried has occurred, and where the injury

- (a)      Requires intensive medical treatment;
- (b)      Requires a stay in hospital of at least one day; or
- (c)      Results in the inability to work for at least three consecutive days.

Loss of product means the release of dangerous goods

- (a)      Of transport category 0 or 1 in quantities of 50 kg / 50 l or more;
- (b)      Of transport category 2 in quantities of 333 kg / 333 l or more; or
- (c)      Of transport category 3 or 4 in quantities of 1 000 kg / 1 000 l or more.

The loss of product criterion also applies if there was an imminent risk of loss of product in the above-mentioned quantities. As a rule, this has to be assumed if, owing to structural damage, the means of containment is no longer suitable for further carriage or if, for any other reason, a sufficient level of safety is no longer ensured (e.g. owing to distortion of tanks or containers, overturning of a tank or fire in the immediate vicinity).

If dangerous goods of Class 6.2 are involved, the obligation to report applies without quantity limitation.

In occurrences involving Class 7 material, the criteria for loss of product are:

- (a) Any release of radioactive material from the packages;
- (b) Exposure leading to a breach of the limits set out in the regulations for protection of workers and members of the public against ionizing radiation (Schedule II of IAEA Safety Series No. 115 – "International Basic Safety Standards for Protection Against Ionizing Radiation and for Safety of Radiation Sources"); or
- (c) Where there is reason to believe that there has been a significant degradation in any package safety function (containment, shielding, thermal protection or criticality) that may have rendered the package unsuitable for continued carriage without additional safety measures.

**NOTE:** See the requirements of 7.5.11 CV33 (6) for undeliverable consignments.

Material damage or environmental damage means the release of dangerous goods, irrespective of the quantity, where the estimated amount of damage exceeds 50,000 Euros. Damage to any directly involved means of carriage containing dangerous goods and to the modal infrastructure shall not be taken into account for this purpose.

Involvement of authorities means the direct involvement of the authorities or emergency services during the occurrence involving dangerous goods and the evacuation of persons or closure of public traffic routes (roads/railways) for at least three hours owing to the danger posed by the dangerous goods.

If necessary, the competent authority may request further relevant information.

#### 1.8.5.4

***Model for report on occurrences during the carriage of dangerous goods***

**Report on occurrences during the carriage of dangerous goods  
in accordance with RID/ADR section 1.8.5**

|   |                  |            |
|---|------------------|------------|
| Carrier/Railway infrastructure operator:<br>..... |                  |            |
| Address:<br>.....                                 |                  |            |
| Contact name: .....                               | Telephone: ..... | Fax: ..... |

*(The competent authority shall remove this cover sheet before forwarding the report)*

[illegible]

| 6. Dangerous goods involved   |       |               |   |   |                               |  |
|---|-------|---------------|---|---|-------------------------------|--|
| UN Number <sup>(1)</sup>  | Class | Packing Group | Estimated quantity of loss of products (kg or l) <sup>(2)</sup> | Means of containment <sup>(3)</sup>   | Means of containment material | Type of failure of means of containment <sup>(4)</sup> |
|   |       |               |   |   |                               |  |
|   |       |               |   |   |                               |  |
|   |       |               |   |   |                               |  |
|   |       |               |   |   |                               |  |
| <sup>(1)</sup> For dangerous goods assigned to collective entries to which special provision 274 applies, also the technical name shall be indicated.   |       |               |   | <sup>(2)</sup> For Class 7, indicate values according to the criteria in 1.8.5.3.                         |                               |  |
| <sup>(3)</sup> Indicate the appropriate number<br>1 Packaging<br>2 IBC<br>3 Large packaging<br>4 Small container<br>5 Wagon<br>6 Vehicle<br>7 Tank-wagon<br>8 Tank-vehicle<br>9 Battery-wagon<br>10 Battery-vehicle<br>11 Wagon with demountable tanks<br>12 Demountable tank<br>13 Large container<br>14 Tank-container<br>15 MEGC<br>16 Portable tank |       |               |   | <sup>(4)</sup> Indicate the appropriate number<br>1 Loss<br>2 Fire<br>3 Explosion<br>4 Structural failure |                               |  |
| <b>7. Cause of occurrence (if clearly known)</b>  |       |               |   |   |                               |  |
| <input type="checkbox"/> Technical fault<br><input type="checkbox"/> Faulty load securing<br><input type="checkbox"/> Operational cause (rail operation)<br><input type="checkbox"/> Other:<br>.....<br>.....<br>.....  |       |               |   |   |                               |  |
| <b>8. Consequences of occurrence</b>  |       |               |   |   |                               |  |
| <u>Personal injury in connection with the dangerous goods involved:</u>   |       |               |   |   |                               |  |
| <input type="checkbox"/> Deaths (number: .....) <input type="checkbox"/> Injured (number: .....)  |       |               |   |   |                               |  |
| <u>Loss of product:</u>   |       |               |   |   |                               |  |
| <input type="checkbox"/> Yes<br><input type="checkbox"/> No<br><input type="checkbox"/> Imminent risk of loss of product  |       |               |   |   |                               |  |
| <u>Material/Environmental damage:</u>   |       |               |   |   |                               |  |
| <input type="checkbox"/> Estimated level of damage ≤ 50,000 Euros<br><input type="checkbox"/> Estimated level of damage > 50,000 Euros  |       |               |   |   |                               |  |
| <u>Involvement of authorities:</u>  |       |               |   |   |                               |  |
| <input type="checkbox"/> Yes <input type="checkbox"/> Evacuation of persons for a duration of at least three hours caused by the dangerous goods involved<br><input type="checkbox"/> Closure of public traffic routes for a duration of at least three hours caused by the dangerous goods involved<br><br><input type="checkbox"/> No                 |       |               |   |   |                               |  |

If necessary, the competent authority may request further relevant information.

**1.8.6 Administrative controls for application of the conformity assessments, periodic inspections, and exceptional checks described in 1.8.7**

1.8.6.1 The competent authority may approve inspection bodies for conformity assessments, periodic inspections, exceptional checks and surveillance of the in-house inspection service as specified in section 1.8.7.

1.8.6.2 The competent authority shall ensure the monitoring of the inspection bodies and shall revoke or restrict the approval given, if it notes that an approved body is no longer in compliance with the approval and the requirements of 1.8.6.4 or does not follow the procedures specified in the provisions of ADR.

1.8.6.3 If the approval is revoked or restricted or when the inspection body has ceased activity, the competent authority shall take the appropriate steps to ensure that the files are either processed by another inspection body or kept available.

1.8.6.4 The inspection body shall:

- (a) Have a staff with an organisational structure, capable, trained, competent and skilled, to satisfactorily perform its technical functions;
- (b) Have access to suitable and adequate facilities and equipment;
- (c) Operate in an impartial manner and be free from any influence which could prevent it from doing so;
- (d) Ensure commercial confidentiality of the commercial and proprietary activities of the manufacturer and other bodies;
- (e) Maintain clear demarcation between actual inspection body functions and unrelated functions;
- (f) Have a documented quality system;
- (g) Ensure that the tests and inspections specified in the relevant standard and in ADR are performed; and
- (h) Maintain an effective and appropriate report and record system in accordance with 1.8.7.

The inspection body shall additionally be accredited according to the standard EN ISO/IEC 17020:2004, as specified in 6.2.3.6 and TA4 and TT9 of 6.8.4.

An inspection body starting a new activity may be approved temporarily. Before temporary designation, the competent authority shall ensure that the inspection body meets the requirements of the standard EN ISO/IEC 17020:2004. The inspection body shall be accredited in its first year of activity to be able to continue this new activity.



**1.8.7 Procedures for conformity assessment and periodic inspection**

**NOTE:** In this section, "relevant body" means a body assigned in 6.2.2.9 when certifying UN pressure receptacles, in 6.2.3.6 when approving non-UN pressure receptacles and in special provisions TA4 and TT9 of 6.8.4.

**1.8.7.1 General provisions**

1.8.7.1.1 The procedures in section 1.8.7 shall be applied according to the table in 6.2.3.6 when approving non-UN pressure receptacles and according to TA4 and TT9 of 6.8.4 when approving tanks, battery-vehicles and MEGCs.

The procedures in section 1.8.7 may be applied according to the table in 6.2.2.9 when certifying UN pressure receptacles.

1.8.7.1.2 Each application for

- (a) The type approval in accordance with 1.8.7.2 or;
- (b) The supervision of manufacture in accordance with 1.8.7.3 and the initial inspection and test in accordance with 1.8.7.4; or
- (c) The periodic inspection and exceptional checks in accordance with 1.8.7.5

shall be lodged by the applicant with a single competent authority, its delegate or an approved inspection body of his choice.

1.8.7.1.3 The application shall include:

- (a) The name and address of the applicant;
- (b) For conformity assessment where the applicant is not the manufacturer, the name and address of the manufacturer;
- (c) A written declaration that the same application has not been lodged with any other competent authority, its delegate or inspection body;
- (d) The relevant technical documentation specified in 1.8.7.7;
- (e) A statement allowing the competent authority, its delegate or inspection body access for inspection purposes to the locations of manufacture, inspection, testing and storage and providing it with all necessary information.

1.8.7.1.4 Where the applicant can demonstrate to the satisfaction of the competent authority or its delegated inspection body conformity with 1.8.7.6 the applicant may establish an in-house inspection service which may perform part or all of the inspections and tests when specified in 6.2.2.9 or 6.2.3.6.

**1.8.7.2 Type approval**

1.8.7.2.1 The applicant shall:

- (a) In the case of pressure receptacles, place at the disposal of the relevant body representative samples of the production envisaged. The relevant body may request further samples if required by the test programme;

- (b) In the case of tanks, battery-vehicles or MEGCs, give access to the prototype for type testing.

1.8.7.2.2 The relevant body shall:

- (a) Examine the technical documentation specified in 1.8.7.7.1 to verify that the design is in accordance with the relevant provisions of ADR, and the prototype or the prototype lot has been manufactured in conformity with the technical documentation and is representative of the design;
- (b) Perform the examinations and witness the tests specified in ADR, to determine that the provisions have been applied and fulfilled, and the procedures adopted by the manufacturer meet the requirements;
- (c) Check the certificate(s) issued by the materials manufacturer(s) against the relevant provisions of ADR;
- (d) As applicable, approve the procedures for the permanent joining of parts or check that they have been previously approved, and verify that the staff undertaking the permanent joining of parts and the non-destructive tests are qualified or approved;
- (e) Agree with the applicant the location and testing facilities where the examinations and necessary tests are to be carried out.

The relevant body shall issue a type-examination report to the applicant.

1.8.7.2.3 Where the type satisfies all applicable provisions, the competent authority, its delegate or the inspection body, shall issue a type approval certificate.

This certificate shall contain:

- (a) The name and address of the issuer;
- (b) The name and address of the manufacturer;
- (c) A reference to the version of ADR and standards used for the type examination;
- (d) Any requirements resulting from the examination;
- (e) The necessary data for identification of the type and variation, as defined by the relevant standard; and
- (f) The reference to the type examination report(s).

A list of the relevant parts of the technical documentation shall be annexed to the certificate (see 1.8.7.7.1).

### **1.8.7.3** *Supervision of manufacture*

1.8.7.3.1 The manufacturing process shall be subject to a survey by the relevant body to ensure the product is produced in conformity with the provisions of the type approval.

1.8.7.3.2 The applicant shall take all the necessary measures to ensure that the manufacturing process complies with the applicable provisions of ADR and of the type approval certificate and its annexes.

1.8.7.3.3 The relevant body shall:

- (a) Verify the conformity with the technical documentation specified in 1.8.7.7.2;
- (b) Verify that the manufacturing process produces products in conformity with the requirements and the documentation which apply to it;
- (c) Verify the traceability of materials and check the material certificate(s) against the specifications;
- (d) As applicable, verify that the personnel undertaking the permanent joining of parts and the non-destructive tests are qualified or approved;
- (e) Agree with the applicant on the location where the examinations and necessary tests are to be carried out; and
- (f) Record the results of its survey.

**1.8.7.4 *Initial inspection and tests***

1.8.7.4.1 The applicant shall:

- (a) Affix the marks specified in ADR; and
- (b) Supply to the relevant body the technical documentation specified in 1.8.7.7.

1.8.7.4.2 The relevant body shall:

- (a) Perform the necessary examinations and tests in order to verify that the product is manufactured in accordance with the type approval and the relevant provisions;
- (b) Check the certificates supplied by the manufacturers of service equipment against the service equipment;
- (c) Issue an initial inspection and test report to the applicant relating to the detailed tests and verifications carried out and the verified technical documentation; and
- (d) Draw up a written certificate of conformity of the manufacture and affix its registered mark when the manufacture satisfies the provisions.

The certificate and report may cover a number of items of the same type (group certificate or report).

1.8.7.4.3 The certificate shall contain as a minimum:

- (a) The name and address of the relevant body;
- (b) The name and address of the manufacturer and the name and address of the applicant, if not the manufacturer;
- (c) A reference to the version of the ADR and standards used for the initial inspections and tests;
- (d) The results of the inspections and tests;

- (e) The data for identification of the inspected product(s), at least the serial number or for non refillable cylinders the batch number; and
- (f) The type approval number.

#### **1.8.7.5** *Periodic inspection and exceptional checks*

The relevant body shall:

- (a) Perform the identification and verify the conformity with the documentation;
- (b) Carry out the inspections and witness the tests in order to check that the requirements are met;
- (c) Issue reports of the results of the inspections and tests, which may cover a number of items; and
- (d) Ensure that the required marks are applied.

#### **1.8.7.6** *Surveillance of the applicant's in-house inspection service*

##### **1.8.7.6.1** The applicant shall:

- (a) Implement an in-house inspection service with a quality system for inspections and tests documented in 1.8.7.7.5 and subject to surveillance;
- (b) Fulfil the obligations arising out of the quality system as approved and to ensure that it remains satisfactory and efficient;
- (c) Appoint trained and competent personnel for the in-house inspection service; and
- (d) Affix the registered mark of the inspection body where appropriate.

##### **1.8.7.6.2** The inspection body shall carry out an initial audit. If satisfactory the inspection body shall issue an authorisation for a period not exceeding three years. The following provisions shall be met:

- (a) This audit shall confirm that the inspections and tests performed on the product are in compliance with the requirements of ADR;
- (b) The inspection body may authorise the in-house inspection service of the applicant to affix the registered mark of the inspection body to each approved product;
- (c) The authorisation may be renewed after a satisfactory audit in the last year prior to the expiry. The new period of validity shall begin with the date of expiry of the authorisation; and
- (d) The auditors of the inspection body shall be competent to carry out the assessment of conformity of the product covered by the quality system.

##### **1.8.7.6.3** The inspection body shall carry out periodic audits within the duration of the authorisation to make sure that the applicant maintains and applies the quality system. The following provisions shall be met:

- (a) A minimum of two audits shall be carried out in a 12 month period;

- (b) The inspection body may require additional visits, training, technical changes, modifications of the quality system, restrict or prohibit the inspections and tests to be done by the applicant;
- (c) The inspection body shall assess any changes in the quality system and decide whether the modified quality system will still satisfy the requirements of the initial audit or whether a full reassessment is required;
- (d) The auditors of the inspection body shall be competent to carry out the assessment of conformity of the product covered by the quality system; and
- (e) The inspection body shall provide the applicant with a visit or audit report and, if a test has taken place, with a test report.

1.8.7.6.4 In cases of non conformity with the relevant requirements the inspection body shall ensure that corrective measures are taken. If corrective measures are not taken in due time, the inspection body shall suspend or withdraw the permission for the in-house inspection service to carry out its activities. The notice of suspension or withdrawal shall be transmitted to the competent authority. A report shall be provided to the applicant giving detailed reasons for the decisions taken by the inspection body.

#### **1.8.7.7      *Documents***

The technical documentation shall enable an assessment to be made of conformity with the relevant requirements.

##### **1.8.7.7.1      *Documents for type approval***

The applicant shall provide as appropriate:

- (a) The list of standards used for the design and manufacture;
- (b) A description of the type including all variations;
- (c) The instructions according to the relevant column of table A of Chapter 3.2 or a list of dangerous goods to be transported for dedicated products;
- (d) A general assembly drawing or drawings;
- (e) The detailed drawings, including the dimensions used for the calculations, of the product, the service equipment, the structural equipment, the marking and/or the labelling necessary to verify the conformity;
- (f) The calculation notes, results and conclusions;
- (g) The list of the service equipment with the relevant technical data and information on the safety devices including the calculation of the relief capacity if relevant;
- (h) The list of material requested in the standard for manufacture used for every part, sub-part, lining, service and structural equipment and the corresponding material specifications or the corresponding declaration of conformity to ADR;
- (i) The approved qualification of permanent joining process;
- (j) The description of the heat treatment process(es); and

- (k) The procedures, descriptions and records of all relevant tests listed in the standards or ADR for the type approval and for the manufacture.

1.8.7.7.2 *Documents for the supervision of manufacture*

The applicant shall make available as appropriate:

- (a) The documents listed in 1.8.7.7.1;
- (b) The manufacturing procedures including test procedures;
- (c) The manufacturing records;
- (d) The approved qualifications of permanent joining operators;
- (e) The approved qualifications of the non destructive test operators;
- (f) The reports of the destructive and non destructive tests;
- (g) The heat treatment records; and
- (h) The calibration records.

1.8.7.7.3 *Documents for initial inspection and tests*

The applicant shall make available as appropriate:

- (a) The documents listed in 1.8.7.7.1 and 1.8.7.7.2;
- (b) The material certificates of the product and any sub-parts;
- (c) The declarations of conformity and material certificates of the service equipment; and
- (d) A declaration of conformity including the description of the product and all the variations adopted from the type approval.

1.8.7.7.4 *Documents for periodic inspections and exceptional checks*

The applicant shall make available as appropriate:

- (a) For pressure receptacles, the documents specifying special requirements when the manufacturing and periodic inspections and tests standards so require;
- (b) For tanks:
  - (i) the tank record; and
  - (ii) one or more of the documents mentioned in 1.8.7.7.1 to 1.8.7.7.3.

1.8.7.7.5 *Documents for the assessment of in-house inspection service*

The applicant for in-house inspection service shall make available the quality system documentation as appropriate:

- (a) The organisational structure and responsibilities;

- (b) The relevant inspection and test, quality control, quality assurance and process operation instructions, and systematic actions that will be used;
- (c) The quality records, such as inspection reports, test data, calibration data and certificates;
- (d) The management reviews to ensure the effective operation of the quality system arising from the audits in accordance with 1.8.7.6;
- (e) The process describing how customer and regulation requirements are met;
- (f) The process for control of documents and their revision;
- (g) The procedures for dealing with non-conforming products; and
- (h) The training programmes and qualification procedures for relevant personnel.

**1.8.7.8*****Products manufactured, approved, inspected and tested according to standards***

The requirements of 1.8.7.7 are considered to have been complied with if the following standards, as relevant, are applied:

| Applicable subsection and paragraph | References    | Title of the document  |
|-------------------------------------|---------------|--|
| 1.8.7.7.1 to 1.8.7.7.4              | EN 12972:2007 | Tanks for transport of dangerous goods - Testing, inspection and marking of metallic tanks |

## CHAPTER 1.9

### TRANSPORT RESTRICTIONS BY THE COMPETENT AUTHORITIES

- 1.9.1 In accordance with Article 4, paragraph 1 of ADR, the entry of dangerous goods into the territory of Contracting Parties may be subject to regulations or prohibitions imposed for reasons other than safety during carriage. Such regulations or prohibitions shall be published in an appropriate form.
- 1.9.2 Subject to the provisions of 1.9.3, a Contracting Party may apply to vehicles engaged in the international carriage of dangerous goods by road on its territory certain additional provisions not included in ADR, provided that those provisions do not conflict with Article 2, paragraph 2 of the Agreement, and are contained in its domestic legislation applying equally to vehicles engaged in the domestic carriage of dangerous goods by road on the territory of that Contracting Party.
- 1.9.3 Additional provisions falling within the scope of 1.9.2 are as follows:
- (a) Additional safety requirements or restrictions concerning vehicles using certain structures such as bridges, vehicles using combined transport modes such as ferries or trains, or vehicles entering or leaving ports or other transport terminals;
  - (b) Requirements for vehicles to follow prescribed routes to avoid commercial or residential areas, environmentally sensitive areas, industrial zones containing hazardous installations or roads presenting severe physical hazards;
  - (c) Emergency requirements regarding routeing or parking of vehicles carrying dangerous goods resulting from extreme weather conditions, earthquake, accident, industrial action, civil disorder or military hostilities;
  - (d) Restrictions on movement of dangerous goods traffic on certain days of the week or year.
- 1.9.4 The competent authority of the Contracting Party applying on its territory any additional provisions within the scope of 1.9.3 (a) and (d) above shall notify the Secretariat of the United Nations Economic Commission for Europe of the additional provisions, which Secretariat shall bring them to the attention of the Contracting Parties.

#### 1.9.5 Tunnel restrictions

*NOTE: Provisions concerning restrictions for the passage of vehicles through road tunnels are also included in Chapter 8.6.*

##### 1.9.5.1 General provisions

When applying restrictions to the passage of vehicles carrying dangerous goods through tunnels, the competent authority shall assign the road tunnel to one of the tunnel categories defined in 1.9.5.2.2. Account should be taken of the tunnel characteristics, risk assessment including availability and suitability of alternative routes and modes and traffic management considerations. The same tunnel may be assigned to more than one tunnel category, e.g. depending on the hours of the day, or the day of the week etc.



**1.9.5.2      *Categorization***

1.9.5.2.1      The categorization shall be based on the assumption that in tunnels there are three major dangers which may cause numerous victims or serious damage to the tunnel structure:

- (a)      Explosions;
- (b)      Release of toxic gas or volatile toxic liquid;
- (c)      Fires.

1.9.5.2.2      The five tunnel categories are the following:

*Tunnel category A:*

No restrictions for the transport of dangerous goods;

*Tunnel category B:*

Restriction for dangerous goods which may lead to a very large explosion;

The following dangerous goods are considered to fulfil this criterion <sup>1</sup>:

|   |   |
|---|---|
| Class 1:  | Compatibility groups A and L;   |
| Class 3:  | Classification code D (UN Nos. 1204, 2059, 3064, 3343, 3357 and 3379);                                      |
| Class 4.1:  | Classification codes D and DT; and<br>Self-reactive substances, type B (UN Nos. 3221, 3222, 3231 and 3232); |
| Class 5.2:  | Organic peroxides, type B (UN Nos. 3101, 3102, 3111 and 3112).  |
| When the total net explosive mass per transport unit is greater than 1000 kg: |   |
| Class 1:  | Divisions 1.1, 1.2 and 1.5 (except compatibility groups A and L).   |
| When carried in tanks:  |   |
| Class 2:  | Classification codes F, TF and TFC;   |
| Class 4.2:  | Packing group I;  |
| Class 4.3:  | Packing group I;  |
| Class 5.1:  | Packing group I.  |

*Tunnel category C:*

Restriction for dangerous goods which may lead to a very large explosion, a large explosion or a large toxic release;

The following dangerous goods are considered to fulfil this criterion <sup>1</sup>:

- the dangerous goods restricted in tunnel category B, and
- the following dangerous goods:

<sup>1</sup>      The assessment is based on the intrinsic dangerous properties of the goods, the type of containment and the quantity carried.

|   |   |
|---|---|
| Class 1:  | Divisions 1.1, 1.2 and 1.5 (except compatibility groups A and L); and Division 1.3 (compatibility groups H and J);            |
| Class 7:  | UN Nos. 2977 and 2978.  |
| When the net explosive mass per transport unit is greater than 5000 kg: |   |
| Class 1:  | Division 1.3 (compatibility groups C and G).  |
| When carried in tanks:  |   |
| Class 2:  | Classification codes 2A, 2O, 3A and 3O, and classification codes containing the letter T only or letter groups TC, TO and TOC |
| Class 3:  | Packing group I for classification codes FC, FT1, FT2 and FTC;  |
| Class 6.1:  | Packing group I   |
| Class 8:  | Packing group I for classification codes CT1, CFT and COT.  |

*Tunnel category D:*

Restriction for dangerous goods which may lead to a very large explosion, to a large explosion, to a large toxic release or to a large fire;

The following dangerous goods are considered to fulfil this criterion <sup>1</sup>:

- the dangerous goods restricted in tunnel category C, and
- the following dangerous goods:

|                                   |  |
|-----------------------------------|--|
| Class 1:                          | Division 1.3 (compatibility groups C and G);   |
| Class 2:                          | Classification codes F, FC, T, TF, TC, TO, TFC and TOC;  |
| Class 4.1:                        | Self-reactive substances, types C, D, E and F; and UN Nos. 2956, 3241, 3242 and 3251;                                |
| Class 5.2:                        | Organic peroxides, types C, D, E and F;  |
| Class 6.1:                        | Packing group I for classification codes TF1 and TFC; and Toxic by inhalation entries (UN Nos. 3381 to 3390);        |
| Class 8:                          | Packing group I for classification codes CT1, CFT and COT;   |
| Class 9:                          | Classification codes M9 and M10.   |
| When carried in bulk or in tanks: |  |
| Class 3                           |  |
| Class 4.2:                        | Packing group II;  |
| Class 4.3:                        | Packing group II;  |
| Class 6.1:                        | Packing group II; and Packing group III for classification code TF2;   |
| Class 8:                          | Packing group I for classification codes CF1, CFT and CW1; and Packing group II for classification codes CF1 and CFT |
| Class 9:                          | Classification codes M2 and M3.  |

*Tunnel category E:*

Restriction for all dangerous goods other than UN Nos. 2919, 3291, 3331, 3359 and 3373.

**NOTE:** For the dangerous goods assigned to UN Nos. 2919 and 3331, restrictions to the passage through tunnels may, however, be part of the special arrangement approved by the competent authority(ies) on the basis of 1.7.4.2.

<sup>1</sup> The assessment is based on the intrinsic dangerous properties of the goods, the type of containment and the quantity carried.

**1.9.5.3**      *Provisions for road signs and notification of restrictions*

- 1.9.5.3.1      Contracting Parties shall indicate tunnel prohibitions and alternative routes by means of signs and signals.
- 1.9.5.3.2      For this purpose, they may use signs C, 3h and D, 10a, 10b and 10c and signals according to the Vienna Convention on Road Signs and Signals (Vienna, 1968) and the European Agreement supplementing the Convention on Road Signs and Signals (Geneva, 1971) as interpreted by the Resolution on Road Signs and Signals (R.E.2) of the UNECE Inland Transport Committee Principal Working Party on Road Transport, as amended.
- 1.9.5.3.3      In order to facilitate international understanding of signs, the system of signs and signals prescribed in the Vienna Convention is based on the use of shapes, and colours characteristic of each class of signs and wherever possible, on the use of graphic symbols rather than inscriptions. Where Contracting Parties consider it necessary to modify the signs and symbols prescribed, the modifications made shall not alter their essential characteristics. Where Contracting Parties do not apply the Vienna Convention, the prescribed signs and symbols may be modified, provided that the modifications made shall not alter their essential intent.
- 1.9.5.3.4      Traffic signs and signals intended to prohibit access of vehicles carrying dangerous goods to road tunnels shall be affixed at a place where the choice of alternative routes is possible.
- 1.9.5.3.5      When access to tunnels is restricted or alternative routes are prescribed, the signs shall be displayed with additional panels as follows:
- No sign: no restriction
- Sign with additional panel bearing the letter B: applies to vehicles carrying dangerous goods not allowed in tunnels of category B;
- Sign with additional panel bearing the letter C: applies to vehicles carrying dangerous goods not allowed in tunnels of category C;
- Sign with additional panel bearing the letter D: applies to vehicles carrying dangerous goods not allowed in tunnels of category D;
- Sign with additional panel bearing the letter E: applies to vehicles carrying dangerous goods not allowed in tunnels of category E.
- 1.9.5.3.6      Tunnel restrictions shall not apply when dangerous goods are carried in accordance with 1.1.3
- 1.9.5.3.7      Restrictions shall be published officially and made publicly available. Contracting Parties shall notify the secretariat of UNECE of such restrictions and the secretariat shall make this information publicly available on its website.
- 1.9.5.3.8      When Contracting Parties apply specific operating measures designed to reduce the risks and related to some or all vehicles using tunnels, such as declaration before entering or passage in convoys escorted by accompanying vehicles, such operating measures shall be published officially and made publicly available.

## CHAPTER 1.10

### SECURITY PROVISIONS

**NOTE:** *For the purposes of this Chapter, security means measures or precautions to be taken to minimise theft or misuse of dangerous goods that may endanger persons, property or the environment.*

#### **1.10.1 General provisions**

- 1.10.1.1 All persons engaged in the carriage of dangerous goods shall consider the security requirements set out in this Chapter commensurate with their responsibilities.
- 1.10.1.2 Dangerous goods shall only be offered for carriage to carriers that have been appropriately identified.
- 1.10.1.3 Areas within temporary storage terminals, temporary storage sites, vehicle depots, berthing areas and marshalling yards used for the temporary storage during carriage of dangerous goods shall be properly secured, well lit and, where possible and appropriate, not accessible to the general public.
- 1.10.1.4 Each member of a vehicle crew shall carry with them means of identification, which includes their photograph, during carriage of dangerous goods.
- 1.10.1.5 Safety inspections in accordance with 1.8.1 and 7.5.1.1 shall cover appropriate security measures.
- 1.10.1.6 The competent authority shall maintain up-to-date registers of all valid training certificates for drivers stipulated in 8.2.1 issued by it or by any recognized organization.

#### **1.10.2 Security training**

- 1.10.2.1 The training and the refresher training specified in Chapter 1.3 shall also include elements of security awareness. The security refresher training need not be linked to regulatory changes only.
- 1.10.2.2 Security awareness training shall address the nature of security risks, recognising security risks, methods to address and reduce such risks and actions to be taken in the event of a security breach. It shall include awareness of security plans (if appropriate) commensurate with the responsibilities and duties of individuals and their part in implementing security plans.

#### **1.10.3 Provisions for high consequence dangerous goods**

- 1.10.3.1 "High consequence dangerous goods" are those which have the potential for misuse in a terrorist incident and which may, as a result, produce serious consequences such as mass casualties or mass destruction. The list of high consequence dangerous goods is provided in Table 1.10.5.

**1.10.3.2      *Security plans***

1.10.3.2.1      Carriers, consignors and other participants specified in 1.4.2 and 1.4.3 engaged in the carriage of high consequence dangerous goods (see Table 1.10.5) shall adopt, implement and comply with a security plan that addresses at least the elements specified in 1.10.3.2.2.

1.10.3.2.2      The security plan shall comprise at least the following elements:

- (a)    Specific allocation of responsibilities for security to competent and qualified persons with appropriate authority to carry out their responsibilities;
- (b)    Records of dangerous goods or types of dangerous goods concerned;
- (c)    Review of current operations and assessment of security risks, including any stops necessary to the transport operation, the keeping of dangerous goods in the vehicle, tank or container before, during and after the journey and the intermediate temporary storage of dangerous goods during the course of intermodal transfer or transshipment between units as appropriate;
- (d)    Clear statement of measures that are to be taken to reduce security risks, commensurate with the responsibilities and duties of the participant, including:
  - training;
  - security policies (e.g. response to higher threat conditions, new employee/employment verification, etc.);
  - operating practices (e.g. choice/use of routes where known, access to dangerous goods in intermediate temporary storage (as defined in (c)), proximity to vulnerable infrastructure etc.);
  - equipment and resources that are to be used to reduce security risks;
- (e)    Effective and up to date procedures for reporting and dealing with security threats, breaches of security or security incidents;
- (f)    Procedures for the evaluation and testing of security plans and procedures for periodic review and update of the plans;
- (g)    Measures to ensure the physical security of transport information contained in the security plan; and
- (h)    Measures to ensure that the distribution of information relating to the transport operation contained in the security plan is limited to those who need to have it. Such measures shall not preclude the provision of information required elsewhere in ADR.

**NOTE:** *Carriers, consignors and consignees should co-operate with each other and with competent authorities to exchange threat information, apply appropriate security measures and respond to security incidents.*

1.10.3.3      Devices, equipment or arrangements to prevent the theft of the vehicle carrying high consequence dangerous goods (see Table 1.10.5) and its cargo, shall be applied and measures taken to ensure that these are operational and effective at all times. The application of these protective measures shall not jeopardize emergency response.

**NOTE:** *When appropriate and already fitted, the use of transport telemetry or other tracking methods or devices should be used to monitor the movement of high consequence dangerous goods (see Table 1.10.5).*

- 1.10.4 In accordance with the provisions of 1.1.3.6, the requirements of 1.10.1, 1.10.2, 1.10.3 and 8.1.2.1 (d) do not apply when the quantities carried in packages on a transport unit do not exceed those referred to in 1.1.3.6.3, except for UN Nos. 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 and 0500 (see first indent of 1.1.3.6.2). In addition, the requirements of 1.10.1, 1.10.2, 1.10.3 and 8.1.2.1 (d) do not apply when the quantities carried in tanks or in bulk on a transport unit do not exceed those referred to in 1.1.3.6.3.
- 1.10.5 High consequence dangerous goods are those listed in the table below and carried in quantities greater than those indicated therein.

**Table 1.10.5: List of high consequence dangerous goods**

| Class | Division | Substance or article   | Quantity  |                        |               |
|-------|----------|--|---|------------------------|---------------|
|       |          |  | Tank (l) <sup>c</sup>   | Bulk (kg) <sup>d</sup> | Packages (kg) |
| 1     | 1.1      | Explosives   | <sup>a</sup>  | <sup>a</sup>           | 0             |
|       | 1.2      | Explosives   | <sup>a</sup>  | <sup>a</sup>           | 0             |
|       | 1.3      | Compatibility group C explosives   | <sup>a</sup>  | <sup>a</sup>           | 0             |
|       | 1.4      | Explosives of UN Nos. 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 and 0500              | <sup>a</sup>  | <sup>a</sup>           | 0             |
|       | 1.5      | Explosives   | 0   | <sup>a</sup>           | 0             |
| 2     |          | Flammable gases (classification codes including only the letter F)   | 3000  | <sup>a</sup>           | <sup>b</sup>  |
|       |          | Toxic gases (classification codes including letters T, TF, TC, TO, TFC or TOC) excluding aerosols                  | 0   | <sup>a</sup>           | 0             |
| 3     |          | Flammable liquids of packing groups I and II   | 3000  | <sup>a</sup>           | <sup>b</sup>  |
|       |          | Desensitized explosives  | 0   | <sup>a</sup>           | 0             |
| 4.1   |          | Desensitized explosives  | <sup>a</sup>  | <sup>a</sup>           | 0             |
| 4.2   |          | Packing group I substances   | 3000  | <sup>a</sup>           | <sup>b</sup>  |
| 4.3   |          | Packing group I substances   | 3000  | <sup>a</sup>           | <sup>b</sup>  |
| 5.1   |          | Oxidizing liquids of packing group I   | 3000  | <sup>a</sup>           | <sup>b</sup>  |
|       |          | Perchlorates, ammonium nitrate, ammonium nitrate fertilisers and ammonium nitrate emulsions or suspensions or gels | 3000  | 3000                   | <sup>b</sup>  |
| 6.1   |          | Toxic substances of packing group I  | 0   | <sup>a</sup>           | 0             |
| 6.2   |          | Infectious substances of Category A (UN Nos. 2814 and 2900)  | <sup>a</sup>  | 0                      | 0             |
| 7     |          | Radioactive material   | 3000 A <sub>1</sub> (special form) or 3000 A <sub>2</sub> , as applicable, in Type B(U), B(M) or C packages |                        |               |
| 8     |          | Corrosive substances of packing group I  | 3000  | <sup>a</sup>           | <sup>b</sup>  |

<sup>a</sup> Not relevant.

<sup>b</sup> The provisions of 1.10.3 do not apply, whatever the quantity is.

<sup>c</sup> A value indicated in this column is applicable only if carriage in tanks is authorized, in accordance with Chapter 3.2, Table A, column (10) or (12). For substances that are not authorized for carriage in tanks, the instruction in this column is not relevant.

<sup>d</sup> A value indicated in this column is applicable only if carriage in bulk is authorized, in accordance with Chapter 3.2, Table A, column (10) or (17). For substances that are not authorized for carriage in bulk, the instruction in this column is not relevant.

- 1.10.6 For radioactive material, the provisions of this Chapter are deemed to be complied with when the provisions of the Convention on Physical Protection of Nuclear Material and of IAEA INFCIRC/225 (Rev.4) are applied.

# **PART 2**

## **Classification**

## CHAPTER 2.1

### GENERAL PROVISIONS

#### 2.1.1 Introduction

2.1.1.1 The classes of dangerous goods according to ADR are the following:

|           |  |
|-----------|--|
| Class 1   | Explosive substances and articles  |
| Class 2   | Gases  |
| Class 3   | Flammable liquids  |
| Class 4.1 | Flammable solids, self-reactive substances and solid desensitized explosives |
| Class 4.2 | Substances liable to spontaneous combustion                                  |
| Class 4.3 | Substances which, in contact with water, emit flammable gases                |
| Class 5.1 | Oxidizing substances   |
| Class 5.2 | Organic peroxides  |
| Class 6.1 | Toxic substances   |
| Class 6.2 | Infectious substances  |
| Class 7   | Radioactive material   |
| Class 8   | Corrosive substances   |
| Class 9   | Miscellaneous dangerous substances and articles                              |

2.1.1.2 Each entry in the different classes has been assigned a UN number. The following types of entries are used:

A. Single entries for well defined substances or articles including entries for substances covering several isomers, e.g.:

|             |                        |
|-------------|------------------------|
| UN No. 1090 | ACETONE                |
| UN No. 1104 | AMYL ACETATES          |
| UN No. 1194 | ETHYL NITRITE SOLUTION |

B. Generic entries for a well defined group of substances or articles, which are not n.o.s. entries, e.g.:

|             |                                   |
|-------------|-----------------------------------|
| UN No. 1133 | ADHESIVES                         |
| UN No. 1266 | PERFUMERY PRODUCTS                |
| UN No. 2757 | CARBAMATE PESTICIDE, SOLID, TOXIC |
| UN No. 3101 | ORGANIC PEROXIDE TYPE B, LIQUID   |

C. Specific n.o.s. entries covering a group of substances or articles of a particular chemical or technical nature, not otherwise specified, e.g.:

|             |                             |
|-------------|-----------------------------|
| UN No. 1477 | NITRATES, INORGANIC, N.O.S. |
| UN No. 1987 | ALCOHOLS, N.O.S.            |

D. General n.o.s. entries covering a group of substances or articles having one or more dangerous properties, not otherwise specified, e.g.:

|             |                                  |
|-------------|----------------------------------|
| UN No. 1325 | FLAMMABLE SOLID, ORGANIC, N.O.S. |
| UN No. 1993 | FLAMMABLE LIQUID, N.O.S.         |

The entries defined under B., C. and D. are defined as collective entries.



- 2.1.1.3 For packing purposes, substances other than those of Classes 1, 2, 5.2, 6.2 and 7, and other than self-reactive substances of Class 4.1 are assigned to packing groups in accordance with the degree of danger they present:

Packing group I: Substances presenting high danger;

Packing group II: Substances presenting medium danger;

Packing group III: Substances presenting low danger.

The packing group(s) to which a substance is assigned is (are) indicated in Table A of Chapter 3.2.

## 2.1.2 Principles of classification

- 2.1.2.1 The dangerous goods covered by the heading of a class are defined on the basis of their properties according to sub-section 2.2.x.1 of the relevant class. Assignment of dangerous goods to a class and a packing group is made according to the criteria mentioned in the same sub-section 2.2.x.1. Assignment of one or several subsidiary risk(s) to a dangerous substance or article is made according to the criteria of the class or classes corresponding to those risks, as mentioned in the appropriate sub-section(s) 2.2.x.1.
- 2.1.2.2 All dangerous goods entries are listed in Table A of Chapter 3.2 in the numerical order of their UN Number. This table contains relevant information on the goods listed, such as name, class, packing group(s), label(s) to be affixed, packing and carriage provisions <sup>1</sup>.
- 2.1.2.3 Dangerous goods which are listed or defined in sub-section 2.2.x.2 of each class are not to be accepted for carriage.
- 2.1.2.4 Goods not mentioned by name, i.e. goods not listed as single entries in Table A of Chapter 3.2 and not listed or defined in one of the above-mentioned sub-sections 2.2.x.2 shall be assigned to the relevant class in accordance with the procedure of section 2.1.3. In addition, the subsidiary risk (if any) and the packing group (if any) shall be determined. Once the class, subsidiary risk (if any) and packing group (if any) have been established the relevant UN number shall be determined. The decision trees in sub-sections 2.2.x.3 (list of collective entries) at the end of each class indicate the relevant parameters for selecting the relevant collective entry (UN number). In all cases the most specific collective entry covering the properties of the substance or article shall be selected, according to the hierarchy indicated in 2.1.1.2 by the letters B, C and D respectively. If the substance or article cannot be classified under entries of type B or C according to 2.1.1.2, then, and only then shall it be classified under an entry of type D.
- 2.1.2.5 On the basis of the test procedures of Chapter 2.3 and the criteria set out in sub-sections 2.2.x.1 of classes when it is so specified, it may be determined that a substance, solution or mixture of a certain class, mentioned by name in Table A of Chapter 3.2, does not meet the criteria of that class. In such a case, the substance, solution or mixture is deemed not to belong to that class.
- 2.1.2.6 For the purposes of classification, substances with a melting point or initial melting point of 20 °C or lower at a pressure of 101.3 kPa shall be considered to be liquids. A viscous substance for which a specific melting point cannot be determined shall be subjected to the ASTM D 4359-90 test or to the test for determining fluidity (penetrometer test) prescribed in 2.3.4.

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<sup>1</sup> *Note by the Secretariat: An alphabetic list of these entries has been prepared by the secretariat and is reproduced in Table B of Chapter 3.2. This table is not an official part of the ADR.*

**2.1.3 Classification of substances, including solutions and mixtures (such as preparations and wastes), not mentioned by name**

2.1.3.1 Substances including solutions and mixtures not mentioned by name shall be classified according to their degree of danger on the basis of the criteria mentioned in sub-section 2.2.x.1 of the various classes. The danger(s) presented by a substance shall be determined on the basis of its physical and chemical characteristics and physiological properties. Such characteristics and properties shall also be taken into account when such experience leads to a more stringent assignment.

2.1.3.2 A substance not mentioned by name in Table A of Chapter 3.2 presenting a single hazard shall be classified in the relevant class under a collective entry listed in sub-section 2.2.x.3 of that class.

2.1.3.3 A solution or mixture containing only one dangerous substance mentioned by name in Table A of Chapter 3.2, together with one or more non-dangerous substance(s), shall be regarded as the dangerous substance listed by name, unless:

- (a) The solution or mixture is specifically mentioned by name in Table A of Chapter 3.2; or
- (b) It is quite clear from the entry for the dangerous substance that it is applicable only to the pure or technically pure substance; or
- (c) The class, physical state or packing group of the solution or mixture is different from that of the dangerous substance.

In the cases referred to under (b) or (c) above, the solution or mixture shall be classified as a substance not mentioned by name in the relevant class under a collective entry listed in sub-section 2.2.x.3 of that class taking account of the subsidiary risks presented by that solution or mixture, if any, unless the solution or mixture do not meet the criteria of any class, in which case they are not subject to ADR.

2.1.3.4 Solutions and mixtures containing substances belonging to one of the entries mentioned in 2.1.3.4.1 or 2.1.3.4.2 shall be classified in accordance with the provisions of these paragraphs.

2.1.3.4.1 Solutions and mixtures containing one of the following substances mentioned by name shall always be classified under the same entry as the substance they contain, provided they do not have the hazard characteristics as indicated in 2.1.3.5.3:

- Class 3

UN No. 1921 PROPYLENEIMINE, STABILIZED; UN No. 2481 ETHYL ISOCYANATE; UN No. 3064 NITROGLYCERIN SOLUTION IN ALCOHOL with more than 1% but not more than 5% nitroglycerin;

- Class 6.1

UN No. 1051 HYDROGEN CYANIDE, STABILIZED, containing less than 3% water; UN No. 1185 ETHYLENEIMINE, STABILIZED; UN No. 1259 NICKEL CARBONYL; UN No. 1613 HYDROCYANIC ACID, AQUEOUS SOLUTION (HYDROGEN CYANIDE, AQUEOUS SOLUTION), with not more than 20% hydrogen cyanide; UN No. 1614 HYDROGEN CYANIDE, STABILIZED, containing not more than 3% water and absorbed in a porous inert material; UN No. 1994 IRON PENTACARBONYL; UN No. 2480 METHYL ISOCYANATE; UN No. 3294 HYDROGEN CYANIDE, SOLUTION IN ALCOHOL, with not more than 45% hydrogen cyanide;

- Class 8

UN No. 1052 HYDROGEN FLUORIDE, ANHYDROUS; UN No. 1744 BROMINE or UN No. 1744 BROMINE SOLUTION; UN No. 1790 HYDROFLUORIC ACID with more than 85% hydrogen fluoride; UN No. 2576 PHOSPHORUS OXYBROMIDE, MOLTEN;

2.1.3.4.2 Solutions and mixtures containing a substance belonging to one of the following entries of Class 9:

UN No. 2315 POLYCHLORINATED BIPHENYLS, LIQUID;  
UN No. 3151 POLYHALOGENATED BIPHENYLS, LIQUID;  
UN No. 3151 POLYHALOGENATED TERPHENYLS, LIQUID;  
UN No. 3152 POLYHALOGENATED BIPHENYLS, SOLID;  
UN No. 3152 POLYHALOGENATED TERPHENYLS, SOLID; or  
UN No. 3432 POLYCHLORINATED BIPHENYLS, SOLID

shall always be classified under the same entry of Class 9 provided that:

- they do not contain any additional dangerous component other than components of packing group III of classes 3, 4.1, 4.2, 4.3, 5.1, 6.1 or 8; and
- they do not have the hazard characteristics as indicated in 2.1.3.5.3.

2.1.3.5 Substances not mentioned by name in Table A of Chapter 3.2, having more than one hazard characteristic and solutions or mixtures containing several dangerous substances shall be classified under a collective entry (see 2.1.2.4) and packing group of the appropriate class in accordance with their hazard characteristics. Such classification according to the hazard characteristics shall be carried out as follows:

2.1.3.5.1 The physical and chemical characteristics and physiological properties shall be determined by measurement or calculation and the substance, solution or mixture shall be classified according to the criteria mentioned in sub-section 2.2.x.1 of the various classes.

2.1.3.5.2 If this determination is not possible without disproportionate cost or effort (as for some kinds of wastes), the substance, solution or mixture shall be classified in the class of the component presenting the major hazard.

2.1.3.5.3 If the hazard characteristics of the substance, solution or mixture fall within more than one class or group of substances listed below then the substance, solution or mixture shall be classified in the class or group of substances corresponding to the major hazard on the basis of the following order of precedence:

- (a) Material of Class 7 (apart from radioactive material in excepted packages where the other hazardous properties take precedence);
- (b) Substances of Class 1;
- (c) Substances of Class 2;
- (d) Liquid desensitized explosives of Class 3;
- (e) Self-reactive substances and solid desensitized explosives of Class 4.1;
- (f) Pyrophoric substances of Class 4.2;

- (g) Substances of Class 5.2;
- (h) Substances of Class 6.1 or Class 3 which, on the basis of their inhalation toxicity, are to be classified under Packing group I (Substances meeting the classification criteria of Class 8 and having an inhalation toxicity of dust and mist ( $LC_{50}$ ) in the range of Packing group I and a toxicity through oral ingestion or dermal contact only in the range of Packing group III or less, shall be allocated to Class 8);
- (i) Infectious substances of Class 6.2.

2.1.3.5.4 If the hazard characteristics of the substance fall within more than one class or group of substances not listed in 2.1.3.5.3 above, the substance shall be classified in accordance with the same procedure but the relevant class shall be selected according to the precedence of hazards table in 2.1.3.10.

2.1.3.5.5 If the substance to be carried is a waste, with a composition that is not precisely known, its assignment to a UN number and packing group in accordance with 2.1.3.5.2 may be based on the consignor's knowledge of the waste, including all available technical and safety data as requested by safety and environmental legislation in force<sup>2</sup>.

In case of doubt, the highest danger level shall be taken.

If however, on the basis of the knowledge of the composition of the waste and the physical and chemical properties of the identified components, it is possible to demonstrate that the properties of the waste do not correspond to the properties of the packing group I level, the waste may be classified by default in the most appropriate n.o.s. entry of packing group II.

This procedure may not be used for wastes containing substances mentioned in 2.1.3.5.3, substances of Class 4.3, substances of the case mentioned in 2.1.3.7 or substances which are not accepted for carriage in accordance with 2.2.x.2.

- 2.1.3.6 The most specific applicable collective entry (see 2.1.2.4) shall always be used, i.e. a general n.o.s. entry shall only be used if a generic entry or a specific n.o.s. entry cannot be used.
- 2.1.3.7 Solutions and mixtures of oxidizing substances or substances with an oxidizing subsidiary risk may have explosive properties. In such a case they are not to be accepted for carriage unless they meet the requirements for Class 1.
- 2.1.3.8 Substances of classes 1 to 9, other than those assigned to UN Nos. 3077 or 3082, meeting the criteria of 2.2.9.1.10 are additionally to their hazards of classes 1 to 9 considered to be environmentally hazardous substances. Other substances meeting the criteria of 2.2.9.1.10 are to be assigned to UN Nos. 3077 or 3082 as appropriate.

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<sup>2</sup> Such legislation is for instance the Commission Decision 2000/532/EC of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste (replaced by the Directive of the European Parliament and of the Council 2006/12/EC (Official Journal of the European Communities No. L 114 of 27 April 2006, page 9)) and Council Decision 94/904/EC establishing a list of hazardous wastes pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous wastes (Official Journal of the European Communities No. L 226 of 6 September 2000, page 3).

## 2.1.3.9

Wastes that do not meet the criteria for classification in classes 1 to 9 but are covered by the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* may be carried under UN Nos. 3077 or 3082.

**2.1.3.10 Table of precedence of hazards**

| Class and packing group | 4.1, II              | 4.1, III              | 4.2, II              | 4.2, III              | 4.3, I | 4.3, II | 4.3, III | 5.1, I                 | 5.1, II                  | 5.1, III                   | 6.1, I DERMAL | 6.1, I ORAL | 6.1, II                    | 6.1, III                     | 8, I                   | 8, II                    | 8, III                     | 9        |
|-------------------------|----------------------|-----------------------|----------------------|-----------------------|--------|---------|----------|------------------------|--------------------------|----------------------------|---------------|-------------|----------------------------|------------------------------|------------------------|--------------------------|----------------------------|----------|
| 3, I                    | SOL LIQ<br>4.1 3, I  | SOL LIQ<br>4.1 3, I   | SOL LIQ<br>4.2 3, I  | SOL LIQ<br>4.2 3, I   | 4.3, I | 4.3, I  | 4.3, I   | SOL LIQ<br>5.1, I 3, I | SOL LIQ<br>5.1, I 3, I   | SOL LIQ<br>5.1, I 3, I     | 3, I          | 3, I        | 3, I                       | 3, I                         | 3, I                   | 3, I                     | 3, I                       | 3, I     |
| 3, II                   | SOL LIQ<br>4.1 3, II | SOL LIQ<br>4.1 3, II  | SOL LIQ<br>4.2 3, II | SOL LIQ<br>4.2 3, II  | 4.3, I | 4.3, II | 4.3, II  | SOL LIQ<br>5.1, I 3, I | SOL LIQ<br>5.1, II 3, II | SOL LIQ<br>5.1, II 3, II   | 3, I          | 3, I        | 3, II                      | 3, II                        | 8, I                   | 3, II                    | 3, II                      | 3, II    |
| 3, III                  | SOL LIQ<br>4.1 3, II | SOL LIQ<br>4.1 3, III | SOL LIQ<br>4.2 3, II | SOL LIQ<br>4.2 3, III | 4.3, I | 4.3, II | 4.3, III | SOL LIQ<br>5.1, I 3, I | SOL LIQ<br>5.1, II 3, II | SOL LIQ<br>5.1, III 3, III | 6.1, I        | 6.1, I      | 6.1, II                    | 3, III <sup>a</sup>          | 8, I                   | 8, II                    | 3, III                     | 3, III   |
| 4.1, II                 |                      |                       | 4.2, II              | 4.2, II               | 4.3, I | 4.3, II | 4.3, II  | 5.1, I                 | 4.1, II                  | 4.1, II                    | 6.1, I        | 6.1, I      | SOL LIQ<br>4.1, II 6.1, II | SOL LIQ<br>4.1, II 6.1, II   | 8, I                   | SOL LIQ<br>4.1, II 8, II | SOL LIQ<br>4.1, II 8, II   | 4.1, II  |
| 4.1, III                |                      |                       | 4.2, II              | 4.2, III              | 4.3, I | 4.3, II | 4.3, III | 5.1, I                 | 4.1, II                  | 4.1, III                   | 6.1, I        | 6.1, I      | 6.1, II                    | SOL LIQ<br>4.1, III 6.1, III | 8, I                   | 8, II                    | SOL LIQ<br>4.1, III 8, III | 4.1, III |
| 4.2, II                 |                      |                       |                      |                       | 4.3, I | 4.3, II | 4.3, II  | 5.1, I                 | 4.2, II                  | 4.2, II                    | 6.1, I        | 6.1, I      | 4.2, II                    | 4.2, II                      | 8, I                   | 4.2, II                  | 4.2, II                    | 4.2, II  |
| 4.2, III                |                      |                       |                      |                       | 4.3, I | 4.3, II | 4.3, III | 5.1, I                 | 5.1, II                  | 4.2, III                   | 6.1, I        | 6.1, I      | 6.1, II                    | 4.2, III                     | 8, I                   | 8, II                    | 4.2, III                   | 4.2, III |
| 4.3, I                  |                      |                       |                      |                       |        |         |          | 5.1, I                 | 4.3, I                   | 4.3, I                     | 6.1, I        | 4.3, I      | 4.3, I                     | 4.3, I                       | 4.3, I                 | 4.3, I                   | 4.3, I                     | 4.3, I   |
| 4.3, II                 |                      |                       |                      |                       |        |         |          | 5.1, I                 | 4.3, II                  | 4.3, II                    | 6.1, I        | 4.3, I      | 4.3, II                    | 4.3, II                      | 8, I                   | 4.3, II                  | 4.3, II                    | 4.3, II  |
| 4.3, III                |                      |                       |                      |                       |        |         |          | 5.1, I                 | 5.1, II                  | 4.3, III                   | 6.1, I        | 6.1, I      | 6.1, II                    | 4.3, III                     | 8, I                   | 8, II                    | 4.3, III                   | 4.3, III |
| 5.1, I                  |                      |                       |                      |                       |        |         |          |                        |                          |                            | 5.1, I        | 5.1, I      | 5.1, I                     | 5.1, I                       | 5.1, I                 | 5.1, I                   | 5.1, I                     | 5.1, I   |
| 5.1, II                 |                      |                       |                      |                       |        |         |          |                        |                          |                            | 6.1, I        | 5.1, I      | 5.1, II                    | 5.1, II                      | 8, I                   | 5.1, II                  | 5.1, II                    | 5.1, II  |
| 5.1, III                |                      |                       |                      |                       |        |         |          |                        |                          |                            | 6.1, I        | 6.1, I      | 6.1, II                    | 5.1, III                     | 8, I                   | 8, II                    | 5.1, III                   | 5.1, III |
| 6.1, I DERMAL           |                      |                       |                      |                       |        |         |          |                        |                          |                            |               |             |                            |                              | SOL LIQ<br>6.1, I 8, I | 6.1, I                   | 6.1, I                     | 6.1, I   |
| 6.1, I ORAL             |                      |                       |                      |                       |        |         |          |                        |                          |                            |               |             |                            |                              | SOL LIQ<br>6.1, I 8, I | 6.1, I                   | 6.1, I                     | 6.1, I   |
| 6.1, II INHAL           |                      |                       |                      |                       |        |         |          |                        |                          |                            |               |             |                            |                              | SOL LIQ<br>6.1, I 8, I | 6.1, II                  | 6.1, II                    | 6.1, II  |
| 6.1, II DERMAL          |                      |                       |                      |                       |        |         |          |                        |                          |                            |               |             |                            |                              | SOL LIQ<br>6.1, I 8, I | SOL LIQ<br>6.1, II 8, II | 6.1, II                    | 6.1, II  |
| 6.1, II ORAL            |                      |                       |                      |                       |        |         |          |                        |                          |                            |               |             |                            |                              | 8, I                   | SOL LIQ<br>6.1, II 8, II | 6.1, II                    | 6.1, II  |
| 6.1, III                |                      |                       |                      |                       |        |         |          |                        |                          |                            |               |             |                            |                              | 8, I                   | 8, II                    | 8, III                     | 6.1, III |
| 8, I                    |                      |                       |                      |                       |        |         |          |                        |                          |                            |               |             |                            |                              |                        |                          |                            | 8, I     |
| 8, II                   |                      |                       |                      |                       |        |         |          |                        |                          |                            |               |             |                            |                              |                        |                          |                            | 8, II    |
| 8, III                  |                      |                       |                      |                       |        |         |          |                        |                          |                            |               |             |                            |                              |                        |                          |                            | 8, III   |

SOL = Solid substances and mixtures

LIQ = Liquid substances, mixtures and solutions

DERMAL = Dermal toxicity

ORAL = Oral toxicity

INHAL = Inhalation toxicity

<sup>a</sup> Class 6.1 for pesticides

**NOTE 1: Examples to explain the use of the table****Classification of a single substance**

*Description of the substance to be classified:*

*An amine not mentioned by name meeting the criteria for Class 3, packing group II as well as those for Class 8, packing group I.*

*Procedure:*

*The intersection of line 3 II with column 8 I gives 8 I.*

*This amine has therefore to be classified in Class 8 under:*

*UN No. 2734 AMINES LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or UN No. 2734 POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.  
packing group I*

**Classification of a mixture**

*Description of the mixture to be classified:*

*Mixture consisting of a flammable liquid classified in Class 3, packing group III, a toxic substance in Class 6.1, packing group II and a corrosive substance in Class 8, packing group I.*

*Procedure:*

*The intersection of line 3 III with column 6.1 II gives 6.1 II.*

*The intersection of line 6.1 II with column 8 I gives 8 I LIQ.*

*This mixture not further defined has therefore to be classified in Class 8 under:*

*UN No. 2922 CORROSIVE LIQUID, TOXIC, N.O.S. packing group I.*

**NOTE 2: Examples for the classification of mixtures and solutions under a class and a packing group:**

*A phenol solution of Class 6.1, (II), in benzene of Class 3, (II) is to be classified in Class 3, (II); this solution is to be classified under UN No. 1992 FLAMMABLE LIQUID, TOXIC, N.O.S., Class 3, (II), by virtue of the toxicity of the phenol.*

*A solid mixture of sodium arsenate of Class 6.1, (II) and sodium hydroxide of Class 8, (II) is to be classified under UN No. 3290 TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S., in Class 6.1 (II).*

*A solution of crude or refined naphthalene of Class 4.1, (III) in petrol of Class 3, (II), is to be classified under UN No. 3295 HYDROCARBONS, LIQUID, N.O.S. in Class 3, (II).*

*A mixture of hydrocarbons of Class 3, (III), and of polychlorinated biphenyls (PCB) of Class 9, (II), is to be classified under UN No. 2315 POLYCHLORINATED BIPHENYLS LIQUID or UN No. 3432 POLYCHLORINATED BIPHENYLS SOLID in Class 9, (II).*

*A mixture of propyleneimine of Class 3, and polychlorinated biphenyls (PCB) of Class 9, (II), is to be classified under UN No. 1921 PROPYLENEIMINE, INHIBITED in Class 3.*

**2.1.4 Classification of samples**

2.1.4.1 When the class of a substance is uncertain and it is being carried for further testing, a tentative class, proper shipping name and UN number shall be assigned on the basis of the consignor's knowledge of the substance and application of:

- (a) the classification criteria of Chapter 2.2; and
- (b) the requirements of this Chapter.

The most severe packing group possible for the proper shipping name chosen shall be used.

Where this provision is used the proper shipping name shall be supplemented with the word "SAMPLE" (e.g., "FLAMMABLE LIQUID, N.O.S., SAMPLE"). In certain instances, where a specific proper shipping name is provided for a sample of a substance considered to meet certain classification criteria (e.g., GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, UN No. 3167) that proper shipping name shall be used. When an N.O.S. entry is used to carry the sample, the proper shipping name need not be supplemented with the technical name as required by special provision 274 of Chapter 3.3.

2.1.4.2 Samples of the substance shall be carried in accordance with the requirements applicable to the tentative assigned proper shipping name provided:

- (a) The substance is not considered to be a substance not accepted for carriage by sub-sections 2.2.x.2 of Chapter 2.2 or by Chapter 3.2;
- (b) The substance is not considered to meet the criteria for Class 1 or considered to be an infectious substance or a radioactive material;
- (c) The substance is in compliance with 2.2.41.1.15 or 2.2.52.1.9 if it is a self-reactive substance or an organic peroxide, respectively;
- (d) The sample is carried in a combination packaging with a net mass per package not exceeding 2.5 kg; and
- (e) The sample is not packed together with other goods.



## CHAPTER 2.2

### CLASS SPECIFIC PROVISIONS

#### 2.2.1 Class 1 Explosive substances and articles

##### 2.2.1.1 Criteria

##### 2.2.1.1.1 The heading of Class 1 covers:

- (a) Explosive substances: solid or liquid substances (or mixtures of substances) capable by chemical reaction of producing gases at such a temperature and pressure and at such a speed as to cause damage to the surroundings.

Pyrotechnic substances: substances or mixtures of substances designed to produce an effect by heat, light, sound, gas or smoke or a combination of these as the result of non-detonating self-sustaining exothermic chemical reactions;

*NOTE 1: Substances which are not themselves explosive but which may form an explosive mixture of gas, vapour or dust are not substances of Class 1.*

*NOTE 2: Also excluded from Class 1 are: water- or alcohol-wetted explosives of which the water or alcohol content exceeds the limits specified and those containing plasticizers - these explosives are assigned to Class 3 or Class 4.1 - and those explosives which, on the basis of their predominant hazard, are assigned to Class 5.2.*

- (b) Explosive articles: articles containing one or more explosive or pyrotechnic substances;

*NOTE: Devices containing explosive or pyrotechnic substances in such small quantity or of such a character that their inadvertent or accidental ignition or initiation during carriage would not cause any manifestation external to the device by projection, fire, smoke, heat or loud noise are not subject to the requirements of Class 1.*

- (c) Substances and articles not mentioned above which are manufactured with a view to producing a practical effect by explosion or a pyrotechnic effect.

##### 2.2.1.1.2 Any substance or article having or suspected of having explosive properties shall be considered for assignment to Class 1 in accordance with the tests, procedures and criteria prescribed in Part I, Manual of Tests and Criteria.

A substance or article assigned to Class 1 can only be accepted for carriage when it has been assigned to a name or n.o.s. entry listed in Table A of Chapter 3.2 and meets the criteria of the Manual of Tests and Criteria.

##### 2.2.1.1.3 The substances and articles of Class 1 shall be assigned to a UN Number and a name or n.o.s. entry listed in Table A of Chapter 3.2. Interpretation of the names of substances and articles in Table A of Chapter 3.2 shall be based upon the glossary in 2.2.1.1.8.

Samples of new or existing explosive substances or articles carried for purposes including: testing, classification, research and development quality control, or as a commercial sample, other than initiating explosive, may be assigned to UN No. 0190 SAMPLES, EXPLOSIVE.

The assignment of explosive substances and articles not mentioned by name as such in Table A of Chapter 3.2 to an n.o.s entry of Class 1 or UN No. 0190 SAMPLES, EXPLOSIVE as well as the assignment of certain substances the carriage of which is subject to a specific authorization by the competent authority according to the special provisions referred to in Column (6) of Table A of Chapter 3.2 shall be made by the competent authority of the country of origin. This competent authority shall also approve in writing the conditions of carriage of these substances and articles. If the country of origin is not a Contracting Party to ADR, the classification and the conditions of carriage shall be recognized by the competent authority of the first country Contracting Party to ADR reached by the consignment.

2.2.1.1.4 Substances and articles of Class 1 shall have been assigned to a division in accordance with 2.2.1.1.5 and to a compatibility group in accordance with 2.2.1.1.6. The division shall be based on the results of the tests described in 2.3.0 and 2.3.1 applying the definitions in 2.2.1.1.5. The compatibility group shall be determined in accordance with the definitions in 2.2.1.1.6. The classification code shall consist of the division number and the compatibility group letter.

2.2.1.1.5 *Definition of divisions*

- |              |   |
|--------------|---|
| Division 1.1 | Substances and articles which have a mass explosion hazard (a mass explosion is an explosion which affects almost the entire load virtually instantaneously).   |
| Division 1.2 | Substances and articles which have a projection hazard but not a mass explosion hazard.   |
| Division 1.3 | Substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard:<br><br>(a) combustion of which gives rise to considerable radiant heat; or<br><br>(b) which burn one after another, producing minor blast or projection effects or both.  |
| Division 1.4 | Substances and articles which present only a slight risk of explosion in the event of ignition or initiation during carriage. The effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire shall not cause virtually instantaneous explosion of almost the entire contents of the package. |
| Division 1.5 | Very insensitive substances having a mass explosion hazard which are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of carriage. As a minimum requirement they must not explode in the external fire test.  |
| Division 1.6 | Extremely insensitive articles which do not have a mass explosion hazard. The articles contain only extremely insensitive detonating substances and demonstrate a negligible probability of accidental initiation or propagation.   |

**NOTE:** *The risk from articles of Division 1.6 is limited to the explosion of a single article.*

2.2.1.1.6 *Definition of compatibility groups of substances and articles*

- A Primary explosive substance.
- B Article containing a primary explosive substance and not having two or more effective protective features. Some articles, such as detonators for blasting, detonator assemblies for blasting and primers, cap-type, are included, even though they do not contain primary explosives.
- C Propellant explosive substance or other deflagrating explosive substance or article containing such explosive substance.
- D Secondary detonating explosive substance or black powder or article containing a secondary detonating explosive substance, in each case without means of initiation and without a propelling charge, or article containing a primary explosive substance and having two or more effective protective features.
- E Article containing a secondary detonating explosive substance, without means of initiation, with a propelling charge (other than one containing a flammable liquid or gel or hypergolic liquids).
- F Article containing a secondary detonating explosive substance with its own means of initiation, with a propelling charge (other than one containing a flammable liquid or gel or hypergolic liquids) or without a propelling charge.
- G Pyrotechnic substance, or article containing a pyrotechnic substance, or article containing both an explosive substance and an illuminating, incendiary, tear- or smoke-producing substance (other than a water-activated article or one which contains white phosphorus, phosphides, a pyrophoric substance, a flammable liquid or gel or hypergolic liquids).
- H Article containing both an explosive substance and white phosphorus.
- J Article containing both an explosive substance and a flammable liquid or gel.
- K Article containing both an explosive substance and a toxic chemical agent.
- L Explosive substance or article containing an explosive substance and presenting a special risk (e.g. due to water activation or the presence of hypergolic liquids, phosphides or a pyrophoric substance) necessitating isolation of each type.
- N Articles containing only extremely insensitive detonating substances.
- S Substance or article so packed or designed that any hazardous effects arising from accidental functioning are confined within the package unless the package has been degraded by fire, in which case all blast or projection effects are limited to the extent that they do not significantly hinder or prevent fire-fighting or other emergency response efforts in the immediate vicinity of the package.

**NOTE 1:** *Each substance or article, packed in a specified packaging, may be assigned to one compatibility group only. Since the criterion of compatibility group S is empirical, assignment to this group is necessarily linked to the tests for assignment of a classification code.*

**NOTE 2:** *Articles of compatibility groups D and E may be fitted or packed together with their own means of initiation provided that such means have at least two effective protective*

*features designed to prevent an explosion in the event of accidental functioning of the means of initiation. Such packages shall be assigned to compatibility groups D or E.*

**NOTE 3:** *Articles of compatibility groups D and E may be packed together with their own means of initiation, which do not have two effective protective features (i.e. means of initiation assigned to compatibility group B), provided that they comply with mixed packing provision MP 21 of Section 4.1.10. Such packages shall be assigned to compatibility groups D or E.*

**NOTE 4:** *Articles may be fitted or packed together with their own means of ignition provided that the means of ignition cannot function during normal conditions of carriage.*

**NOTE 5:** *Articles of compatibility groups C, D and E may be packed together. Such packages shall be assigned to compatibility group E.*

2.2.1.1.7 *Assignment of fireworks to divisions*

2.2.1.1.7.1 Fireworks shall normally be assigned to divisions 1.1, 1.2, 1.3, and 1.4 on the basis of test data derived from Test Series 6 of the Manual of Tests and Criteria. However, since the range of such articles is very extensive and the availability of test facilities may be limited, assignment to divisions may also be made in accordance with the procedure in 2.2.1.1.7.2.

2.2.1.1.7.2 Assignment of fireworks to UN Nos. 0333, 0334, 0335 and 0336 may be made on the basis of analogy, without the need for Test Series 6 testing, in accordance with the default fireworks classification table in 2.2.1.1.7.5. Such assignment shall be made with the agreement of the competent authority. Items not specified in the table shall be classified on the basis of test data derived from Test Series 6.

**NOTE 1:** *The addition of other types of fireworks to column 1 of the table in 2.2.1.1.7.5 shall only be made on the basis of full test data submitted to the UN Sub-Committee of Experts on the Transport of Dangerous Goods for consideration.*

**NOTE 2:** *Test data derived by competent authorities which validates, or contradicts the assignment of fireworks specified in column 4 of the table in 2.2.1.1.7.5 to divisions in column 5 should be submitted to the UN Sub-Committee of Experts on the Transport of Dangerous Goods for information.*

2.2.1.1.7.3 Where fireworks of more than one division are packed in the same package, they shall be classified on the basis of the most dangerous division unless test data derived from Test Series 6 indicate otherwise.

2.2.1.1.7.4 The classification shown in the table in 2.2.1.1.7.5 applies only for articles packed in fibreboard boxes (4G).

2.2.1.1.7.5 *Default fireworks classification table*<sup>1</sup>

**NOTE 1:** *References to percentages in the table, unless otherwise stated, are to the mass of all pyrotechnic composition (e.g. rocket motors, lifting charge, bursting charge and effect charge).*

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<sup>1</sup> This table contains a list of firework classifications which may be used in the absence of Test Series 6 data (see 2.2.1.1.7.2).

**NOTE 2:** *"Flash composition" in this table refers to pyrotechnic compositions in powder form or as pyrotechnic units as presented in the fireworks, that are used to produce an aural effect, or used as a bursting charge or lifting charge, unless the time taken for the pressure rise is demonstrated to be more than 8 ms for 0.5 g of pyrotechnic composition in Test Series 2(c)(i) "Time/pressure test" of the Manual of Tests and Criteria.*

**NOTE 3:** *Dimensions in mm refer to:*

- *for spherical and peanut shells the diameter of the sphere of the shell;*
- *for cylinder shells the length of the shell;*
- *for a shell in mortar, Roman candle, shot tube firework or mine the inside diameter of the tube comprising or containing the firework;*
- *for a bag mine or cylinder mine, the inside diameter of the mortar intended to contain the mine.*

| Type                            | Includes: / Synonym:  | Definition   | Specification  | Classification |
|---------------------------------|---|--|--|----------------|
| Shell, spherical or cylindrical | Spherical display shell: aerial shell, colour shell, dye shell, multi-break shell, multi-effect shell, nautical shell, parachute shell, smoke shell, star shell; report shell: maroon, salute, sound shell, thunderclap, aerial shell kit | Device with or without propellant charge, with delay fuse and bursting charge, pyrotechnic unit(s) or loose pyrotechnic composition and designed to be projected from a mortar | All report shells  | 1.1G           |
|                                 |   |  | Colour shell: $\geq 180$ mm  | 1.1G           |
|                                 |   |  | Colour shell: $< 180$ mm with $> 25\%$ flash composition, as loose powder and/or report effects  | 1.1G           |
|                                 |   |  | Colour shell: $< 180$ mm with $\leq 25\%$ flash composition, as loose powder and/or report effects   | 1.3G           |
|                                 |   |  | Colour shell: $\leq 50$ mm, or $\leq 60$ g pyrotechnic composition, with $\leq 2\%$ flash composition as loose powder and/or report effects  | 1.4G           |
|                                 | Peanut shell  | Device with two or more spherical aerial shells in a common wrapper propelled by the same propellant charge with separate external delay fuses                                 | The most hazardous spherical aerial shell determines the classification  |                |
|                                 | Preloaded mortar, shell in mortar   | Assembly comprising a spherical or cylindrical shell inside a mortar from which the shell is designed to be projected  | All report shells  | 1.1G           |
|                                 |   |  | Colour shell: $\geq 180$ mm  | 1.1G           |
|                                 |   |  | Colour shell: $> 25\%$ flash composition as loose powder and/or report effects   | 1.1G           |
|                                 |   |  | Colour shell: $> 50$ mm and $< 180$ mm   | 1.2G           |
|                                 |   |  | Colour shell: $\leq 50$ mm, or $\leq 60$ g pyrotechnic composition, with $\leq 25\%$ flash composition as loose powder and/or report effects | 1.3G           |

| Type  | Includes: / Synonym:  | Definition   | Specification  | Classification |
|---|---|--|--|----------------|
| Shell,<br>spherical or<br>cylindrical<br>(cont'd) | Shell of shells (spherical)<br><i>(Reference to percentages for shell of shells are to the gross mass of the fireworks article)</i> | Device without propellant charge, with delay fuse and bursting charge, containing report shells and inert materials and designed to be projected from a mortar   | > 120 mm   | 1.1G           |
|   |   | Device without propellant charge, with delay fuse and bursting charge, containing report shells $\leq 25$ g flash composition per report unit, with $\leq 33\%$ flash composition and $\geq 60\%$ inert materials and designed to be projected from a mortar | $\leq 120$ mm  | 1.3G           |
|   |   | Device without propellant charge, with delay fuse and bursting charge, containing colour shells and/or pyrotechnic units and designed to be projected from a mortar  | > 300 mm   | 1.1G           |
|   |   | Device without propellant charge, with delay fuse and bursting charge, containing colour shells $\leq 70$ mm and/or pyrotechnic units, with $\leq 25\%$ flash composition and $\leq 60\%$ pyrotechnic composition and designed to be projected from a mortar | > 200 mm and $\leq 300$ mm                                     | 1.3G           |
|   |   | Device with propellant charge, with delay fuse and bursting charge, containing colour shells $\leq 70$ mm and/or pyrotechnic units, with $\leq 25\%$ flash composition and $\leq 60\%$ pyrotechnic composition and designed to be projected from a mortar    | $\leq 200$ mm  | 1.3G           |
| Battery/<br>combination                           | Barrage, bombardos, cakes, finale box, flowerbed, hybrid, multiple tubes, shell cakes, banger batteries, flash banger batteries     | Assembly including several elements either containing the same type or several types each corresponding to one of the types of fireworks listed in this table, with one or two points of ignition  | The most hazardous firework type determines the classification |                |

| Type         | Includes: / Synonym:  | Definition   | Specification   | Classification |
|--------------|---|--|---|----------------|
| Roman candle | Exhibition candle, candle, bombettes  | Tube containing a series of pyrotechnic units consisting of alternate pyrotechnic composition, propellant charge, and transmitting fuse  | ≥ 50 mm inner diameter, containing flash composition, or < 50 mm with > 25% flash composition                             | 1.1G           |
|              |   |  | ≥ 50 mm inner diameter, containing no flash composition   | 1.2G           |
|              |   |  | < 50 mm inner diameter and ≤ 25% flash composition  | 1.3G           |
|              |   |  | ≤ 30 mm inner diameter, each pyrotechnic unit ≤ 25 g and ≤ 5% flash composition   | 1.4G           |
| Shot tube    | Single shot Roman candle, small preloaded mortar  | Tube containing a pyrotechnic unit consisting of pyrotechnic composition, propellant charge with or without transmitting fuse  | ≤ 30 mm inner diameter and pyrotechnic unit > 25 g, or > 5% and ≤ 25% flash composition                                   | 1.3G           |
|              |   |  | ≤ 30 mm inner diameter, pyrotechnic unit ≤ 25 g and ≤ 5% flash composition  | 1.4G           |
| Rocket       | Avalanche rocket, signal rocket, whistling rocket, bottle rocket, sky rocket, missile type rocket, table rocket | Tube containing pyrotechnic composition and/or pyrotechnic units, equipped with stick(s) or other means for stabilization of flight, and designed to be propelled into the air | Flash composition effects only  | 1.1G           |
|              |   |  | Flash composition > 25% of the pyrotechnic composition  | 1.1G           |
|              |   |  | > 20 g pyrotechnic composition and flash composition ≤ 25%  | 1.3G           |
|              |   |  | ≤ 20 g pyrotechnic composition, black powder bursting charge and ≤ 0.13 g flash composition per report and ≤ 1 g in total | 1.4G           |



| Type     | Includes: / Synonym:  | Definition   | Specification  | Classification |
|----------|---|--|--|----------------|
| Mine     | Pot-a-feu, ground mine, bag mine, cylinder mine   | <p>Tube containing propellant charge and pyrotechnic units and designed to be placed on the ground or to be fixed in the ground. The principal effect is ejection of all the pyrotechnic units in a single burst producing a widely dispersed visual and/or aural effect in the air or:</p> <p>Cloth or paper bag or cloth or paper cylinder containing propellant charge and pyrotechnic units, designed to be placed in a mortar and to function as a mine</p> | > 25% flash composition, as loose powder and/ or report effects  | 1.1G           |
|          |   |  | $\geq 180$ mm and $\leq 25\%$ flash composition, as loose powder and/ or report effects  | 1.1G           |
|          |   |  | < 180 mm and $\leq 25\%$ flash composition, as loose powder and/ or report effects   | 1.3G           |
|          |   |  | $\leq 150$ g pyrotechnic composition, containing $\leq 5\%$ flash composition as loose powder and/ or report effects. Each pyrotechnic unit $\leq 25$ g, each report effect < 2g; each whistle, if any, $\leq 3$ g | 1.4G           |
| Fountain | Volcanos, gerbs, showers, lances, Bengal fire, flitter sparkle, cylindrical fountains, cone fountains, illuminating torch | Non-metallic case containing pressed or consolidated pyrotechnic composition producing sparks and flame  | $\geq 1$ kg pyrotechnic composition  | 1.3G           |
|          |   |  | < 1 kg pyrotechnic composition   | 1.4G           |
| Sparkler | Handheld sparklers, non-handheld sparklers, wire sparklers  | Rigid wire partially coated (along one end) with slow burning pyrotechnic composition with or without an ignition tip  | Perchlorate based sparklers: > 5 g per item or > 10 items per pack   | 1.3G           |
|          |   |  | Perchlorate based sparklers: $\leq 5$ g per item and $\leq 10$ items per pack;<br>Nitrate based sparklers: $\leq 30$ g per item  | 1.4G           |

| Type                               | Includes: / Synonym:  | Definition   | Specification   | Classification |
|------------------------------------|---|--|---|----------------|
| Bengal stick                       | Dipped stick  | Non-metallic stick partially coated (along one end) with slow-burning pyrotechnic composition and designed to be held in the hand                                      | Perchlorate based items: > 5 g per item or > 10 items per pack  | 1.3 G          |
|                                    |   |  | Perchlorate based items: ≤ 5 g per item and ≤ 10 items per pack; nitrate based items: ≤ 30 g per item   | 1.4G           |
| Low hazard fireworks and novelties | Table bombs, throwdowns, crackling granules, smokes, fog, snakes, glow worm, serpents, snaps, party poppers | Device designed to produce very limited visible and/ or audible effect which contains small amounts of pyrotechnic and/or explosive composition.                       | Throwdowns and snaps may contain up to 1.6 mg of silver fulminate; snaps and party poppers may contain up to 16 mg of potassium chlorate/red phosphorous mixture; other articles may contain up to 5 g of pyrotechnic composition, but no flash composition | 1.4G           |
| Spinner                            | Aerial spinner, helicopter, chaser, ground spinner  | Non-metallic tube or tubes containing gas- or spark-producing pyrotechnic composition, with or without noise producing composition, with or without aerofoils attached | Pyrotechnic composition per item > 20 g, containing ≤ 3% flash composition as report effects, or whistle composition ≤ 5 g  | 1.3G           |
|                                    |   |  | Pyrotechnic composition per item ≤ 20 g, containing ≤ 3% flash composition as report effects, or whistle composition ≤ 5 g  | 1.4G           |
| Wheels                             | Catherine wheels, Saxon   | Assembly including drivers containing pyrotechnic composition and provided with a means of attaching it to a support so that it can rotate                             | ≥ 1 kg total pyrotechnic composition, no report effect, each whistle (if any) ≤ 25 g and ≤ 50 g whistle composition per wheel   | 1.3G           |
|                                    |   |  | < 1 kg total pyrotechnic composition, no report effect, each whistle (if any) ≤ 5 g and ≤ 10 g whistle composition per wheel  | 1.4G           |

| Type           | Includes: / Synonym:  | Definition  | Specification   | Classification |
|----------------|---|---|---|----------------|
| Aerial wheel   | Flying Saxon, UFO's, rising crown   | Tubes containing propellant charges and sparks-flame- and/or noise producing pyrotechnic compositions, the tubes being fixed to a supporting ring | > 200 g total pyrotechnic composition or > 60 g pyrotechnic composition per driver, ≤ 3% flash composition as report effects, each whistle (if any) ≤ 25 g and ≤ 50 g whistle composition per wheel | 1.3G           |
|                |   |   | ≤ 200 g total pyrotechnic composition and ≤ 60 g pyrotechnic composition per driver, ≤ 3% flash composition as report effects, each whistle (if any) ≤ 5 g and ≤ 10 g whistle composition per wheel | 1.4G           |
| Selection pack | Display selection box, display selection pack, garden selection box, indoor selection box; assortment | A pack of more than one type each corresponding to one of the types of fireworks listed in this table   | The most hazardous firework type determines the classification  |                |
| Firecracker    | Celebration cracker, celebration roll, string cracker   | Assembly of tubes (paper or cardboard) linked by a pyrotechnic fuse, each tube intended to produce an aural effect                                | Each tube ≤ 140 mg of flash composition or ≤ 1 g black powder   | 1.4G           |
| Banger         | Salute, flash banger, lady cracker  | Non-metallic tube containing report composition intended to produce an aural effect   | > 2 g flash composition per item  | 1.1G           |
|                |   |   | ≤ 2 g flash composition per item and ≤ 10 g per inner packaging   | 1.3G           |
|                |   |   | ≤ 1 g flash composition per item and ≤ 10 g per inner packaging or ≤ 10 g black powder per item   | 1.4G           |

2.2.1.1.8 *Glossary of names*

**NOTE 1:** *The descriptions in the glossary are not intended to replace the test procedures, nor to determine the hazard classification of a substance or article of Class 1. Assignment to the correct division and a decision on whether Compatibility Group S is appropriate shall be based on testing of the product in accordance with the Manual of Tests and Criteria, Part I or by analogy with similar products which have already been tested and assigned in accordance with the procedures of the Manual of Tests and Criteria.*

**NOTE 2:** *The figures given after the names refer to the relevant UN numbers (Column 1 of Table A of Chapter 3.2). For the classification code, see 2.2.1.1.4.*

AIR BAG INFLATORS or AIR BAG MODULES or SEAT-BELT PRETENSIONERS:  
UN No. 0503

Articles which contain pyrotechnic substances and are used as life-saving vehicle airbags or seat-belts.

AMMUNITION, ILLUMINATING, with or without burster, expelling charge or propelling charge: UN Nos. 0171, 0254, 0297

Ammunition designed to produce a single source of intense light for lighting up an area. The term includes illuminating cartridges, grenades and projectiles; and illuminating and target identification bombs.

**NOTE:** *The following articles: CARTRIDGES, SIGNAL; SIGNAL DEVICES HAND; SIGNALS, DISTRESS; FLARES, AERIAL; FLARES, SURFACE are not included in this definition. They are listed separately.*

AMMUNITION, INCENDIARY, liquid or gel, with burster, expelling charge or propelling charge: UN No. 0247

Ammunition containing liquid or gelatinous incendiary substance. Except when the incendiary substance is an explosive per se, it also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.

AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge: UN Nos. 0243, 0244

Ammunition containing white phosphorus as incendiary substance. It also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.

AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge: UN Nos. 0009, 0010, 0300

Ammunition containing incendiary composition. Except when the composition is an explosive per se, it also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.

AMMUNITION, PRACTICE: UN Nos. 0362, 0488

Ammunition without a main bursting charge, containing a burster or expelling charge. Normally it also contains a fuze and a propelling charge.

**NOTE:** *GRENADES, PRACTICE are not included in this definition. They are listed separately.*

**AMMUNITION, PROOF: UN No. 0363**

Ammunition containing pyrotechnic substances, used to test the performance or strength of new ammunition, weapon components or assemblies.

**AMMUNITION, SMOKE, WHITE PHOSPHORUS, with burster, expelling charge or propelling charge: UN Nos. 0245, 0246**

Ammunition containing white phosphorus as a smoke-producing substance. It also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge. The term includes grenades, smoke.

**AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge: UN Nos. 0015, 0016, 0303**

Ammunition containing a smoke-producing substance such as chlorosulphonic acid mixture or titanium tetrachloride; or a smoke-producing pyrotechnic composition based on hexachloroethane or red phosphorus. Except when the substance is an explosive per se, the ammunition also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge. The term includes grenades, smoke.

**NOTE:** *SIGNALS, SMOKE are not included in this definition. They are listed separately.*

**AMMUNITION, TEAR-PRODUCING, with burster, expelling charge or propelling charge: UN Nos. 0018, 0019, 0301**

Ammunition containing a tear-producing substance. It also contains one or more of the following: a pyrotechnic substance; a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.

**ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES EEI): UN No. 0486**

Articles containing only extremely insensitive detonating substances (EIDS) which demonstrate a negligible probability of accidental initiation or propagation under normal conditions of transport, and which have passed Test Series 7.

**ARTICLES, PYROPHORIC: UN No. 0380**

Articles which contain a pyrophoric substance (capable of spontaneous ignition when exposed to air) and an explosive substance or component. The term excludes articles containing white phosphorus.

**ARTICLES, PYROTECHNIC, for technical purposes: UN Nos. 0428, 0429, 0430, 0431, 0432**

Articles which contain pyrotechnic substances and are used for technical purposes such as heat generation, gas generation, theatrical effects, etc.

**NOTE:** *The following articles: all ammunition; CARTRIDGES, SIGNAL; CUTTERS, CABLE, EXPLOSIVE; FIREWORKS; FLARES, AERIAL; FLARES, SURFACE; RELEASE DEVICES, EXPLOSIVE; RIVETS, EXPLOSIVE; SIGNAL DEVICES, HAND; SIGNALS, DISTRESS; SIGNALS, RAILWAY TRACK, EXPLOSIVES; SIGNALS, SMOKE are not included in this definition. They are listed separately.*

BLACK POWDER (GUNPOWDER), COMPRESSED or BLACK POWDER (GUNPOWDER), IN PELLETS: UN No. 0028

Substance consisting of a pelletized form of black powder.

BLACK POWDER (GUNPOWDER), granular or as meal: UN No. 0027

Substance consisting of an intimate mixture of charcoal or other carbon and either potassium nitrate or sodium nitrate, with or without sulphur.

BOMBS, WITH FLAMMABLE LIQUID, with bursting charge: UN Nos. 0399, 0400

Articles which are dropped from aircraft, consisting of a tank filled with inflammable liquid and bursting charge.

BOMBS, PHOTO-FLASH: UN No. 0038

Explosive articles which are dropped from aircraft to provide brief, intense illumination for photography. They contain a charge of detonating explosive without means of initiation or with means of initiation containing two or more effective protective features.

BOMBS, PHOTO-FLASH: UN No. 0037

Explosive articles which are dropped from aircraft to provide brief, intense illumination for photography. They contain a charge of detonating explosive with means of initiation not containing two or more effective protective features.

BOMBS, PHOTO-FLASH: UN Nos. 0039, 0299

Explosive articles which are dropped from aircraft to provide brief, intense illumination for photography. They contain a photo-flash composition.

BOMBS with bursting charge: UN Nos. 0034; 0035

Explosive articles which are dropped from aircraft, without means of initiation or with means of initiation containing two or more effective protective features.

BOMBS with bursting charge: UN Nos. 0033, 0291

Explosive articles which are dropped from aircraft, with means of initiation not containing two or more effective protective features.

BOOSTERS WITH DETONATOR: UN Nos. 0225, 0268

Articles consisting of a charge of detonating explosive with means of initiation. They are used to increase the initiating power of detonators or detonating cord.

BOOSTERS without detonator: UN Nos. 0042, 0283

Articles consisting of a charge of detonating explosive without means of initiation. They are used to increase the initiating power of detonators or detonating cord.

BURSTERS, explosive: UN No. 0043

Articles consisting of a small charge of explosive used to open projectiles or other ammunition in order to disperse their contents.

**CARTRIDGES, FLASH: UN Nos. 0049, 0050**

Articles consisting of a casing, a primer and flash powder, all assembled in one piece ready for firing.

**CARTRIDGES FOR WEAPONS, BLANK: UN Nos. 0326, 0413, 0327, 0338, 0014**

Ammunition consisting of a closed cartridge case with a centre or rim fire primer and a charge of smokeless or black powder but no projectile. It produces a loud noise and is used for training, saluting, propelling charge, starter pistols, etc. The term includes ammunition, blank.

**CARTRIDGES FOR WEAPONS, INERT PROJECTILE: UN Nos. 0328, 0417, 0339, 0012**

Ammunition consisting of a projectile without bursting charge but with a propelling charge with or without a primer. The articles may include a tracer, provided that the predominant hazard is that of the propelling charge.

**CARTRIDGES FOR WEAPONS with bursting charge: UN Nos. 0006, 0321, 0412**

Ammunition consisting of a projectile with a bursting charge without means of initiation or with means of initiation containing two or more effective protective features; and a propelling charge with or without a primer. The term includes fixed (assembled) ammunition, semi-fixed (partially assembled) ammunition and separate loading ammunition when the components are packed together.

**CARTRIDGES FOR WEAPONS with bursting charge: UN Nos. 0005, 0007, 0348**

Ammunition consisting of a projectile with a bursting charge with means of initiation not containing two or more effective protective features; and a propelling charge with or without a primer. The term includes fixed (assembled) ammunition, semi-fixed (partially assembled) ammunition and separate loading ammunition when the components are packed together.

**CARTRIDGES, OIL WELL: UN Nos. 0277, 0278**

Articles consisting of a thin casing of fibreboard, metal or other material containing only propellant powder which projects a hardened projectile to perforate an oil well casing.

**NOTE:** *CHARGES, SHAPED are not included in this definition. They are listed separately.*

**CARTRIDGES, POWER DEVICE: UN Nos. 0275, 0276, 0323, 0381**

Articles designed to accomplish mechanical actions. They consist of a casing with a charge of deflagrating explosive and a means of ignition. The gaseous products of the deflagration produce inflation, linear or rotary motion or activate diaphragms, valves or switches or project fastening devices or extinguishing agents.

**CARTRIDGES, SIGNAL: UN Nos. 0054, 0312, 0405**

Articles designed to fire coloured flares or other signals from signal pistols, etc.

**CARTRIDGES, SMALL ARMS: UN Nos. 0417, 0339, 0012**

Ammunition consisting of a cartridge case fitted with a centre or rim fire primer and containing both a propelling charge and solid projectile. They are designed to be fired in

weapons of calibre not larger than 19.1 mm. Shot-gun cartridges of any calibre are included in this description.

**NOTE:** *CARTRIDGES, SMALL ARMS, BLANK, are not included in this definition. They are listed separately. Some military small arms cartridges are not included in this definition. They are listed under CARTRIDGES FOR WEAPONS, INERT PROJECTILE.*

CARTRIDGES, SMALL ARMS, BLANK: UN Nos. 0014, 0327, 0338

Ammunition consisting of a closed cartridge case with a centre or rim fire primer and a charge of smokeless or black powder. The cartridge cases contain no projectiles. The cartridges are designed to be fired from weapons with a calibre of at most 19.1 mm and serve to produce a loud noise and are used for training, saluting, propelling charge, starter pistols, etc.

CASES, CARTRIDGE, EMPTY, WITH PRIMER: UN Nos. 0379; 0055

Articles consisting of a cartridge case made from metal, plastics or other non-inflammable material, in which the only explosive component is the primer.

CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER: UN Nos. 0447, 0446

Articles consisting of a cartridge case made partly or entirely from nitrocellulose.

CHARGES, BURSTING, PLASTICS BONDED: UN Nos. 0457, 0458, 0459, 0460

Articles consisting of a charge of detonating explosive, plastics bonded, manufactured in a specific form without a casing and without means of initiation. They are designed as components of ammunition such as warheads.

CHARGES, DEMOLITION: UN No. 0048

Articles containing a charge of a detonating explosive in a casing of fibreboard, plastics, metal or other material. The articles are without means of initiation or with means of initiation containing two or more effective protective features.

**NOTE:** *The following articles: BOMBS; MINES; PROJECTILES are not included in this definition. They are listed separately.*

CHARGES, DEPTH: UN No. 0056

Articles consisting of a charge of detonating explosive contained in a drum or projectile without means of initiation or with means of initiation containing two or more effective protective features. They are designed to detonate under water.

CHARGES, EXPLOSIVE, COMMERCIAL without detonator: UN Nos. 0442, 0443, 0444, 0445

Articles consisting of a charge of detonating explosive without means of initiation, used for explosive welding, jointing, forming and other metallurgical processes.

CHARGES, PROPELLING, FOR CANNON: UN Nos. 0242, 0279, 0414

Charges of propellant in any physical form for separate-loading ammunition for cannon.



CHARGES, PROPELLING: UN Nos. 0271, 0272, 0415, 0491

Articles consisting of a charge of a propellant charge in any physical form, with or without a casing, as a component of rocket motors or for reducing the drag of projectiles.

CHARGES, SHAPED, without detonator: UN Nos. 0059, 0439, 0440, 0441

Articles consisting of a casing containing a charge of detonating explosive with a cavity lined with rigid material, without means of initiation. They are designed to produce a powerful, penetrating jet effect.

CHARGES, SHAPED, FLEXIBLE, LINEAR: UN Nos. 0237, 0288

Articles consisting of a V-shaped core of a detonating explosive clad by a flexible sheath.

CHARGES, SUPPLEMENTARY, EXPLOSIVE: UN No. 0060

Articles consisting of a small removable booster placed in the cavity of a projectile between the fuze and the bursting charge.

COMPONENTS, EXPLOSIVE TRAIN, N.O.S.: UN Nos. 0382, 0383, 0384, 0461

Articles containing an explosive designed to transmit detonation or deflagration within an explosive train.

CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge: UN Nos. 0248, 0249

Articles whose functioning depends upon physico-chemical reaction of their contents with water.

CORD, DETONATING, flexible: UN Nos. 0065, 0289

Article consisting of a core of detonating explosive enclosed in spun fabric and a plastics or other covering. The covering is not necessary if the spun fabric is sift-proof.

CORD (FUSE) DETONATING, metal clad: UN Nos. 0102, 0290

Article consisting of a core of detonating explosive clad by a soft metal tube with or without protective covering.

CORD (FUSE) DETONATING, MILD EFFECT, metal clad: UN No. 0104

Article consisting of a core of detonating explosive clad by a soft metal tube with or without a protective covering. The quantity of explosive substance is so small that only a mild effect is manifested outside the cord.

CORD, IGNITER: UN No. 0066

Article consisting of textile yarns covered with black powder or another fast burning pyrotechnic composition and of a flexible protective covering; or it consists of a core of black powder surrounded by a flexible woven fabric. It burns progressively along its length with an external flame and is used to transmit ignition from a device to a charge or primer.

**CUTTERS, CABLE, EXPLOSIVE: UN No. 0070**

Articles consisting of a knife-edged device which is driven by a small charge of deflagrating explosive into an anvil.

**DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting: UN Nos. 0360, 0361, 0500**

Non-electric detonators assembled with and activated by such means as safety fuse, shock tube, flash tube or detonating cord. They may be of instantaneous design or incorporate delay elements. Detonating relays incorporating detonating cord are included.

**DETONATORS, ELECTRIC for blasting: UN Nos. 0030, 0255, 0456**

Articles specially designed for the initiation of blasting explosives. These detonators may be constructed to detonate instantaneously or may contain a delay element. Electric detonators are activated by an electric current.

**DETONATORS FOR AMMUNITION: UN Nos. 0073, 0364, 0365, 0366**

Articles consisting of a small metal or plastics tube containing explosives such as lead azide, PETN or combinations of explosives. They are designed to start a detonation train.

**DETONATORS, NON-ELECTRIC for blasting: UN Nos. 0029, 0267, 0455**

Articles specially designed for the initiation of blasting explosives. These detonators may be constructed to detonate instantaneously or may contain a delay element. Non-electric detonators are activated by such means as shock tube, flash tube, safety fuse, other igniferous device or flexible detonating cord. Detonating relays without detonating cord are included.

**EXPLOSIVE, BLASTING, TYPE A: UN No. 0081**

Substances consisting of liquid organic nitrates such as nitroglycerine or a mixture of such ingredients with one or more of the following: nitrocellulose; ammonium nitrate or other inorganic nitrates; aromatic nitro-derivatives, or combustible materials, such as wood-meal and aluminium powder. They may contain inert components such as kieselguhr, and additives such as colouring agents and stabilizers. Such explosives shall be in powdery, gelatinous or elastic form. The term includes dynamite; gelatine, blasting and gelatine dynamites.

**EXPLOSIVE, BLASTING, TYPE B: UN Nos. 0082, 0331**

Substances consisting of

- (a) a mixture of ammonium nitrate or other inorganic nitrates with an explosive such as trinitrotoluene, with or without other substances such as wood-meal and aluminium powder; or
- (b) a mixture of ammonium nitrate or other inorganic nitrates with other combustible substances which are not explosive ingredients. In both cases they may contain inert components such as kieselguhr, and additives such as colouring agents and stabilizers. Such explosives must not contain nitroglycerine, similar liquid organic nitrates or chlorates.

**EXPLOSIVE, BLASTING, TYPE C: UN No. 0083**

Substances consisting of a mixture of either potassium or sodium chlorate or potassium, sodium or ammonium perchlorate with organic nitro-derivatives or combustible materials such as wood-meal or aluminium powder or a hydrocarbon. They may contain inert components such as kieselguhr and additives such as colouring agents and stabilizers. Such explosives must not contain nitroglycerine or similar liquid organic nitrates.

**EXPLOSIVE, BLASTING, TYPE D: UN No. 0084**

Substances consisting of a mixture of organic nitrated compounds and combustible materials such as hydrocarbons and aluminium powder. They may contain inert components such as kieselguhr and additives such as colouring agents and stabilizers. Such explosives must not contain nitroglycerine, similar liquid organic nitrates, chlorates and ammonium nitrate. The term generally includes plastic explosives.

**EXPLOSIVES, BLASTING, TYPE E: UN Nos. 0241, 0332**

Substances consisting of water as an essential ingredient and high proportions of ammonium nitrate or other oxidizers, some or all of which are in solution. The other constituents may include nitro-derivatives such as trinitrotoluene, hydrocarbons or aluminium powder. They may contain inert components such as kieselguhr and additives such as colouring agents and stabilizers. The term includes explosives, emulsion, explosives, slurry and explosives, watergel.

**FIREWORKS: UN Nos. 0333, 0334, 0335, 0336, 0337**

Pyrotechnic articles designed for entertainment.

**FLARES, AERIAL: UN Nos. 0093, 0403, 0404, 0420, 0421;**

Articles containing pyrotechnic substances which are designed to be dropped from an aircraft to illuminate, identify, signal or warn.

**FLARES, SURFACE: UN Nos. 0092, 0418, 0419**

Articles containing pyrotechnic substances which are designed for use on the surface to illuminate, identify, signal or warn.

**FLASH POWDER: UN Nos. 0094, 0305**

Pyrotechnic substance which, when ignited, produces an intense light.

**FRACTURING DEVICES, EXPLOSIVE without detonator, for oil wells: UN No. 0099**

Articles consisting of a charge of detonating explosive contained in a casing without means of initiation. They are used to fracture the rock around a drill shaft to assist the flow of crude oil from the rock.

**FUSE, IGNITER, tubular, metal clad: UN No. 0103**

Article consisting of a metal tube with a core of deflagrating explosive.

**FUSE, NON-DETONATING: UN No. 0101**

Article consisting of cotton yarns impregnated with fine black powder (quickmatch). It burns with an external flame and is used in ignition trains for fireworks, etc.

**FUSE, SAFETY: UN No. 0105**

Article consisting of a core of fine grained black powder surrounded by a flexible woven fabric with one or more protective outer coverings. When ignited, it burns at a predetermined rate without any external explosive effect.

**FUZES, DETONATING: UN Nos. 0106, 0107, 0257, 0367**

Articles with explosive components designed to produce a detonation in ammunition. They incorporate mechanical, electrical, chemical or hydrostatic components to initiate the detonation. They generally incorporate protective features.

**FUZES, DETONATING with protective features: UN Nos. 0408, 0409, 0410**

Articles with explosive components designed to produce a detonation in ammunition. They incorporate mechanical, electrical, chemical or hydrostatic components to initiate the detonation. The detonating fuze must incorporate two or more effective protective features.

**FUZES, IGNITING: UN Nos. 0316, 0317, 0368**

Articles with primary explosive components designed to produce a deflagration in ammunition. They incorporate mechanical, electrical, chemical or hydrostatic components to start the deflagration. They generally incorporate protective features.

**GRENADES, hand or rifle, with bursting charge: UN Nos. 0284, 0285**

Articles which are designed to be thrown by hand or to be projected by a rifle. They are without means of initiation or with means of initiation containing two or more effective protective features.

**GRENADES, hand or rifle, with bursting charge: UN Nos. 0292, 0293**

Articles which are designed to be thrown by hand or to be projected by a rifle. They are with means of initiation not containing two or more effective protective features.

**GRENADES, PRACTICE, hand or rifle: UN Nos. 0110, 0372, 0318, 0452**

Articles without a main bursting charge which are designed to be thrown by hand or to be projected by a rifle. They contain the priming device and may contain a spotting charge.

**HEXOTONAL: UN No. 0393**

Substance consisting of an intimate mixture of cyclotrimethylene-trinitramine (RDX), trinitrotoluene (TNT) and aluminium.

**HEXOLITE (HEXOTOL), dry or wetted with less than 15% water, by mass: UN No. 0118**

Substance consisting of an intimate mixture of cyclotrimethylene-trinitramine (RDX) and trinitrotoluene (TNT). The term includes "Composition B".

IGNITERS: UN Nos. 0121, 0314, 0315, 0325, 0454

Articles containing one or more explosive substances designed to produce a deflagration in an explosive train. They may be actuated chemically, electrically or mechanically.

**NOTE:** *The following articles: CORD, IGNITER; FUSE, IGNITER; FUSE, NON-DETONATING; FUZES, IGNITING; LIGHTERS, FUSE; PRIMERS, CAP TYPE; PRIMERS, TUBULAR are not included in this definition. They are listed separately.*

JET PERFORATING GUNS, CHARGED, oil well, without detonator: UN Nos. 0124, 0494

Articles consisting of a steel tube or metallic strip, into which are inserted shaped charges connected by detonating cord, without means of initiation.

LIGHTERS, FUSE: UN No. 0131

Articles of various design actuated by friction, percussion or electricity and used to ignite safety fuse.

MINES with bursting charge: UN Nos. 0137, 0138

Articles consisting normally of metal or composition receptacles filled with a detonating explosive, without means of initiation or with means of initiation containing two or more effective protective features. They are designed to be operated by the passage of ships, vehicles or personnel. The term includes "Bangalore torpedoes".

MINES with bursting charge: UN Nos. 0136, 0294

Articles consisting normally of metal or composition receptacles filled with a detonating explosive, with means of initiation not containing two or more effective protective features. They are designed to be operated by the passage of ships, vehicles or personnel. The term includes "Bangalore torpedoes".

OCTOLITE (OCTOL), dry or wetted with less than 15% water, by mass: UN No. 0266

Substance consisting of an intimate mixture of cyclotetramethylene-tetranitramine (HMX) and trinitrotoluene (TNT).

OCTONAL: UN No. 0496

Substance consisting of an intimate mixture of cyclotetramethylenetetranitramine (HMX), trinitrotoluene (TNT) and aluminium.

PENTOLITE, dry or wetted with less than 15% water, by mass: UN No. 0151

Substance consisting of an intimate mixture of pentaerythrite tetranitrate (PETN) and trinitrotoluene (TNT).

POWDER CAKE (POWDER PASTE), WETTED with not less than 17% alcohol, by mass;  
POWDER CAKE (POWDER PASTE), WETTED with not less than 25% water, by mass:  
UN Nos. 0433, 0159

Substance consisting of nitrocellulose impregnated with not more than 60% of nitroglycerine or other liquid organic nitrates or a mixture of these.

**POWDER, SMOKELESS: UN Nos. 0160, 0161**

Substance based on nitrocellulose used as propellant. The term includes propellants with a single base (nitrocellulose (NC) alone), those with a double base (such as NC and nitroglycerine/(NG)) and those with a triple base (such as NC/NG/nitroguanidine).

**NOTE:** *Cast, pressed or bag-charges of smokeless powder are listed under CHARGES, PROPELLING or CHARGES, PROPELLING, FOR CANON.*

**PRIMERS, CAP TYPE: UN Nos. 0044, 0377, 0378**

Articles consisting of a metal or plastics cap containing a small amount of primary explosive mixture that is readily ignited by impact. They serve as igniting elements in small arms cartridges and in percussion primers for propelling charges.

**PRIMERS, TUBULAR: UN Nos. 0319, 0320, 0376**

Articles consisting of a primer for ignition and an auxiliary charge of deflagrating explosive such as black powder used to ignite the propelling charge in a cartridge case for cannon, etc.

**PROJECTILES, inert with tracer: UN Nos. 0345, 0424, 0425**

Articles such as a shell or bullet, which are projected from a cannon or other gun, rifle or other small arm.

**PROJECTILES with burster or expelling charge: UN Nos. 0346, 0347**

Articles such as a shell or bullet, which are projected from a cannon or other gun. They are without means of initiation or with means of initiation containing two or more effective protective features. They are used to scatter dyes for spotting or other inert materials.

**PROJECTILES with burster or expelling charge: UN Nos. 0426, 0427**

Articles such as a shell or bullet, which are projected from a cannon or other gun. They are with means of initiation not containing two or more effective protective features. They are used to scatter dyes for spotting or other inert materials.

**PROJECTILES with burster or expelling charge: UN Nos. 0434, 0435**

Articles such as a shell or bullet, which are projected from a cannon or other gun, rifle or other small arm. They are used to scatter dyes for spotting or other inert materials.

**PROJECTILES with bursting charge: UN Nos. 0168, 0169, 0344**

Articles such as a shell or bullet, which are projected from a cannon or other gun. They are without means of initiation or with means of initiation containing two or more effective protective features.

**PROJECTILES with bursting charge: UN Nos. 0167, 0324**

Articles such as a shell or bullet, which are projected from a cannon or other gun. They are with means of initiation not containing two or more effective protective features.

**PROPELLANT, LIQUID: UN Nos. 0495, 0497**

Substance consisting of a deflagrating liquid explosive, used for propulsion.

**PROPELLANT, SOLID: UN Nos. 0498, 0499, 0501**

Substance consisting of a deflagrating solid explosive, used for propulsion.

**RELEASE DEVICES, EXPLOSIVE: UN No. 0173**

Articles consisting of a small charge of explosive with means of initiation and rods or links. They sever the rods or links to release equipment quickly.

**RIVETS, EXPLOSIVE: UN No. 0174**

Articles consisting of a small charge of explosive inside a metallic rivet.

**ROCKET MOTORS: UN Nos. 0186, 0280, 0281**

Articles consisting of a charge of explosive, generally a solid propellant, contained in a cylinder fitted with one or more nozzles. They are designed to propel a rocket or a guided missile.

**ROCKET MOTORS, LIQUID FUELLED: UN Nos. 0395, 0396**

Articles consisting of a liquid fuel within a cylinder fitted with one or more nozzles. They are designed to propel a rocket or a guided missile.

**ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge: UN Nos. 0322, 0250**

Articles consisting of a hypergolic fuel contained in a cylinder fitted with one or more nozzles. They are designed to propel a rocket or a guided missile.

**ROCKETS, LINE THROWING: UN Nos. 0238, 0240, 0453**

Articles consisting of a rocket motor which is designed to extend a line.

**ROCKETS, LIQUID FUELLED with bursting charge: UN Nos. 0397, 0398**

Articles consisting of a liquid fuel within a cylinder fitted with one or more nozzles and fitted with a warhead. The term includes guided missiles.

**ROCKETS with bursting charge: UN Nos. 0181, 0182**

Articles consisting of a rocket motor and a warhead without means of initiation or with means of initiation containing two or more effective protective features. The term includes guided missiles.

**ROCKETS with bursting charge: UN Nos. 0180, 0295**

Articles consisting of a rocket motor and a warhead with means of initiation not containing two or more effective protective features. The term includes guided missiles.

**ROCKETS with expelling charge: UN Nos. 0436, 0437, 0438**

Articles consisting of a rocket motor and a charge to expel the payload from a rocket head. The term includes guided missiles.

ROCKETS with inert head: UN Nos. 0183, 0502

Articles consisting of a rocket motor and an inert head. The term includes guided missiles.

SAMPLES, EXPLOSIVE, other than initiating explosive UN No. 0190

New or existing explosive substances or articles, not yet assigned to a name in Table A of Chapter 3.2 and carried in conformity with the instructions of the competent authority and generally in small quantities, *inter alia*, for the purposes of testing, classification, research and development, or quality control, or as commercial samples.

*NOTE: Explosive substances or articles already assigned to another name in Table A of Chapter 3.2 are not included in this definition.*

SIGNAL DEVICES, HAND: UN Nos. 0191, 0373

Portable articles containing pyrotechnic substances which produce visual signals or warnings. The term includes small surface flares such as highway or railway flares and small distress flares.

SIGNALS, DISTRESS, ship: UN Nos. 0194, 0195, 0505, 0506

Articles containing pyrotechnic substances designed to produce signals by means of sound, flame or smoke or any combination thereof.

SIGNALS, RAILWAY TRACK, EXPLOSIVE: UN Nos. 0192, 0193, 0492, 0493

Articles containing a pyrotechnic substance which explodes with a loud report when the article is crushed. They are designed to be placed on a rail.

SIGNALS, SMOKE: UN Nos. 0196, 0197, 0313, 0487, 0507

Articles containing pyrotechnic substances which emit smoke. In addition they may contain devices for emitting audible signals.

SOUNDING DEVICES, EXPLOSIVE: UN Nos. 0374, 0375

Articles consisting of a charge of detonating explosive, without means of initiation or with means of initiation containing two or more effective protective features. They are dropped from ships and function when they reach a predetermined depth or the sea bed.

SOUNDING DEVICES, EXPLOSIVE: UN Nos. 0204, 0296

Articles consisting of a charge of detonating explosive with means of initiation not containing two or more effective protective features. They are dropped from ships and function when they reach a predetermined depth or the sea bed.

SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE (Substances, EVI), N.O.S.: UN No. 0482

Substances presenting a mass explosion hazard but which are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of transport, and which have passed Test Series 5.



**TORPEDOES, LIQUID FUELLED with inert head: UN No. 0450**

Articles consisting of a liquid explosive system to propel the torpedo through the water, with an inert head.

**TORPEDOES, LIQUID FUELLED with or without bursting charge: UN No. 0449**

Articles consisting of either a liquid explosive system to propel the torpedo through the water, with or without a warhead; or a liquid non-explosive system to propel the torpedo through the water, with a warhead.

**TORPEDOES with bursting charge: UN No. 0451**

Articles consisting of a non-explosive system to propel the torpedo through the water, and a warhead without means of initiation or with means of initiation containing two or more effective protective features.

**TORPEDOES with bursting charge: UN No. 0329**

Articles consisting of an explosive system to propel the torpedo through the water, and a warhead without means of initiation or with means of initiation containing two or more effective protective features.

**TORPEDOES with bursting charge: UN No. 0330**

Articles consisting of an explosive or non-explosive system to propel the torpedo through the water, and a warhead with means of initiation not containing two or more effective protective features.

**TRACERS FOR AMMUNITION: UN Nos. 0212, 0306**

Sealed articles containing pyrotechnic substances, designed to reveal the trajectory of a projectile.

**TRITONAL: UN No. 0390**

Substance consisting of trinitrotoluene (TNT) mixed with aluminium.

**WARHEADS, ROCKET with burster or expelling charge: UN No. 0370**

Articles consisting of an inert payload and a small charge of detonating or deflagrating explosive, without means of initiation or with means of initiation containing two or more effective protective features. They are designed to be fitted to a rocket motor to scatter inert material. The term includes warheads for guided missiles.

**WARHEADS, ROCKET with burster or expelling charge: UN No. 0371**

Articles consisting of an inert payload and a small charge of detonating or deflagrating explosive, with means of initiation not containing two or more effective protective features. They are designed to be fitted to a rocket motor to scatter inert material. The term includes warheads for guided missiles.

WARHEADS, ROCKET with bursting charge: UN Nos. 0286, 0287

Articles consisting of a detonating explosive, without means of initiation or with means of initiation containing two or more effective protective features. They are designed to be fitted to a rocket. The term includes warheads for guided missiles.

WARHEADS, ROCKET with bursting charge: UN No. 0369

Articles consisting of a detonating explosive, with means of initiation not containing two or more effective protective features. They are designed to be fitted to a rocket. The term includes warheads for guided missiles.

WARHEADS, TORPEDO with bursting charge: UN No. 0221

Articles consisting of a detonating explosive, without means of initiation or with means of initiation containing two or more effective protective features. They are designed to be fitted to a torpedo.

**2.2.1.2      *Substances and articles not accepted for carriage***

2.2.1.2.1      Explosive substances which are unduly sensitive according to the criteria of the Manual of Tests and Criteria, Part I, or are liable to spontaneous reaction, as well as explosive substances and articles which cannot be assigned to a name or n.o.s. entry listed in Table A of Chapter 3.2, shall not be accepted for carriage.

2.2.1.2.2      Articles of compatibility group K shall not be accepted for carriage (1.2K, UN No. 0020 and 1.3K, UN No. 0021).

**2.2.1.3**      *List of collective entries*

| <b>Classification code<br/>(see 2.2.1.1.4)</b> | <b>UN<br/>No.</b>                    | <b>Name of the substance or article</b>   |
|--|--------------------------------------|---|
| <b>1.1A</b>                                    | 0473                                 | SUBSTANCES, EXPLOSIVE, N.O.S.   |
| <b>1.1B</b>                                    | 0461                                 | COMPONENTS, EXPLOSIVE TRAIN, N.O.S.   |
| <b>1.1C</b>                                    | 0474<br>0497<br>0498<br>0462         | SUBSTANCES, EXPLOSIVE, N.O.S.<br>PROPELLANT, LIQUID<br>PROPELLANT, SOLID<br>ARTICLES, EXPLOSIVE, N.O.S.   |
| <b>1.1D</b>                                    | 0475<br>0463                         | SUBSTANCES, EXPLOSIVE, N.O.S.<br>ARTICLES, EXPLOSIVE, N.O.S.  |
| <b>1.1E</b>                                    | 0464                                 | ARTICLES, EXPLOSIVE, N.O.S.   |
| <b>1.1F</b>                                    | 0465                                 | ARTICLES, EXPLOSIVE, N.O.S.   |
| <b>1.1G</b>                                    | 0476                                 | SUBSTANCES, EXPLOSIVE, N.O.S.   |
| <b>1.1L</b>                                    | 0357<br>0354                         | SUBSTANCES, EXPLOSIVE, N.O.S.<br>ARTICLES, EXPLOSIVE, N.O.S.  |
| <b>1.2B</b>                                    | 0382                                 | COMPONENTS, EXPLOSIVE TRAIN, N.O.S.   |
| <b>1.2C</b>                                    | 0466                                 | ARTICLES, EXPLOSIVE, N.O.S.   |
| <b>1.2D</b>                                    | 0467                                 | ARTICLES, EXPLOSIVE, N.O.S.   |
| <b>1.2E</b>                                    | 0468                                 | ARTICLES, EXPLOSIVE, N.O.S.   |
| <b>1.2F</b>                                    | 0469                                 | ARTICLES, EXPLOSIVE, N.O.S.   |
| <b>1.2L</b>                                    | 0358<br>0248<br>0355                 | SUBSTANCES, EXPLOSIVE, N.O.S.<br>CONTRIVANCES, WATER-ACTIVATED with burster, expelling<br>charge or propelling charge<br>ARTICLES, EXPLOSIVE, N.O.S.                          |
| <b>1.3C</b>                                    | 0132<br>0477<br>0495<br>0499<br>0470 | DEFLAGRATING METAL SALTS OF AROMATIC NITRO-<br>DERIVATIVES, N.O.S.<br>SUBSTANCES, EXPLOSIVE, N.O.S.<br>PROPELLANT, LIQUID<br>PROPELLANT, SOLID<br>ARTICLES, EXPLOSIVE, N.O.S. |
| <b>1.3G</b>                                    | 0478                                 | SUBSTANCES, EXPLOSIVE, N.O.S.   |
| <b>1.3L</b>                                    | 0359<br>0249<br>0356                 | SUBSTANCES, EXPLOSIVE, N.O.S.<br>CONTRIVANCES, WATER-ACTIVATED with burster, expelling<br>charge or propelling charge<br>ARTICLES, EXPLOSIVE, N.O.S.                          |
| <b>1.4B</b>                                    | 0350<br>0383                         | ARTICLES, EXPLOSIVE, N.O.S.<br>COMPONENTS, EXPLOSIVE TRAIN, N.O.S.  |
| <b>1.4C</b>                                    | 0479<br>0501<br>0351                 | SUBSTANCES, EXPLOSIVE, N.O.S.<br>PROPELLANT, SOLID<br>ARTICLES, EXPLOSIVE, N.O.S.   |

| Classification code<br>(see 2.2.1.1.4) | UN<br>No. | Name of the substance or article   |
|--|-----------|--|
| <b>1.4D</b>                            | 0480      | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|  | 0352      | ARTICLES, EXPLOSIVE, N.O.S.  |
| <b>1.4E</b>                            | 0471      | ARTICLES, EXPLOSIVE, N.O.S.  |
| <b>1.4F</b>                            | 0472      | ARTICLES, EXPLOSIVE, N.O.S.  |
| <b>1.4G</b>                            | 0485      | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|  | 0353      | ARTICLES, EXPLOSIVE, N.O.S.  |
| <b>1.4S</b>                            | 0481      | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|  | 0349      | ARTICLES, EXPLOSIVE, N.O.S.  |
|  | 0384      | COMPONENTS, EXPLOSIVE TRAIN, N.O.S.  |
| <b>1.5D</b>                            | 0482      | SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE<br>(SUBSTANCES, EVI) N.O.S.  |
| <b>1.6N</b>                            | 0486      | ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE<br>(ARTICLES, EEI)  |
|  | 0190      | SAMPLES, EXPLOSIVE other than initiating explosive<br><i><b>NOTE:</b> Division and Compatibility Group shall be defined as directed by<br/>the competent authority and according to the principles in 2.2.1.1.4.</i> |

**2.2.2            Class 2            Gases****2.2.2.1            Criteria**

2.2.2.1.1            The heading of Class 2 covers pure gases, mixtures of gases, mixtures of one or more gases with one or more other substances and articles containing such substances.

A gas is a substance which:

- (a)    at 50 °C has a vapour pressure greater than 300 kPa (3 bar); or
- (b)    is completely gaseous at 20 °C at the standard pressure of 101.3 kPa.

**NOTE 1:** *UN No. 1052 HYDROGEN FLUORIDE, ANHYDROUS is nevertheless classified in Class 8.*

**NOTE 2:** *A pure gas may contain other components deriving from its production process or added to preserve the stability of the product, provided that the level of these components does not change its classification or its conditions of carriage, such as filling ratio, filling pressure, test pressure.*

**NOTE 3:** *N.O.S. entries in 2.2.2.3 may cover pure gases as well as mixtures.*

**NOTE 4:** *Carbonated beverages are not subject to the provisions of ADR.*

2.2.2.1.2            The substances and articles of Class 2 are subdivided as follows:

1.    *Compressed gas:* a gas which when packaged under pressure for carriage is entirely gaseous at -50 °C; this category includes all gases with a critical temperature less than or equal to -50 °C;
2.    *Liquefied gas:* a gas which when packaged under pressure for carriage is partially liquid at temperatures above -50 °C. A distinction is made between:
  - High pressure liquefied gas:* a gas with a critical temperature above -50 °C and equal to or below +65 °C; and
  - Low pressure liquefied gas:* a gas with a critical temperature above +65 °C;
3.    *Refrigerated liquefied gas:* a gas which when packaged for carriage is made partially liquid because of its low temperature;
4.    *Dissolved gas:* a gas which when packaged under pressure for carriage is dissolved in a liquid phase solvent;
5.    Aerosol dispensers and receptacles, small, containing gas (gas cartridges);
6.    Other articles containing gas under pressure;
7.    Non-pressurized gases subject to special requirements (gas samples).

2.2.2.1.3 Substances and articles (except aerosols) of Class 2 are assigned to one of the following groups according to their hazardous properties, as follows:

- A asphyxiant;
- O oxidizing;
- F flammable;
- T toxic;
- TF toxic, flammable;
- TC toxic, corrosive;
- TO toxic, oxidizing;
- TFC toxic, flammable, corrosive;
- TOC toxic, oxidizing, corrosive.

For gases and gas mixtures presenting hazardous properties associated with more than one group according to the criteria, the groups designated by letter T take precedence over all other groups. The groups designated by letter F take precedence over the groups designated by letters A or O.

**NOTE 1:** In the UN Model Regulations, the IMDG Code and the ICAO Technical Instructions, gases are assigned to one of the following three divisions, based on the primary hazard:

- Division 2.1: flammable gases (corresponding to the groups designated by the capital letter F);
- Division 2.2: non-flammable, non-toxic gases (corresponding to the groups designated by the capital letters A or O);
- Division 2.3: toxic gases (corresponding to the groups designated by the capital letter T i.e. T, TF, TC, TO, TFC and TOC).

**NOTE 2:** Receptacles, small containing gas (UN No. 2037) shall be assigned to the groups A to TOC according to the hazard of the contents. For aerosols (UN No. 1950), see 2.2.2.1.6.

**NOTE 3:** Corrosive gases are considered to be toxic, and are therefore assigned to the group TC, TFC or TOC.

**NOTE 4:** Mixtures containing more than 21% oxygen by volume shall be classified as oxidizing.

2.2.2.1.4 If a mixture of Class 2 mentioned by name in Table A of Chapter 3.2 meets different criteria as mentioned in 2.2.2.1.2 and 2.2.2.1.5, this mixture shall be classified according to the criteria and assigned to an appropriate N.O.S. entry.

2.2.2.1.5 Substances and articles (except aerosols) of Class 2 which are not mentioned by name in Table A of Chapter 3.2 shall be classified under a collective entry listed in 2.2.2.3 in accordance with 2.2.2.1.2 and 2.2.2.1.3. The following criteria shall apply:

***Asphyxiant gases***

Gases which are non-oxidizing, non-flammable and non-toxic and which dilute or replace oxygen normally in the atmosphere.

***Flammable gases***

Gases which at 20 °C and a standard pressure of 101.3 kPa:

- (a) are ignitable when in a mixture of 13% or less by volume with air; or
- (b) have a flammable range with air of at least 12 percentage points regardless of the lower flammable limit.

Flammability shall be determined by tests or by calculation, in accordance with methods adopted by ISO (see ISO 10156:1996).

Where insufficient data are available to use these methods, tests by a comparable method recognized by the competent authority of the country of origin may be used.

If the country of origin is not a Contracting Party to ADR these methods shall be recognized by the competent authority of the first country Contracting Party to ADR reached by the consignment.

***Oxidizing gases***

Gases, which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does. Oxidizing ability is determined either by tests or by calculation methods adopted by ISO (see ISO 10156:1996 and ISO 10156-2:2005).

***Toxic gases***

**NOTE:** *Gases meeting the criteria for toxicity in part or completely owing to their corrosivity are to be classified as toxic. See also the criteria under the heading "Corrosive gases" for a possible subsidiary corrosivity risk.*

Gases which:

- (a) are known to be so toxic or corrosive to humans as to pose a hazard to health; or
- (b) are presumed to be toxic or corrosive to humans because they have a LC<sub>50</sub> value for acute toxicity equal to or less than 5 000 ml/m<sup>3</sup> (ppm) when tested in accordance with 2.2.61.1.

In the case of gas mixtures (including vapours of substances from other classes) the following formula may be used:

$$LC_{50} \text{ Toxic (mixture)} = \frac{1}{\sum_{i=1}^n \frac{f_i}{T_i}}$$

where  $f_i$  = mole fraction of the  $i^{\text{th}}$  component substance of the mixture;

$T_i$  = toxicity index of the  $i^{\text{th}}$  component substance of the mixture.

The  $T_i$  equals the  $LC_{50}$  value as found in packing instruction P200 of 4.1.4.1.

When no  $LC_{50}$  value is listed in packing instruction P200 of 4.1.4.1, a  $LC_{50}$  value available in scientific literature shall be used. When the  $LC_{50}$  value is unknown, the toxicity index is determined by using the lowest  $LC_{50}$  value of substances of similar physiological and chemical effects, or through testing if this is the only practical possibility.

### *Corrosive gases*

Gases or gas mixtures meeting the criteria for toxicity completely owing to their corrosivity are to be classified as toxic with a subsidiary corrosivity risk.

A gas mixture that is considered to be toxic due to the combined effects of corrosivity and toxicity has a subsidiary risk of corrosivity when the mixture is known by human experience to be destructive to the skin, eyes or mucous membranes or when the  $LC_{50}$  value of the corrosive components of the mixture is equal to or less than 5 000 ml/m<sup>3</sup> (ppm) when the  $LC_{50}$  is calculated by the formula:

$$LC_{50} \text{ Corrosive (mixture)} = \frac{1}{\sum_{i=1}^n \frac{f_{ci}}{T_{ci}}}$$

where  $f_{ci}$  = mole fraction of the  $i^{\text{th}}$  corrosive component substance of the mixture;

$T_{ci}$  = toxicity index of the  $i^{\text{th}}$  corrosive component substance of the mixture.

The  $T_{ci}$  equals the  $LC_{50}$  value as found in packing instruction P200 of 4.1.4.1.

When no  $LC_{50}$  value is listed in packing instruction P200 of 4.1.4.1, a  $LC_{50}$  value available in scientific literature shall be used.

When the  $LC_{50}$  value is unknown the toxicity index is determined by using the lowest  $LC_{50}$  value of substances of similar physiological and chemical effects, or through testing if this is the only practical possibility.

### 2.2.2.1.6 *Aerosols*

Aerosols (UN No. 1950) are assigned to one of the following groups according to their hazardous properties, as follows:

- A asphyxiant;
- O oxidizing;
- F flammable;
- T toxic;



|     |                              |
|-----|------------------------------|
| C   | corrosive;                   |
| CO  | corrosive, oxidizing;        |
| FC  | flammable, corrosive;        |
| TF  | toxic, flammable;            |
| TC  | toxic, corrosive;            |
| TO  | toxic, oxidizing;            |
| TFC | toxic, flammable, corrosive; |
| TOC | toxic, oxidizing, corrosive. |

The classification depends on the nature of the contents of the aerosol dispenser.

**NOTE:** *Gases, which meet the definition of toxic gases according to 2.2.2.1.5 or of pyrophoric gases according to packing instruction P200 in 4.1.4.1, shall not be used as a propellant in an aerosol dispenser. Aerosols with contents meeting the criteria for packing group I for toxicity or corrosivity shall not be accepted for carriage (see also 2.2.2.2.2).*

The following criteria shall apply:

- (a) Assignment to group A shall apply when the contents do not meet the criteria for any other group according to sub-paragraphs (b) to (f) below;
- (b) Assignment to group O shall apply when the aerosol contains an oxidizing gas according to 2.2.2.1.5;
- (c) Assignment to group F shall apply if the contents include 85% by mass or more flammable components and the chemical heat of combustion is 30 kJ/g or more.

It shall not apply if the contents contain 1% by mass or less flammable components and the heat of combustion is less than 20 kJ/g.

Otherwise the aerosol shall be tested for flammability in accordance with the tests described in the *Manual of Tests and Criteria*, Part III, section 31. Extremely flammable and flammable aerosols shall be assigned to group F;

**NOTE:** *Flammable components are flammable liquids, flammable solids or flammable gases and gas mixtures as defined in Notes 1 to 3 of sub-section 31.1.3 of Part III of the Manual of Tests and Criteria. This designation does not cover pyrophoric, self-heating or water-reactive substances. The chemical heat of combustion shall be determined by one of the following methods ASTM D 240, ISO/FDIS 13943: 1999 (E/F) 86.1 to 86.3 or NFPA 30B.*

- (d) Assignment to group T shall apply when the contents, other than the propellant of aerosol dispensers to be ejected, are classified as Class 6.1, packing groups II or III;
- (e) Assignment to group C shall apply when the contents, other than the propellant of aerosol dispensers to be ejected, meet the criteria for Class 8, packing groups II or III;
- (f) When the criteria for more than one group amongst groups O, F, T, and C are met, assignment to groups CO, FC, TF, TC TO, TFC or TOC shall apply, as relevant.

**2.2.2.2      *Gases not accepted for carriage***

2.2.2.2.1      Chemically unstable substances of Class 2 shall not be accepted for carriage, unless the necessary steps have been taken to prevent all possibility of a dangerous reaction e.g. decomposition, dismutation or polymerisation under normal conditions during transport. To this end particular care shall be taken to ensure that receptacles and tanks do not contain any substances liable to promote these reactions.

2.2.2.2.2      The following substances and mixtures shall not be accepted for carriage:

- UN No. 2186 HYDROGEN CHLORIDE, REFRIGERATED LIQUID;
- UN No. 2421 NITROGEN TRIOXIDE;
- UN No. 2455 METHYL NITRITE;
- Refrigerated liquefied gases which cannot be assigned to classification codes 3A, 3O or 3F;
- Dissolved gases which cannot be classified under UN Nos. 1001, 2073 or 3318;
- Aerosols where gases which are toxic according to 2.2.2.1.5 or pyrophoric according to packing instruction P200 in 4.1.4.1 are used as propellants;
- Aerosols with contents meeting the criteria for packing group I for toxicity or corrosivity (see 2.2.61 and 2.2.8);
- Receptacles, small, containing gases which are very toxic (LC<sub>50</sub> lower than 200 ppm) or pyrophoric according to packing instruction P200 in 4.1.4.1.

2.2.2.3 *List of collective entries*

| Compressed gases    |        |   |
|---------------------|--------|---|
| Classification code | UN No. | Name of the substance or article                    |
| <b>1 A</b>          | 1956   | COMPRESSED GAS, N.O.S.                              |
| <b>1 O</b>          | 3156   | COMPRESSED GAS, OXIDIZING, N.O.S.                   |
| <b>1 F</b>          | 1964   | HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.         |
|                     | 1954   | COMPRESSED GAS, FLAMMABLE, N.O.S.                   |
| <b>1 T</b>          | 1955   | COMPRESSED GAS, TOXIC, N.O.S.                       |
| <b>1 T F</b>        | 1953   | COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.            |
| <b>1 T C</b>        | 3304   | COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S.            |
| <b>1 T O</b>        | 3303   | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S.            |
| <b>1 T F C</b>      | 3305   | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. |
| <b>1 T O C</b>      | 3306   | COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. |

| Liquefied gases     |        |   |
|---------------------|--------|---|
| Classification code | UN No. | Name of the substance or article  |
| <b>2 A</b>          | 1058   | LIQUEFIED GASES, non-flammable, charged with nitrogen, carbon dioxide or air<br>REFRIGERANT GAS, N.O.S.<br>such as mixtures of gases, indicated by the letter R..., which as:<br>Mixture F1, have a vapour pressure at 70 °C not exceeding 1.3 MPa (13 bar) and a density at 50 °C not lower than that of dichlorofluoromethane (1.30 kg/l);<br>Mixture F2, have a vapour pressure at 70 °C not exceeding 1.9 MPa (19 bar) and a density at 50 °C not lower than that of dichlorodifluoromethane (1.21 kg/l);<br>Mixture F3, have a vapour pressure at 70 °C not exceeding 3 MPa (30 bar) and a density at 50 °C not lower than that of chlorodifluoromethane (1.09 kg/l).<br><i><b>NOTE:</b> Trichlorofluoromethane (Refrigerant R 11), 1,1,2-trichloro-1,2,2-trifluoroethane (Refrigerant R 113), 1,1,1-trichloro-2,2,2-trifluoroethane (Refrigerant R 113a), 1-chloro-1,2,2-trifluoroethane (Refrigerant R 133) and 1-chloro-1,1,2-trifluoroethane (Refrigerant R 133b) are not substances of Class 2. They may, however, enter into the composition of mixtures F1 to F3.</i> |
|                     | 1078   |   |
|                     | 1968   |   |
|                     | 3163   |   |
| <b>2 O</b>          | 3157   | LIQUEFIED GAS, OXIDIZING, N.O.S.  |
| <b>2 F</b>          | 1010   | BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, having a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l.<br><i><b>NOTE:</b> Butadienes, stabilized are also classified under UN No. 1010, see Table A of Chapter 3.2.</i>   |
|                     | 1060   |   |

| Liquefied gases (cont'd) |        |   |
|--------------------------|--------|---|
| Classification code      | UN No. | Name of the substance or article  |
| <b>2 F</b><br>(cont'd)   | 1965   | HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.<br>such as mixtures, which as:<br>Mixture A, have a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l;<br>Mixture A01, have a vapour pressure at 70 °C not exceeding 1.6 MPa (16 bar) and a relative density at 50 °C not lower than 0.516 kg/l;<br>Mixture A02, have a vapour pressure at 70 °C not exceeding 1.6 MPa (16 bar) and a relative density at 50 °C not lower than 0.505 kg/l;<br>Mixture A0, have a vapour pressure at 70 °C not exceeding 1.6 MPa (16 bar) and a density at 50 °C not lower than 0.495 kg/l;<br>Mixture A1, have a vapour pressure at 70 °C not exceeding 2.1 MPa (21 bar) and a density at 50 °C not lower than 0.485 kg/l;<br>Mixture B1 have a vapour pressure at 70 °C not exceeding 2.6 MPa (26 bar) and a relative density at 50 °C not lower than 0.474 kg/l;<br>Mixture B2 have a vapour pressure at 70 °C not exceeding 2.6 MPa (26 bar) and a relative density at 50 °C not lower than 0.463 kg/l;<br>Mixture B, have a vapour pressure at 70 °C not exceeding 2.6 MPa (26 bar) and a density at 50 °C not lower than 0.450 kg/l;<br>Mixture C, have a vapour pressure at 70 °C not exceeding 3.1 MPa (31 bar) and a relative density at 50 °C not lower than 0.440 kg/l;<br><b>NOTE 1:</b> In the case of the foregoing mixtures, the use of the following names customary in the trade is permitted for describing these substances: for mixtures A, A01, A02 and A0: BUTANE; for mixture C: PROPANE.<br><b>NOTE 2:</b> UN No. 1075 PETROLEUM GASES, LIQUEFIED may be used as an alternative entry for UN No. 1965 HYDROCARBON GAS MIXTURE LIQUEFIED, N.O.S. for carriage prior to or following maritime or air carriage. |
|                          | 3354   | INSECTICIDE GAS, FLAMMABLE, N.O.S.  |
|                          | 3161   | LIQUEFIED GAS, FLAMMABLE, N.O.S.  |
|                          |        |   |
| <b>2 T</b>               | 1967   | INSECTICIDE GAS, TOXIC, N.O.S.  |
|                          | 3162   | LIQUEFIED GAS, TOXIC, N.O.S.  |
| <b>2 TF</b>              | 3355   | INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.   |
|                          | 3160   | LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S.   |
| <b>2 TC</b>              | 3308   | LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.   |
| <b>2 TO</b>              | 3307   | LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S.   |
| <b>2 TFC</b>             | 3309   | LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.  |
| <b>2 TOC</b>             | 3310   | LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.  |

| Refrigerated liquefied gases |        |   |
|------------------------------|--------|---|
| Classification code          | UN No. | Name of the substance or article            |
| <b>3 A</b>                   | 3158   | GAS, REFRIGERATED LIQUID, N.O.S.            |
| <b>3 O</b>                   | 3311   | GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S. |
| <b>3 F</b>                   | 3312   | GAS, REFRIGERATED LIQUID, FLAMMABLE, N.O.S. |

| Dissolved gases     |        |   |
|---------------------|--------|---|
| Classification code | UN No. | Name of the substance or article  |
| <b>4</b>            |        | Only substances listed in Table A of Chapter 3.2 are to be accepted for carriage. |

| <b>Aerosols and receptacles, small, containing gas</b> |               |   |
|--|---------------|---|
| <b>Classification code</b>                             | <b>UN No.</b> | <b>Name of the substance or article</b>   |
| <b>5</b>   | 1950          | AEROSOLS  |
|  | 2037          | RECEPTACLES, SMALL CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable |

| <b>Other articles containing gas under pressure</b> |               |   |
|---|---------------|---|
| <b>Classification code</b>                          | <b>UN No.</b> | <b>Name of the substance or article</b>   |
| <b>6A</b>   | 2857          | REFRIGERATING MACHINES containing non-flammable, non-toxic gases or ammonia solutions (UN 2672) |
|   | 3164          | ARTICLES, PRESSURIZED, PNEUMATIC (containing non-flammable gas) or                              |
|   | 3164          | ARTICLES, PRESSURIZED, HYDRAULIC (containing non-flammable gas)                                 |
| <b>6F</b>   | 3150          | DEVICES, SMALL, HYDROCARBON GAS POWERED or  |
|   | 3150          | HYDROCARBON GAS REFILLS FOR SMALL DEVICES, with release device                                  |
|   | 3478          | FUEL CELL CARTRIDGES, containing liquefied flammable gas or                                     |
|   | 3478          | FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT, containing liquefied flammable gas or              |
|   | 3478          | FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing liquefied flammable gas                  |
|   | 3479          | FUEL CELL CARTRIDGES, containing hydrogen in metal hydride or                                   |
|   | 3479          | FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT, containing hydrogen in metal hydride or            |
|   | 3479          | FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing hydrogen in metal hydride                |

| <b>Gas samples</b>         |               |  |
|----------------------------|---------------|--|
| <b>Classification code</b> | <b>UN No.</b> | <b>Name of the substance or article</b>  |
| <b>7 F</b>                 | 3167          | GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, N.O.S., not refrigerated liquid        |
| <b>7 T</b>                 | 3169          | GAS SAMPLE, NON-PRESSURIZED, TOXIC, N.O.S., not refrigerated liquid            |
| <b>7 TF</b>                | 3168          | GAS SAMPLE, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S., not refrigerated liquid |

**2.2.3 Class 3 Flammable liquids****2.2.3.1 Criteria**

2.2.3.1.1 The heading of Class 3 covers substances and articles containing substances of this Class which:

- are liquids according to subparagraph (a) of the definition for "liquid" in 1.2.1;
- have at 50 °C a vapour pressure of not more than 300 kPa (3 bar) and are not completely gaseous at 20 °C and at standard pressure of 101.3 kPa; and
- have a flash-point of not more than 60 °C (see 2.3.3.1 for the relevant test).

The heading of Class 3 also covers liquid substances and molten solid substances with a flash-point of more than 60°C and which are carried or handed over for carriage whilst heated at temperatures equal to or higher than their flash-point. These substances are assigned to UN No. 3256.

The heading of Class 3 also covers liquid desensitized explosives. Liquid desensitized explosives are explosive substances which are dissolved or suspended in water or other liquid substances, to form an homogeneous liquid mixture to suppress their explosive properties. Such entries in Table A of Chapter 3.2 are UN Nos. 1204, 2059, 3064, 3343, 3357 and 3379.

**NOTE 1:** *Substances having a flash-point above 35 °C, non-toxic and non-corrosive, which do not sustain combustion according to the criteria of sub-section 32.2.5 of Part III of the Manual of Tests and Criteria, are not substances of Class 3; if, however, these substances are handed over for carriage and carried whilst heated at temperatures equal to or higher than their flash-point, they are substances of Class 3.*

**NOTE 2:** *By derogation from paragraph 2.2.3.1.1 above, diesel fuel, gasoil, heating oil (light) having a flash-point above 60 °C and not more than 100 °C shall be deemed substances of Class 3, UN No. 1202.*

**NOTE 3:** *Liquids which are highly toxic on inhalation, having a flash-point below 23 °C and toxic substances, having a flash-point of 23 °C or above are substances of Class 6.1 (see 2.2.61.1).*

**NOTE 4:** *Flammable liquid substances and preparations used as pesticides, which are highly toxic, toxic or slightly toxic and have a flash-point of 23 °C or above are substances of Class 6.1 (see 2.2.61.1).*

2.2.3.1.2 The substances and articles of Class 3 are subdivided as follows:

F Flammable liquids, without subsidiary risk:

- F1 Flammable liquids having a flash-point of or below 60 °C;
- F2 Flammable liquids having a flash-point above 60 °C which are carried or handed over for carriage at or above their flash-point (elevated temperature substances);

FT Flammable liquids, toxic:

- FT1 Flammable liquids, toxic;
- FT2 Pesticides;

FC Flammable liquids, corrosive;

FTC Flammable liquids, toxic, corrosive;

D Liquid desensitized explosives.

- 2.2.3.1.3 Substances and articles classified in Class 3 are listed in Table A of Chapter 3.2. Substances not mentioned by name in Table A of Chapter 3.2 shall be assigned to the relevant entry of 2.2.3.3 and the relevant packing group in accordance with the provisions of this section. Flammable liquids shall be assigned to one of the following packing groups according to the degree of danger they present for carriage:

| Packing group    | Flash point (closed cup)                          | Initial boiling point     |
|------------------|---|---------------------------|
| I                | --  | $\leq 35^{\circ}\text{C}$ |
| II <sup>a</sup>  | $< 23^{\circ}\text{C}$                            | $> 35^{\circ}\text{C}$    |
| III <sup>a</sup> | $\geq 23^{\circ}\text{C} \leq 60^{\circ}\text{C}$ | $> 35^{\circ}\text{C}$    |

<sup>a</sup> See also 2.2.3.1.4.

For a liquid with (a) subsidiary risk(s), the packing group determined in accordance with the table above and the packing group based on the severity of the subsidiary risk(s) shall be considered; the classification and packing group shall then be determined in accordance with the table of precedence of hazards in 2.1.3.10.

- 2.2.3.1.4 Liquid or viscous mixtures and preparations, including those containing no more than 20% nitrocellulose with a nitrogen content not exceeding 12.6% (by dry mass), shall be assigned to packing group III only if the following requirements are met:

- (a) the height of the separated layer of solvent is less than 3% of the total height of the sample in the solvent-separation test (see Manual of Tests and Criteria, Part III, sub-section 32.5.1); and
- (b) the viscosity<sup>2</sup> and flash-point are in accordance with the following table:

| Kinematic viscosity<br>(extrapolated) $\nu$ (at near-zero shear rate)<br>$\text{mm}^2/\text{s}$ at $23^{\circ}\text{C}$ | Flow time $t$ in accordance<br>with ISO 2431:1993 |                    | Flash-point<br>in $^{\circ}\text{C}$ |
|---|---|--------------------|--------------------------------------|
|   | in s  | Jet diameter in mm |                                      |
| $20 < \nu \leq 80$  | $20 < t \leq 60$                                  | 4                  | above 17                             |
| $80 < \nu \leq 135$   | $60 < t \leq 100$                                 | 4                  | above 10                             |
| $135 < \nu \leq 220$  | $20 < t \leq 32$                                  | 6                  | above 5                              |
| $220 < \nu \leq 300$  | $32 < t \leq 44$                                  | 6                  | above -1                             |
| $300 < \nu \leq 700$  | $44 < t \leq 100$                                 | 6                  | above -5                             |
| $700 < \nu$   | $100 < t$   | 6                  | -5 and below                         |

<sup>2</sup> *Viscosity determination: Where the substance concerned is non-Newtonian, or where a flow cup method of viscosity determination is otherwise unsuitable, a variable shear-rate viscometer shall be used to determine the dynamic viscosity coefficient of the substance, at  $23^{\circ}\text{C}$ , at a number of shear rates. The values obtained are plotted against shear rate and then extrapolated to zero shear rate. The dynamic viscosity thus obtained, divided by the density, gives the apparent kinematic viscosity at near-zero shear rate.*

**NOTE:** Mixtures containing more than 20% but not more than 55% nitrocellulose with a nitrogen content not exceeding 12.6% by dry mass are substances assigned to UN No. 2059.

Mixtures having a flash-point below 23 °C and containing:

- more than 55% nitrocellulose, whatever their nitrogen content; or
- not more than 55% nitrocellulose with a nitrogen content above 12.6% by dry mass,

are substances of Class 1 (UN Nos. 0340 or 0342) or of Class 4.1 (UN Nos. 2555, 2556 or 2557).

2.2.3.1.5 Non-toxic, non-corrosive and non-environmentally hazardous solutions and homogeneous mixtures having a flash-point of 23 °C or above (viscous substances, such as paints or varnishes, excluding substances containing more than 20% nitrocellulose) packed in receptacles of less than 450 litres capacity, are not subject to ADR if, in the solvent-separation test (see Manual of Tests and Criteria, Part III, sub-section 32.5.1), the height of the separated layer of solvent is less than 3% of the total height, and if the substances at 23 °C have, in the flow cup conforming to ISO 2431:1993 having a jet 6 mm in diameter, a flow time of:

- (a) not less than 60 seconds; or
- (b) not less than 40 seconds and contain not more than 60% of substances of Class 3.

2.2.3.1.6 If substances of Class 3, as a result of admixtures, come into categories of risk different from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures or solutions shall be assigned to the entries to which they belong on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes) see also 2.1.3.

2.2.3.1.7 On the basis of the test procedures in accordance with 2.3.3.1 and 2.3.4, and the criteria set out in 2.2.3.1.1, it may also be determined whether the nature of a solution or a mixture mentioned by name or containing a substance mentioned by name is such that the solution or mixture is not subject to the provisions for this Class (see also 2.1.3).

## **2.2.3.2 Substances not accepted for carriage**

2.2.3.2.1 Substances of Class 3 which are liable to form peroxides easily (as happens with ethers or with certain heterocyclic oxygenated substances) shall not be accepted for carriage if their peroxide content, calculated as hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>), exceeds 0.3%. The peroxide content shall be determined as indicated in 2.3.3.2.

2.2.3.2.2 The chemically unstable substances of Class 3 shall not be accepted for carriage unless the necessary steps have been taken to prevent their dangerous decomposition or polymerization during carriage. To this end, it shall be ensured in particular that receptacles and tanks do not contain any substance liable to promote these reactions.

2.2.3.2.3 Liquid desensitized explosives other than those listed in Table A of Chapter 3.2 shall not be accepted for carriage as substances of Class 3.



### 2.2.3.3

|                          |   |
|--------------------------|---|
| <b>Flammable liquids</b> | 1133 ADHESIVES containing flammable liquid<br>1136 COAL TAR DISTILLATES, FLAMMABLE<br>1139 COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining)<br>1169 EXTRACTS, AROMATIC, LIQUID<br>1197 EXTRACTS, FLAVOURING, LIQUID<br>1210 PRINTING INK, flammable or<br>1210 PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable<br>1263 PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or<br>1263 PAINT RELATED MATERIAL (including paint thinning or reducing compound)<br>1266 PERFUMERY PRODUCTS with flammable solvents<br>1293 TINCTURES, MEDICINAL<br>1306 WOOD PRESERVATIVES, LIQUID<br>1866 RESIN SOLUTION, flammable<br>1999 TARS, LIQUID, including road asphalt and oils, bitumen and cut backs<br>3065 ALCOHOLIC BEVERAGES<br>3269 POLYESTER RESIN KITS<br>1224 KETONES, LIQUID, N.O.S.<br>1268 PETROLEUM DISTILLATES, N.O.S. or<br>1268 PETROLEUM PRODUCTS, N.O.S.<br>1987 ALCOHOLS, N.O.S.<br>1989 ALDEHYDES, N.O.S.<br>2319 TERPENE HYDROCARBONS, N.O.S.<br>3271 ETHERS, N.O.S.<br>3272 ESTERS, N.O.S.<br>3295 HYDROCARBONS, LIQUID, N.O.S.<br>3336 MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or<br>3336 MERCAPTANS MIXTURE, LIQUID, FLAMMABLE, N.O.S.<br>1993 FLAMMABLE LIQUID, N.O.S. |
|                          | 3256 ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S., with flash-point above 60 °C, at or above its flash-point  |

(cont'd on next page)

2.2.3.3 *List of collective entries (cont'd)*

|                                      |   |  |
|--------------------------------------|---|--|
| <b>Toxic</b><br><b>FT</b>            | <b>FT1</b>  | 1228 MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. or<br>1228 MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.<br>1986 ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.<br>1988 ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.<br>2478 ISOCYANATES, FLAMMABLE, TOXIC, N.O.S. or<br>2478 ISOCYANATE SOLUTION, FLAMMABLE, TOXIC, N.O.S.<br>3248 MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.<br>3273 NITRILES, FLAMMABLE, TOXIC, N.O.S.<br>1992 FLAMMABLE LIQUID, TOXIC, N.O.S.   |
|                                      |   |  |
|                                      | <b>FT2</b><br><b>pesticide</b><br><b>(f.p&lt;23 °C)</b> | 2758 CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>2760 ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>2762 ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>2764 TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>2772 THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>2776 COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>2778 MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>2780 SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>2782 BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>2784 ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>2787 ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>3024 COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>3346 PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC<br>3350 PYRETHROID PESTICIDE, LIQUID, FLAMMABLE TOXIC<br>3021 PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S.<br><i><b>NOTE:</b> The classification of a pesticide under an entry shall be effected on the basis of the active ingredient, of the physical state of the pesticide and any subsidiary risks it may exhibit.</i> |
|                                      |   |  |
| <b>Corrosive</b>                     | <b>FC</b>   | 3469 PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or<br>3469 PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning or reducing compound)<br>2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S. or<br>2733 POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.<br>2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.<br>3274 ALCOHOLATES SOLUTION, N.O.S., in alcohol<br>2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.  |
|                                      |   |  |
| <b>Toxic, corrosive</b>              | <b>FTC</b>  | 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.  |
| <b>Liquid desensitised explosive</b> | <b>D</b>  | 3343 NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, FLAMMABLE, N.O.S. with not more than 30% nitroglycerin by mass<br>3357 NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, N.O.S. with not more than 30% nitroglycerin by mass<br>3379 DESENSITIZED EXPLOSIVE, LIQUID, N.O.S.   |

**2.2.41      Class 4.1      Flammable solids, self-reactive substances and solid desensitized explosives**

**2.2.41.1      *Criteria***

2.2.41.1.1      The heading of Class 4.1 covers flammable substances and articles, desensitized explosives which are solids according to subparagraph (a) of the definition "solid" in 1.2.1 and self-reactive liquids or solids.

The following are assigned to Class 4.1:

- readily flammable solid substances and articles (see paragraphs 2.2.41.1.3 to 2.2.41.1.8);
- self-reactive solids or liquids (see paragraphs 2.2.41.1.9 to 2.2.41.1.17);
- solid desensitized explosives (see 2.2.41.1.18);
- substances related to self-reactive substances (see 2.2.41.1.19).

2.2.41.1.2      The substances and articles of Class 4.1 are subdivided as follows:

F      Flammable solids, without subsidiary risk:

- F1      Organic;
- F2      Organic, molten;
- F3      Inorganic;

FO      Flammable solids, oxidizing;

FT      Flammable solids, toxic:

- FT1      Organic, toxic;
- FT2      Inorganic, toxic;

FC      Flammable solids, corrosive:

- FC1      Organic, corrosive;
- FC2      Inorganic, corrosive;

D      Solid desensitized explosives without subsidiary risk;

DT      Solid desensitized explosives, toxic;

SR      Self-reactive substances:

- SR1      Not requiring temperature control;
- SR2      Requiring temperature control.

***Flammable solids****Definition and properties*

- 2.2.41.1.3 *Flammable solids* are readily combustible solids and solids which may cause fire through friction.

*Readily combustible solids* are powdered, granular, or pasty substances which are dangerous if they can be easily ignited by brief contact with an ignition source, such as a burning match, and if the flame spreads rapidly. The danger may come not only from the fire but also from toxic combustion products. Metal powders are especially dangerous because of the difficulty of extinguishing a fire since normal extinguishing agents such as carbon dioxide or water can increase the hazard.

*Classification*

- 2.2.41.1.4 Substances and articles classified as flammable solids of Class 4.1 are listed in Table A of Chapter 3.2. The assignment of organic substances and articles not mentioned by name in Table A of Chapter 3.2 to the relevant entry of sub-section 2.2.41.3 in accordance with the provisions of Chapter 2.1 can be based on experience or on the results of the test procedures in accordance with Part III, sub-section 33.2.1 of the Manual of Tests and Criteria. The assignment of inorganic substances not mentioned by name shall be based on the results of the test procedures in accordance with Part III, sub-section 33.2.1 of the Manual of Tests and Criteria; experience shall also be taken into account when it leads to a more stringent assignment.

- 2.2.41.1.5 When substances not mentioned by name are assigned to one of the entries listed in 2.2.41.3 on the basis of the test procedures in accordance with the Manual of Tests and Criteria, Part III, sub-section 33.2.1, the following criteria apply:

- (a) With the exception of metal powders or powders of metal alloys, powdery, granular or pasty substances shall be classified as readily flammable substances of Class 4.1 if they can be easily ignited by brief contact with an ignition source (e.g. a burning match), or if, in the event of ignition, the flame spreads rapidly, the burning time is less than 45 seconds for a measured distance of 100 mm or the rate of burning is greater than 2.2 mm/s;
- (b) Metal powders or powders of metal alloys shall be assigned to Class 4.1 if they can be ignited by a flame and the reaction spreads over the whole length of the sample in 10 minutes or less.

Solids which may cause fire through friction shall be classified in Class 4.1 by analogy with existing entries (e.g. matches) or in accordance with any appropriate special provision.

- 2.2.41.1.6 On the basis of the test procedure in accordance with the Manual of Tests and Criteria, Part III, Section 33.2.1 and the criteria set out in 2.2.41.1.4 and 2.2.41.1.5, it may also be determined whether the nature of a substance mentioned by name is such that the substance is not subject to the provisions for this Class.

- 2.2.41.1.7 If substances of Class 4.1, as a result of admixtures, come into different categories of risk from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures shall be assigned to the entries to which they belong on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes), see also 2.1.3.

*Assignment of packing groups*

2.2.41.1.8 Flammable solids classified under the various entries in Table A of Chapter 3.2 shall be assigned to packing groups II or III on the basis of test procedures of the Manual of Tests and Criteria, Part III, sub-section 33.2.1, in accordance with the following criteria:

- (a) Readily flammable solids which, when tested, have a burning time of less than 45 seconds over a measured distance of 100 mm shall be assigned to:

Packing group II: if the flame passes the wetted zone;

Packing group III: if the wetted zone stops the flame for at least four minutes;

- (b) Metal powders or powders of metal alloys shall be assigned to:

Packing group II: if, when tested, the reaction spreads over the whole length of the sample in five minutes or less;

Packing group III: if, when tested, the reaction spreads over the whole length of the sample in more than five minutes.

For solids which may cause fire through friction, the packing group shall be assigned by analogy with existing entries or in accordance with any special provision.

*Self-reactive substances**Definitions*

2.2.41.1.9 For the purposes of ADR, *self-reactive substances* are thermally unstable substances liable to undergo a strongly exothermic decomposition even without participation of oxygen (air). Substances are not considered to be self-reactive substances of Class 4.1, if:

- (a) they are explosives according to the criteria of Class 1;
- (b) they are oxidizing substances according to the classification procedure for Class 5.1 (see 2.2.51.1) except that mixtures of oxidizing substances which contain 5% or more of combustible organic substances shall be subjected to the classification procedure defined in Note 2;
- (c) they are organic peroxides according to the criteria of Class 5.2 (see 2.2.52.1);
- (d) their heat of decomposition is less than 300 J/g; or
- (e) their self-accelerating decomposition temperature (SADT) (see Note 3 below) is greater than 75 °C for a 50 kg package.

**NOTE 1:** The heat of decomposition can be determined using any internationally recognised method e.g. differential scanning calorimetry and adiabatic calorimetry.

**NOTE 2:** Mixtures of oxidizing substances meeting the criteria of Class 5.1 which contain 5% or more of combustible organic substances, which do not meet the criteria mentioned in (a), (c), (d) or (e) above, shall be subjected to the self-reactive substance classification procedure.

A mixture showing the properties of a self-reactive substance, type B to F, shall be classified as a self-reactive substance of Class 4.1.

*A mixture showing the properties of a self-reactive substance, type G, according to the principle given in sub-section 20.4.3 (g) of Part II of the Manual of Tests and Criteria shall be considered for classification as a substance of Class 5.1 (see 2.2.51.1).*

**NOTE 3:** *The self-accelerating decomposition temperature (SADT) is the lowest temperature at which self-accelerating decomposition may occur with a substance in the packaging as used during carriage. Requirements for the determination of the SADT are given in the Manual of Tests and Criteria, Part II, Chapter 20 and section 28.4.*

**NOTE 4:** *Any substance which shows the properties of a self-reactive substance shall be classified as such, even if this substance gives a positive test result according to 2.2.42.1.5 for inclusion in Class 4.2.*

#### *Properties*

- 2.2.41.1.10 The decomposition of self-reactive substances can be initiated by heat, contact with catalytic impurities (e.g. acids, heavy-metal compounds, bases), friction or impact. The rate of decomposition increases with temperature and varies with the substance. Decomposition, particularly if no ignition occurs, may result in the evolution of toxic gases or vapours. For certain self-reactive substances, the temperature shall be controlled. Some self-reactive substances may decompose explosively, particularly if confined. This characteristic may be modified by the addition of diluents or by the use of appropriate packagings. Certain self-reactive substances burn vigorously. Self-reactive substances are, for example, some compounds of the types listed below:

aliphatic azo compounds (-C-N=N-C-);  
organic azides (-C-N<sub>3</sub>);  
diazonium salts (-CN<sub>2</sub><sup>+</sup> Z);  
N-nitroso compounds (-N-N=O); and  
aromatic sulphohydrazides (-SO<sub>2</sub>-NH-NH<sub>2</sub>).

This list is not exhaustive and substances with other reactive groups and some mixtures of substances may have similar properties.

#### *Classification*

- 2.2.41.1.11 Self-reactive substances are classified into seven types according to the degree of danger they present. The types of self-reactive substances range from type A, which is not accepted for carriage in the packaging in which it is tested, to type G, which is not subject to the provisions for self-reactive substances of Class 4.1. The classification of types B to F is directly related to the maximum quantity allowed in one packaging. The principles to be applied for classification as well as the applicable classification procedures, test methods and criteria and an example of a suitable test report are given in Part II of the Manual of Tests and Criteria.
- 2.2.41.1.12 Self-reactive substances which have already been classified and are already permitted for carriage in packagings are listed in 2.2.41.4, those already permitted for carriage in IBCs are listed in 4.1.4.2, packing instruction IBC520 and those already permitted for carriage in tanks according to Chapter 4.2 are listed in 4.2.5.2, portable tank instruction T23. Each permitted substance listed is assigned to a generic entry of Table A of Chapter 3.2 (UN Nos. 3221 to 3240), and appropriate subsidiary risks and remarks providing relevant transport information are given.

The collective entries specify:

- self-reactive substances types B to F, see 2.2.41.1.11 above;

- physical state (liquid/solid); and
- temperature control (when required), see 2.2.41.1.17 below.

The classification of the self-reactive substances listed in 2.2.41.4 is based on the technically pure substance (except where a concentration of less than 100% is specified).

2.2.41.1.13 Classification of self-reactive substances not listed in 2.2.41.4, 4.1.4.2, packing instruction IBC520 or 4.2.5.2, portable tank instruction T23 and assignment to a collective entry shall be made by the competent authority of the country of origin on the basis of a test report. The statement of approval shall contain the classification and the relevant conditions of carriage. If the country of origin is not a Contracting Party to ADR, the classification and the conditions of carriage shall be recognized by the competent authority of the first country Contracting Party to ADR reached by the consignment.

2.2.41.1.14 Activators, such as zinc compounds, may be added to some self-reactive substances to change their reactivity. Depending on both the type and the concentration of the activator, this may result in a decrease in thermal stability and a change in explosive properties. If either of these properties is altered, the new formulation shall be assessed in accordance with the classification procedure.

2.2.41.1.15 Samples of self-reactive substances or formulations of self-reactive substances not listed in 2.2.41.4, for which a complete set of test results is not available and which are to be carried for further testing or evaluation, shall be assigned to one of the appropriate entries for self-reactive substances type C provided the following conditions are met:

- the available data indicate that the sample would be no more dangerous than self-reactive substances type B;
- the sample is packaged in accordance with packing method OP2 and the quantity per transport unit is limited to 10 kg;
- the available data indicate that the control temperature, if any, is sufficiently low to prevent any dangerous decomposition and sufficiently high to prevent any dangerous phase separation.

#### *Desensitization*

2.2.41.1.16 In order to ensure safety during carriage, self-reactive substances are in many cases desensitized by use of a diluent. Where a percentage of a substance is stipulated, this refers to the percentage by mass, rounded to the nearest whole number. If a diluent is used, the self-reactive substance shall be tested with the diluent present in the concentration and form used in carriage. Diluents which may allow a self-reactive substance to concentrate to a dangerous extent in the event of leakage from a packaging shall not be used. Any diluent shall be compatible with the self-reactive substance. In this regard, compatible diluents are those solids or liquids which have no detrimental influence on the thermal stability and hazard type of the self-reactive substance. Liquid diluents in formulations requiring temperature control (see 2.2.41.1.14) shall have a boiling point of at least 60 °C and a flash-point not less than 5 °C. The boiling point of the liquid shall be at least 50 °C higher than the control temperature of the self-reactive substance.

#### *Temperature control requirements*

2.2.41.1.17 Certain self-reactive substances may only be carried under temperature controlled conditions. The control temperature is the maximum temperature at which the self-reactive substance can be safely carried. It is assumed that the temperature of the immediate



surroundings of a package only exceeds 55 °C during carriage for a relatively short time in a 24 hour period. In the event of loss of temperature control, it may be necessary to implement emergency procedures. The emergency temperature is the temperature at which such procedures shall be implemented.

The control and emergency temperatures are derived from the SADT (see table 1). The SADT shall be determined in order to decide whether a substance shall be subjected to temperature control during carriage. Provisions for the determination of the SADT are given in the Manual of Tests and Criteria, Part II, Chapter 20 and Section 28.4.

**Table 1: Derivation of control and emergency temperatures**

| Type of receptacle         | SADT <sup>a</sup>      | Control temperature | Emergency temperature |
|----------------------------|------------------------|---------------------|-----------------------|
| Single packagings and IBCs | 20 °C or less          | 20 °C below SADT    | 10 °C below SADT      |
|                            | over 20 °C to 35 °C    | 15 °C below SADT    | 10 °C below SADT      |
|                            | over 35 °C             | 10 °C below SADT    | 5 °C below SADT       |
| Tanks                      | not greater than 50 °C | 10 °C below SADT    | 5 °C below SADT       |

<sup>a</sup> SADT of the substance as packaged for carriage.

Self-reactive substances with an SADT not greater than 55 °C shall be subject to temperature control during carriage. Where applicable, control and emergency temperatures are listed in 2.2.41.4. The actual temperature during carriage may be lower than the control temperature but shall be selected so as to avoid dangerous separation of phases.

#### ***Solid desensitized explosives***

- 2.2.41.1.18 Solid desensitized explosives are substances which are wetted with water or alcohols or are diluted with other substances to suppress their explosive properties. Such entries in Table A of Chapter 3.2 are: UN Nos. 1310, 1320, 1321, 1322, 1336, 1337, 1344, 1347, 1348, 1349, 1354, 1355, 1356, 1357, 1517, 1571, 2555, 2556, 2557, 2852, 2907, 3317, 3319, 3344, 3364, 3365, 3366, 3367, 3368, 3369, 3370, 3376, 3380 and 3474.

#### ***Substances related to self-reactive substances***

- 2.2.41.1.19 Substances that:
- (a) have been provisionally accepted into Class 1 according to Test Series 1 and 2 but exempted from Class 1 by Test Series 6;
  - (b) are not self-reactive substances of Class 4.1; and
  - (c) are not substances of Classes 5.1 or 5.2;

are also assigned to Class 4.1. UN Nos. 2956, 3241, 3242 and 3251 are such entries.

#### **2.2.41.2 Substances not accepted for carriage**

- 2.2.41.2.1 The chemically unstable substances of Class 4.1 shall not be accepted for carriage unless the necessary steps have been taken to prevent their dangerous decomposition or polymerization during carriage. To this end, it shall in particular be ensured that receptacles and tanks do not contain any substance liable to promote these reactions.



2.2.41.2.2      Flammable solids, oxidizing, assigned to UN No. 3097 shall not be accepted for carriage unless they meet the requirements for Class 1 (see also 2.1.3.7).

2.2.41.2.3      The following substances shall not be accepted for carriage:

- Self-reactive substances of type A (see Manual of Tests and Criteria, Part II, paragraph 20.4.2 (a));
- Phosphorus sulphides which are not free from yellow and white phosphorus;
- Solid sensitized explosives other than those listed in Table A of Chapter 3.2;
- Inorganic flammable substances in the molten form other than UN No. 2448 SULPHUR, MOLTEN.

2.2.41.3 *List of collective entries*

|                               |                          |                                   |   |   |   |
|-------------------------------|--------------------------|-----------------------------------|---|---|---|
| Flammable solids              | without subsidiary risk  | organic                           | F1  | 3175 SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S.<br>1353 FIBRES IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S. or<br>1353 FABRICS IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S.<br>1325 FLAMMABLE SOLID, ORGANIC, N.O.S.  |   |
|                               |                          | organic molten                    | F2  | 3176 FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.   |   |
|                               |                          | inorganic                         | F3  | 3089 METAL POWDER, FLAMMABLE, N.O.S. <sup>a b</sup><br>3181 METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.<br>3182 METAL HYDRIDES, FLAMMABLE, N.O.S. <sup>c</sup><br>3178 FLAMMABLE SOLID, INORGANIC, N.O.S.   |   |
|                               | oxidizing                | FO                                | 3097 FLAMMABLE SOLID, OXIDIZING, N.O.S. (not allowed, see para. 2.2.41.2.2)                                 |   |   |
| Solid desensitized explosives | toxic                    | organic                           | FT1   | 2926 FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.  |   |
|                               |                          | inorganic                         | FT2   | 3179 FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.  |   |
|                               | corrosive                | organic                           | FC1   | 2925 FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.  |   |
|                               |                          | inorganic                         | FC2   | 3180 FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.  |   |
|                               | without subsidiary risk  |                                   | D   | 3319 NITROGLYCERIN MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 2% but not more than 10% nitroglycerin by mass<br>3344 PENTAERYTHRITOL TETRANITRATE (PENTAERYTHRITOL TETRANITRATE, PETN) MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 10% but not more than 20% PETN by mass<br>3380 DESENSITIZED EXPLOSIVE, SOLID, N.O.S.  |   |
|                               | toxic                    | DT                                | Only substances listed in Table A of Chapter 3.2 are to be accepted for carriage as substances of Class 4.1 |   |   |
|                               | Self-reactive substances | not requiring temperature control | SR1   | 3221 SELF-REACTIVE LIQUID TYPE A<br>3221 SELF-REACTIVE SOLID TYPE A<br>3222 SELF-REACTIVE LIQUID TYPE B<br>3222 SELF-REACTIVE SOLID TYPE B<br>3223 SELF-REACTIVE LIQUID TYPE C<br>3224 SELF-REACTIVE SOLID TYPE C<br>3225 SELF-REACTIVE LIQUID TYPE D<br>3226 SELF-REACTIVE SOLID TYPE D<br>3227 SELF-REACTIVE LIQUID TYPE E<br>3228 SELF-REACTIVE SOLID TYPE E<br>3229 SELF-REACTIVE LIQUID TYPE F<br>3230 SELF-REACTIVE SOLID TYPE F<br>SELF-REACTIVE LIQUID TYPE G<br>SELF-REACTIVE SOLID TYPE G | } Not accepted for carriage, see 2.2.41.2.3<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><b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<sup>a</sup> Metals and metal alloys in powdered or other flammable form, liable to spontaneous combustion, are substances of Class 4.2.

<sup>b</sup> Metals and metal alloys in powdered or other flammable form, which in contact with water, emit flammable gases, are substances of Class 4.3.

<sup>c</sup> Metals hydrides which, in contact with water, emit flammable gases, are substances of Class 4.3. Aluminium borohydride or aluminium borohydride in devices are substances of Class 4.2, UN No. 2870.

**2.2.41.4** *List of currently assigned self-reactive substances in packagings*

In the column "Packing Method" codes "OP1" to "OP8" refer to packing methods in 4.1.4.1, packing instruction P520 (see also 4.1.7.1). Self-reactive substances to be carried shall fulfil the classification and the control and emergency temperatures (derived from the SADT) as listed. For substances permitted in IBCs, see 4.1.4.2, packing instruction IBC520 and, for those permitted in tanks according to Chapter 4.2, see 4.2.5.2, portable tank instruction T23.

**NOTE:** The classification given in this table is based on the technically pure substance (except where a concentration of less than 100% is specified). For other concentrations, the substance may be classified differently following the procedures given in Part II of the Manual of Tests and Criteria and in 2.2.41.1.17.

| SELF-REACTIVE SUBSTANCE  | Concentration (%) | Packing method | Control temperature (°C) | Emergency temperature (°C) | UN generic entry | Remarks |
|--|-------------------|----------------|--------------------------|----------------------------|------------------|---------|
| ACETONE-PYROGALLOL COPOLYMER<br>2-DIAZO-1-NAPHTHOL-5-SULPHONATE                  | 100               | OP8            |                          |                            | 3228             |         |
| AZODICARBONAMIDE FORMULATION TYPE B,<br>TEMPERATURE CONTROLLED                   | < 100             | OP5            |                          |                            | 3232             | (1) (2) |
| AZODICARBONAMIDE FORMULATION TYPE C  | < 100             | OP6            |                          |                            | 3224             | (3)     |
| AZODICARBONAMIDE FORMULATION TYPE C,<br>TEMPERATURE CONTROLLED                   | < 100             | OP6            |                          |                            | 3234             | (4)     |
| AZODICARBONAMIDE FORMULATION TYPE D  | < 100             | OP7            |                          |                            | 3226             | (5)     |
| AZODICARBONAMIDE FORMULATION TYPE D,<br>TEMPERATURE CONTROLLED                   | < 100             | OP7            |                          |                            | 3236             | (6)     |
| 2,2' -AZODI(2,4-DIMETHYL- 4-METHOXY-<br>VALERONITRILE)                           | 100               | OP7            | -5                       | +5                         | 3236             |         |
| 2,2' -AZODI(2,4-DIMETHYL- VALERONITRILE)   | 100               | OP7            | +10                      | +15                        | 3236             |         |
| 2,2' -AZODI(ETHYL- 2-METHYL-PROPIONATE)  | 100               | OP7            | +20                      | +25                        | 3235             |         |
| 1,1-AZODI(HEXAHYDROBENZONITRILE)   | 100               | OP7            |                          |                            | 3226             |         |
| 2,2' -AZODI(ISOBUTYRONITRILE)  | 100               | OP6            | +40                      | +45                        | 3234             |         |
| 2,2' -AZODI(ISOBUTYRONITRILE) as a water based<br>paste                          | ≤ 50%             | OP6            |                          |                            | 3224             |         |
| 2,2' -AZODI(2-METHYLBUTYRONITRILE)   | 100               | OP7            | +35                      | +40                        | 3236             |         |
| BENZENE-1,3-DISULPHONYL HYDRAZIDE, as a<br>paste                                 | 52                | OP7            |                          |                            | 3226             |         |
| BENZENE SULPHONYL HYDRAZIDE  | 100               | OP7            |                          |                            | 3226             |         |
| 4-(BENZYL(ETHYL)AMINO)-3-ETHOXY-<br>BENZENEDIAZONIUM ZINC CHLORIDE               | 100               | OP7            |                          |                            | 3226             |         |
| 4-(BENZYL(METHYL)AMINO)-3-ETHOXY-<br>BENZENEDIAZONIUM ZINC CHLORIDE              | 100               | OP7            | +40                      | +45                        | 3236             |         |
| 3-CHLORO-4-DIETHYLAMINOBENZENE-<br>DIAZONIUM ZINC CHLORIDE                       | 100               | OP7            |                          |                            | 3226             |         |
| 2-DIAZO-1-NAPHTHOL-4-SULPHONYL CHLORIDE  | 100               | OP5            |                          |                            | 3222             | (2)     |
| 2-DIAZO-1-NAPHTHOL-5-SULPHONYL CHLORIDE  | 100               | OP5            |                          |                            | 3222             | (2)     |
| 2-DIAZO-1-NAPHTHOL SULPHONIC ACID ESTER<br>MIXTURE, TYPE D                       | < 100             | OP7            |                          |                            | 3226             | (9)     |
| 2,5-DIBUTOXY-4-(4-MORPHOLINYL)-<br>BENZENEDIAZONIUM, TETRACHLOROZINCATE<br>(2:1) | 100               | OP8            |                          |                            | 3228             |         |
| 2,5-DIETHOXY-4-MORPHOLINO-<br>BENZENEDIAZONIUM ZINC CHLORIDE                     | 67-100            | OP7            | +35                      | +40                        | 3236             |         |
| 2,5-DIETHOXY-4-MORPHOLINO-<br>BENZENEDIAZONIUM ZINC CHLORIDE                     | 66                | OP7            | +40                      | +45                        | 3236             |         |
| 2,5-DIETHOXY-4-MORPHOLINO-<br>BENZENEDIAZONIUM TETRAFLUOROBORATE                 | 100               | OP7            | +30                      | +35                        | 3236             |         |

| SELF-REACTIVE SUBSTANCE  | Concentration (%) | Packing method | Control temperature (°C) | Emergency temperature (°C) | UN generic entry | Remarks |
|--|-------------------|----------------|--------------------------|----------------------------|------------------|---------|
| 2,5-DIETHOXY-4-(4-MORPHOLINYL)-BENZENEDIAZONIUM SULPHATE   | 100               | OP7            |                          |                            | 3226             |         |
| 2,5-DIETHOXY-4-(PHENYLSULPHONYL)-BENZENEDIAZONIUM ZINC CHLORIDE  | 67                | OP7            | +40                      | +45                        | 3236             |         |
| DIETHYLENEGLYCOL BIS (ALLYL CARBONATE) + DI- ISOPROPYL-PEROXYDICARBONATE                                   | $\geq 88+\leq 12$ | OP8            | -10                      | 0                          | 3237             |         |
| 2,5-DIMETHOXY-4-(4-METHYL-PHENYLSULPHONYL)BENZENE- DIAZONIUM ZINC CHLORIDE                                 | 79                | OP7            | +40                      | +45                        | 3236             |         |
| 4-(DIMETHYLAMINO)-BENZENE-DIAZONIUM TRICHLOROZINCATE (-1)  | 100               | OP8            |                          |                            | 3228             |         |
| 4-DIMETHYLAMINO-6-(2-DIMETHYL-AMINOETHOXY) TOLUENE- 2-DIAZONIUM ZINC CHLORIDE                              | 100               | OP7            | +40                      | +45                        | 3236             |         |
| N,N'-DINITROSO-N,N'- DIMETHYL TEREPHTHALAMIDE, as a paste  | 72                | OP6            |                          |                            | 3224             |         |
| N,N'-DINITROSOPENTAMETHYLENE-TETRAMINE   | 82                | OP6            |                          |                            | 3224             | (7)     |
| DIPHENYLOXIDE-4,4'-DISULPHONYL HYDRAZIDE   | 100               | OP7            |                          |                            | 3226             |         |
| 4-DIPROPYLAMINO BENZENE- DIAZONIUM ZINC CHLORIDE   | 100               | OP7            |                          |                            | 3226             |         |
| 2-(N,N-ETHOXYCARBONYL-PHENYLAMINO)-3-METHOXY-4-(N-METHYL-N-CYCLOHEXYLAMINO) BENZENEDIAZONIUM ZINC CHLORIDE | 63-92             | OP7            | + 40                     | + 45                       | 3236             |         |
| 2-(N,N-ETHOXYCARBONYL-PHENYLAMINO)-3-METHOXY-4-(N-METHYL-N-CYCLOHEXYLAMINO) BENZENEDIAZONIUM ZINC CHLORIDE | 62                | OP7            | + 35                     | + 40                       | 3236             |         |
| N-FORMYL-2-(NITROMETHYLENE)-1,3-PERHYDROTHIAZINE   | 100               | OP7            | +45                      | +50                        | 3236             |         |
| 2-(2-HYDROXYETHOXY)-1-(PYRROLIDIN-1-YL)BENZENE-4- DIAZONIUM ZINC CHLORIDE                                  | 100               | OP7            | + 45                     | + 50                       | 3236             |         |
| 3-(2-HYDROXYETHOXY)-4- (PYRROLIDIN-1-YL) BENZENE DIAZONIUM ZINC CHLORIDE                                   | 100               | OP7            | +40                      | +45                        | 3236             |         |
| 2-(N,N-METHYLAMINOETHYLCARBONYL)-4-(3,4-DIMETHYLPHENYLSULPHONYL) BENZENEDIAZONIUM HYDROGEN SULPHATE        | 96                | OP7            | +45                      | +50                        | 3236             |         |
| 4-METHYLBENZENESULPHONYLHYDRAZIDE  | 100               | OP7            |                          |                            | 3226             |         |
| 3-METHYL-4-(PYRROLIDIN-1-YL) BENZENEDIAZONIUM TETRAFLUOROBORATE  | 95                | OP6            | +45                      | +50                        | 3234             |         |
| 4-NITROSOPHENOL  | 100               | OP7            | +35                      | +40                        | 3236             |         |
| SELF-REACTIVE LIQUID, SAMPLE   |                   | OP2            |                          |                            | 3223             | (8)     |
| SELF-REACTIVE LIQUID, SAMPLE, TEMPERATURE CONTROLLED   |                   | OP2            |                          |                            | 3233             | (8)     |
| SELF-REACTIVE SOLID, SAMPLE  |                   | OP2            |                          |                            | 3224             | (8)     |
| SELF-REACTIVE SOLID, SAMPLE, TEMPERATURE CONTROLLED  |                   | OP2            |                          |                            | 3234             | (8)     |
| SODIUM 2-DIAZO-1-NAPHTHOL- 4-SULPHONATE  | 100               | OP7            |                          |                            | 3226             |         |
| SODIUM 2-DIAZO-1-NAPHTHOL- 5-SULPHONATE  | 100               | OP7            |                          |                            | 3226             |         |
| TETRAMINE PALLADIUM (II) NITRATE   | 100               | OP6            | +30                      | +35                        | 3234             |         |

**Remarks**

- (1) Azodicarbonamide formulations which fulfil the criteria of paragraph 20.4.2 (b) of the Manual of Tests and Criteria. The control and emergency temperatures shall be determined by the procedure given in 2.2.41.1.17.
- (2) "EXPLOSIVE" subsidiary risk label required (Model No. 1, see 5.2.2.2.2).
- (3) Azodicarbonamide formulations which fulfil the criteria of paragraph 20.4.2 (c) of the Manual of Tests and Criteria.
- (4) Azodicarbonamide formulations which fulfil the criteria of paragraph 20.4.2 (c) of the Manual of Tests and Criteria. The control and emergency temperatures shall be determined by the procedure given in 2.2.41.1.17.
- (5) Azodicarbonamide formulations which fulfil the criteria of paragraph 20.4.2 (d) of the Manual of Tests and Criteria.
- (6) Azodicarbonamide formulations which fulfil the criteria of paragraph 20.4.2 (d) of the Manual of Tests and Criteria. The control and emergency temperatures shall be determined by the procedure given in 2.2.41.1.17.
- (7) With a compatible diluent having a boiling point of not less than 150 °C.
- (8) See 2.2.41.1.15.
- (9) This entry applies to mixtures of esters of 2-diazo-1-naphthol-4-sulphonic acid and 2-diazo-1-naphthol-5-sulphonic acid which fulfil the criteria of paragraph 20.4.2 (d) of the *Manual of Test and Criteria*.

**2.2.42 Class 4.2 Substances liable to spontaneous combustion****2.2.42.1 Criteria**

2.2.42.1.1 The heading of Class 4.2 covers:

- *Pyrophoric substances* which are substances, including mixtures and solutions (liquid or solid), which even in small quantities ignite on contact with air within five minutes. These are the Class 4.2 substances the most liable to spontaneous combustion; and
- *Self-heating substances and articles* which are substances and articles, including mixtures and solutions, which, on contact with air, without energy supply, are liable to self-heating. These substances will ignite only in large amounts (kilogrammes) and after long periods of time (hours or days).

2.2.42.1.2 The substances and articles of Class 4.2 are subdivided as follows:

S Substances liable to spontaneous combustion, without subsidiary risk:

- S1 Organic, liquid;
- S2 Organic, solid;
- S3 Inorganic, liquid;
- S4 Inorganic, solid;
- S5 Organometallic;

SW Substances liable to spontaneous combustion, which, in contact with water, emit flammable gases;

SO Substances liable to spontaneous combustion, oxidizing;

ST Substances liable to spontaneous combustion, toxic:

- ST1 Organic, toxic, liquid;
- ST2 Organic, toxic, solid;
- ST3 Inorganic, toxic, liquid;
- ST4 Inorganic, toxic, solid;

SC Substances liable to spontaneous combustion, corrosive:

- SC1 Organic, corrosive, liquid;
- SC2 Organic, corrosive, solid;
- SC3 Inorganic, corrosive, liquid;
- SC4 Inorganic, corrosive, solid.

*Properties*

2.2.42.1.3 Self-heating of these substances, leading to spontaneous combustion, is caused by reaction of the substance with oxygen (in the air) and the heat developed not being conducted away rapidly enough to the surroundings. Spontaneous combustion occurs when the rate of heat production exceeds the rate of heat loss and the auto-ignition temperature is reached.

*Classification*

2.2.42.1.4 Substances and articles classified in Class 4.2 are listed in Table A of Chapter 3.2. The assignment of substances and articles not mentioned by name in Table A of Chapter 3.2 to the relevant specific N.O.S. entry of 2.2.42.3 in accordance with the provisions of Chapter 2.1 can be based on experience or the results of the test procedures in accordance with the Manual of Tests and Criteria, Part III, Section 33.3. Assignment to general N.O.S. entries of Class 4.2 shall be based on the results of the test procedures in accordance with the Manual of Tests and Criteria, Part III, section 33.3; experience shall also be taken into account when it leads to a more stringent assignment.

2.2.42.1.5 When substances or articles not mentioned by name are assigned to one of the entries listed in 2.2.42.3 on the basis of the test procedures in accordance with the Manual of Tests and Criteria, Part III, section 33.3, the following criteria shall apply:

- (a) Solids liable to spontaneous combustion (pyrophoric) shall be assigned to Class 4.2 when they ignite on falling from a height of 1 m or within five minutes;
- (b) Liquids liable to spontaneous combustion (pyrophoric) shall be assigned to Class 4.2 when:
  - (i) on being poured on an inert carrier, they ignite within five minutes, or
  - (ii) in the event of a negative result of the test according to (i), when poured on a dry, indented filter paper (Whatman No. 3 filter), they ignite or carbonize it within five minutes;
- (c) Substances in which, in a 10 cm sample cube, at 140 °C test temperature, spontaneous combustion or a rise in temperature to over 200 °C is observed within 24 hours shall be assigned to Class 4.2. This criterion is based on the temperature of the spontaneous combustion of charcoal, which is at 50 °C for a sample cube of 27 m<sup>3</sup>. Substances with a temperature of spontaneous combustion higher than 50 °C for a volume of 27 m<sup>3</sup> are not to be assigned to Class 4.2.

**NOTE 1:** Substances carried in packages with a volume of not more than 3 m<sup>3</sup> are exempted from Class 4.2 if, tested with a 10 cm sample cube at 120 °C, no spontaneous combustion nor a rise in temperature to over 180 °C is observed within 24 hours.

**NOTE 2:** Substances carried in packages with a volume of not more than 450 litres are exempted from Class 4.2 if, tested with a 10 cm sample cube at 100 °C, no spontaneous combustion nor a rise in temperature to over 160 °C is observed within 24 hours.

**NOTE 3:** Since organometallic substances can be classified in Class 4.2 or 4.3 with additional subsidiary risks, depending on their properties, a specific classification flow chart for these substances is given in 2.3.5.

2.2.42.1.6 If substances of Class 4.2, as a result of admixtures, come into different categories of risk from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures shall be assigned to the entries to which they belong on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes), see also 2.1.3.

- 2.2.42.1.7 On the basis of the test procedure in the Manual of Tests and Criteria, Part III, section 33.3 and the criteria set out in 2.2.42.1.5, it may also be determined whether the nature of a substance mentioned by name is such that the substance is not subject to the provisions for this Class.

*Assignment of packing groups*

- 2.2.42.1.8 Substances and articles classified under the various entries in Table A of Chapter 3.2 shall be assigned to packing groups I, II or III on the basis of test procedures of the Manual of Tests and Criteria, Part III, section 33.3, in accordance with the following criteria:

- (a) Substances liable to spontaneous combustion (pyrophoric) shall be assigned to packing group I;
- (b) Self-heating substances and articles in which, in a 2.5 cm sample cube, at 140 °C test temperature, spontaneous combustion or a rise in temperature to over 200 °C is observed within 24 hours, shall be assigned to packing group II;

Substances with a temperature of spontaneous combustion higher than 50 °C for a volume of 450 litres are not to be assigned to packing group II;

- (c) Slightly self-heating substances in which, in a 2.5 cm sample cube, the phenomena referred to under (b) are not observed, in the given conditions, but in which in a 10 cm sample cube at 140 °C test temperature spontaneous combustion or a rise in temperature to over 200 °C is observed within 24 hours, shall be assigned to packing group III.

**2.2.42.2** *Substances not accepted for carriage*

The following substances shall not be accepted for carriage:

- UN No. 3255 tert-BUTYL HYPOCHLORITE; and
- Self-heating solids, oxidizing, assigned to UN No. 3127 unless they meet the requirements for Class 1 (see 2.1.3.7).



2.2.42.3 *List of collective entries*

|   |           |                |     |   |  |
|---|-----------|----------------|-----|---|--|
| Substances liable to spontaneous combustion | organic   | liquid         | S1  | 2845 PYROPHORIC LIQUID, ORGANIC, N.O.S.<br>3183 SELF-HEATING LIQUID, ORGANIC, N.O.S.  |  |
|   |           | solid          | S2  | 1373 FIBRES or FABRICS, ANIMAL or VEGETABLE or SYNTHETIC, N.O.S. with oil<br>2006 PLASTICS, NITROCELLULOSE-BASED, SELF-HEATING, N.O.S.<br>3313 ORGANIC PIGMENTS, SELF HEATING<br>2846 PYROPHORIC SOLID, ORGANIC, N.O.S.<br>3088 SELF-HEATING SOLID, ORGANIC, N.O.S. |  |
| Without subsidiary risk                     | inorganic | liquid         | S3  | 3194 PYROPHORIC LIQUID, INORGANIC, N.O.S.<br>3186 SELF-HEATING LIQUID, INORGANIC, N.O.S.  |  |
| S   |           |                |     | solid   | S4   |
|   |           | organometallic | S5  |   |  |
|   |           | Water-reactive |     |   | SW   |
| Oxidizing                                   |           |                |     | SO  | 3127 SELF-HEATING SOLID, OXIDIZING, N.O.S. (not allowed, see 2.2.42.2) |
| Toxic<br>ST                                 | organic   | liquid         | ST1 | 3184 SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.  |  |
|   |           | solid          | ST2 | 3128 SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.   |  |
|   | inorganic | liquid         | ST3 | 3187 SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.  |  |
|   |           | solid          | ST4 | 3191 SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.   |  |
| Corrosive                                   | organic   | liquid         | SC1 | 3185 SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.  |  |
|   |           | solid          | SC2 | 3126 SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S.   |  |
| SC  | inorganic | liquid         | SC3 | 3188 SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.  |  |
|   |           | solid          | SC4 | 3206 ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.<br>3192 SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.   |  |

<sup>a</sup> Dust and powder of metals, non toxic in a non-spontaneous combustible form which nevertheless, in contact with water, emit flammable gases, are substances of Class 4.3.

**2.2.43 Class 4.3 Substances which, in contact with water, emit flammable gases****2.2.43.1 Criteria**

2.2.43.1.1 The heading of Class 4.3 covers substances which react with water to emit flammable gases liable to form explosive mixtures with air, and articles containing such substances.

2.2.43.1.2 Substances and articles of Class 4.3 are subdivided as follows:

W Substances which, in contact with water, emit flammable gases, without subsidiary risk, and articles containing such substances:

W1 Liquid;

W2 Solid;

W3 Articles;

WF1 Substances which, in contact with water, emit flammable gases, liquid, flammable;

WF2 Substances which, in contact with water, emit flammable gases, solid, flammable;

WS Substances which, in contact with water, emit flammable gases, solid, self-heating;

WO Substances which, in contact with water, emit flammable gases, oxidizing, solid;

WT Substances which, in contact with water, emit flammable gases, toxic:

WT1 Liquid;

WT2 Solid;

WC Substances which, in contact with water, emit flammable gases, corrosive:

WC1 Liquid;

WC2 Solid;

WFC Substances which, in contact with water, emit flammable gases, flammable, corrosive.

*Properties*

2.2.43.1.3 Certain substances in contact with water may emit flammable gases that can form explosive mixtures with air. Such mixtures are easily ignited by all ordinary sources of ignition, for example naked lights, sparking handtools or unprotected light bulbs. The resulting blast wave and flames may endanger people and the environment. The test method referred to in 2.2.43.1.4 below is used to determine whether the reaction of a substance with water leads to the development of a dangerous amount of gases which may be flammable. This test method shall not be applied to pyrophoric substances.

*Classification*

2.2.43.1.4 Substances and articles classified in Class 4.3 are listed in Table A of Chapter 3.2. The assignment of substances and articles not mentioned by name in Table A of Chapter 3.2 to the relevant entry of 2.2.43.3 in accordance with the provisions of Chapter 2.1 shall be based on the results of the test procedure in accordance with the Manual of Tests and Criteria, Part III, Section 33.4; experience shall also be taken into account when it leads to a more stringent assignment.

- 2.2.43.1.5      When substances not mentioned by name are assigned to one of the entries listed in 2.2.43.3 on the basis of the test procedure in accordance with the Manual of Tests and Criteria, Part III, Section 33.4, the following criteria shall apply:

A substance shall be assigned to Class 4.3 if:

- (a)    spontaneous ignition of the gas emitted takes place in any step of the test procedure; or
- (b)    there is an evolution of flammable gas at a rate greater than 1 litre per kilogramme of the substance to be tested per hour.

**NOTE:**      *Since organometallic substances can be classified in Class 4.2 or 4.3 with additional subsidiary risks, depending on their properties, a specific classification flow chart for these substances is given in 2.3.5.*

- 2.2.43.1.6      If substances of Class 4.3, as a result of admixtures, come into different categories of risk from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures shall be assigned to the entries to which they belong on the basis of their actual degree of danger.

**NOTE:** *For the classification of solutions and mixtures (such as preparations and wastes) see also 2.1.3.*

- 2.2.43.1.7      On the basis of the test procedures in accordance with the Manual of Tests and Criteria, Part III, Section 33.4, and the criteria set out in paragraph 2.2.43.1.5, it may also be determined whether the nature of a substance mentioned by name is such that the substance is not subject to the provisions for this Class.

*Assignment of packing groups*

- 2.2.43.1.8      Substances and articles classified under the various entries in Table A of Chapter 3.2 shall be assigned to packing groups I, II or III on the basis of test procedures of the Manual of Tests and Criteria, Part III, section 33.4, in accordance with the following criteria:

- (a)    Packing group I shall be assigned to any substance which reacts vigorously with water at ambient temperature and generally demonstrates a tendency for the gas produced to ignite spontaneously, or one which reacts readily with water at ambient temperatures such that the rate of evolution of flammable gas is equal to or greater than 10 litres per kilogramme of substance over any one minute period;
- (b)    Packing group II shall be assigned to any substance which reacts readily with water at ambient temperature such that the maximum rate of evolution of flammable gas is equal to or greater than 20 litres per kilogramme of substance per hour, and which does not meet the criteria of packing group I;
- (c)    Packing group III shall be assigned to any substance which reacts slowly with water at ambient temperature such that the maximum rate of evolution of flammable gas is greater than 1 litre per kilogramme of substance per hour, and which does not meet the criteria of packing groups I or II.

**2.2.43.2      *Substances not accepted for carriage***

Water-reactive solids, oxidizing, assigned to UN No. 3133 shall not be accepted for carriage unless they meet the requirements for Class 1 (see also 2.1.3.7).

2.2.43.3 *List of collective entries*

|   |          |                  |   |
|---|----------|------------------|---|
| Substances which, in contact with water, emit flammable gases | liquid   | W1               | 1389 ALKALI METAL AMALGAM, LIQUID<br>1391 ALKALI METAL DISPERSION having a flash-point above 60 °C or<br>1391 ALKALINE EARTH METAL DISPERSION having a flash-point above 60 °C<br>1392 ALKALINE EARTH METAL AMALGAM, LIQUID<br>1420 POTASSIUM METAL ALLOYS, LIQUID<br>1421 ALKALI METAL ALLOY, LIQUID, N.O.S.<br>1422 POTASSIUM SODIUM ALLOYS, LIQUID<br>3398 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE<br>3148 WATER-REACTIVE LIQUID, N.O.S.  |
|   | solid    | W2 <sup>a</sup>  | 1390 ALKALI METAL AMIDES<br>3401 ALKALI METAL AMALGAM, SOLID<br>3402 ALKALINE EARTH METAL AMALGAM, SOLID<br>3170 ALUMINIUM SMELTING BY-PRODUCTS or<br>3170 ALUMINIUM REMELTING BY-PRODUCTS<br>3403 POTASSIUM METAL ALLOYS, SOLID<br>3404 POTASSIUM SODIUM ALLOYS, SOLID<br>1393 ALKALINE EARTH METAL ALLOY, N.O.S.<br>1409 METAL HYDRIDES, WATER-REACTIVE, N.O.S.<br>3208 METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.<br>3395 ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE<br>2813 WATER-REACTIVE SOLID, N.O.S. |
| Without subsidiary risk<br>W                                  | articles | W3               | 3292 BATTERIES, CONTAINING SODIUM or<br>3292 CELLS, CONTAINING SODIUM   |
| Liquid, flammable   |          | WF1              | 1391 ALKALI METAL DISPERSION having a flash-point of not more than 60 °C or<br>1391 ALKALINE EARTH METAL DISPERSION having a flash-point of not more than 60 °C<br>3399 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE   |
| Solid, flammable  |          | WF2              | 3396 ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE<br>3132 WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.   |
| Solid, self-heating   |          | WS <sup>b</sup>  | 3397 ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING<br>3209 METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.<br>3135 WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.  |
| Solid, oxidizing  |          | WO               | 3133 WATER-REACTIVE SOLID, OXIDIZING, N.O.S. (not allowed, see 2.2.43.2)  |
| Toxic<br>WT   | liquid   | WT1              | 3130 WATER-REACTIVE LIQUID, TOXIC, N.O.S.   |
|   | solid    | WT2              | 3134 WATER-REACTIVE SOLID, TOXIC, N.O.S.  |
| Corrosive<br>WC   | liquid   | WC1              | 3129 WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.   |
|   | solid    | WC2              | 3131 WATER-REACTIVE SOLID, CORROSIVE, N.O.S.  |
| Flammable, corrosive  |          | WFC <sup>c</sup> | 2988 CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, NO.S.<br>(No other collective entry with this classification code available, if need be, classification under a collective entry with a classification code to be determined according to the table of precedence of hazard in 2.1.3.10.)   |

<sup>a</sup> Metals and metal alloys which, in contact with water, do not emit flammable gases and are not pyrophoric or self-heating, but which are readily flammable, are substances of Class 4.1. Alkaline-earth metals and alkaline-earth metal alloys in pyrophoric form are substances of Class 4.2. Dust and powders of metals in pyrophoric form are substances of Class 4.2. Metals and metal alloys in pyrophoric form are substances of Class 4.2. Compounds of phosphorus with heavy metals such as iron, copper, etc. are not subject to the provisions of ADR.

<sup>b</sup> Metals and metal alloys in pyrophoric form are substances of Class 4.2.

<sup>c</sup> Chlorosilanes, having a flash-point of less than 23 °C and which, in contact with water, do not emit flammable gases, are substances of Class 3. Chlorosilanes, having a flash-point equal to or greater than 23 °C and which, in contact with water, do not emit flammable gases, are substances of Class 8.

**2.2.51 Class 5.1 Oxidizing substances****2.2.51.1 Criteria**

2.2.51.1.1 The heading of Class 5.1 covers substances which, while in themselves not necessarily combustible, may, generally by yielding oxygen, cause or contribute to the combustion of other material, and articles containing such substances.

2.2.51.1.2 The substances of Class 5.1 and articles containing such substances are subdivided as follows:

O Oxidizing substances without subsidiary risk or articles containing such substances:

- O1 Liquid;
- O2 Solid;
- O3 Articles;

OF Oxidizing substances, solid, flammable;

OS Oxidizing substances, solid, self-heating;

OW Oxidizing substances, solid which, in contact with water, emit flammable gases;

OT Oxidizing substances, toxic:

- OT1 Liquid;
- OT2 Solid;

OC Oxidizing substances, corrosive:

- OC1 Liquid;
- OC2 Solid;

OTC Oxidizing substances, toxic, corrosive.

2.2.51.1.3 Substances and articles classified in Class 5.1 are listed in Table A of Chapter 3.2. The assignment of substances and articles not mentioned by name in Table A of Chapter 3.2 to the relevant entry of 2.2.51.3 in accordance with the provisions of Chapter 2.1 can be based on the tests, methods and criteria in paragraphs 2.2.51.1.6-2.2.51.1.9 below and the Manual of Tests and Criteria, Part III, Section 34.4. In the event of divergence between test results and known experience, judgement based on known experience shall take precedence over test results.

2.2.51.1.4 If substances of Class 5.1, as a result of admixtures, come into different categories of risk from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures or solutions shall be assigned to the entries to which they belong on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes), see also Section 2.1.3.

2.2.51.1.5 On the basis of the test procedures in the Manual of Tests and Criteria, Part III, Section 34.4 and the criteria set out in 2.2.51.1.6 to 2.2.51.1.9 it may also be determined whether the nature of a substance mentioned by name in Table A of Chapter 3.2 is such that the substance is not subject to the provisions for this class.

***Oxidizing solids****Classification*

- 2.2.51.1.6 When oxidizing solid substances not mentioned by name in Table A of Chapter 3.2 are assigned to one of the entries listed in 2.2.51.3 on the basis of the test procedure in accordance with the Manual of Tests and Criteria, Part III, sub-section 34.4.1, the following criteria shall apply:

A solid substance shall be assigned to Class 5.1 if, in the 4:1 or the 1:1 sample-to-cellulose ratio (by mass) tested, it ignites or burns or exhibits mean burning times equal to or less than that of a 3:7 mixture (by mass) of potassium bromate and cellulose.

*Assignment of packing groups*

- 2.2.51.1.7 Oxidizing solids classified under the various entries in Table A of Chapter 3.2 shall be assigned to packing groups I, II or III on the basis of test procedures of the Manual of Tests and Criteria, Part III, sub-section 34.4.1, in accordance with the following criteria:

- (a) Packing group I: any substance which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time less than the mean burning time of a 3:2 mixture, by mass, of potassium bromate and cellulose;
- (b) Packing group II: any substance which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time equal to or less than the mean burning time of a 2:3 mixture (by mass) of potassium bromate and cellulose and the criteria for packing group I are not met;
- (c) Packing group III: any substance which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time equal to or less than the mean burning time of a 3:7 mixture (by mass) of potassium bromate and cellulose and the criteria for packing groups I and II are not met.

***Oxidizing liquids****Classification*

- 2.2.51.1.8 When oxidizing liquid substances not mentioned by name in Table A of Chapter 3.2 are assigned to one of the entries listed in sub-section 2.2.51.3 on the basis of the test procedure in accordance with the Manual of Tests and Criteria, Part III, sub-section 34.4.2, the following criteria shall apply:

A liquid substance shall be assigned to Class 5.1 if, in the 1:1 mixture, by mass, of substance and cellulose tested, it exhibits a pressure rise of 2070 kPa gauge or more and a mean pressure rise time equal to or less than the mean pressure rise time of a 1:1 mixture, by mass, of 65% aqueous nitric acid and cellulose.

*Assignment of packing groups*

- 2.2.51.1.9 Oxidizing liquids classified under the various entries in Table A of Chapter 3.2 shall be assigned to packing groups I, II or III on the basis of test procedures of the Manual of Tests and Criteria, Part III, section 34.4.2, in accordance with the following criteria:

- (a) Packing group I: any substance which, in the 1:1 mixture, by mass, of substance and cellulose tested, spontaneously ignites; or the mean pressure rise time of a 1:1 mixture, by mass, of substance and cellulose is less than that of a 1:1 mixture, by mass, of 50% perchloric acid and cellulose;
- (b) Packing group II: any substance which, in the 1:1 mixture, by mass, of substance and cellulose tested, exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a 1:1 mixture, by mass, of 40% aqueous sodium chlorate solution and cellulose; and the criteria for packing group I are not met;
- (c) Packing group III: any substance which, in the 1:1 mixture, by mass, of substance and cellulose tested, exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a 1:1 mixture, by mass, of 65% aqueous nitric acid and cellulose; and the criteria for packing groups I and II are not met.

#### **2.2.51.2      *Substances not accepted for carriage***

2.2.51.2.1      The chemically unstable substances of Class 5.1 shall not be accepted for carriage unless the necessary steps have been taken to prevent their dangerous decomposition or polymerization during carriage. To this end it shall in particular be ensured that receptacles and tanks do not contain any material liable to promote these reactions.

2.2.51.2.2      The following substances and mixtures shall not be accepted for carriage:

- oxidizing solids, self-heating, assigned to UN No. 3100, oxidizing solids, water-reactive, assigned to UN No. 3121 and oxidizing solids, flammable, assigned to UN No. 3137, unless they meet the requirements for Class 1 (see also 2.1.3.7);
- hydrogen peroxide, not stabilized or hydrogen peroxide, aqueous solutions, not stabilized containing more than 60% hydrogen peroxide;
- tetranitromethane not free from combustible impurities;
- perchloric acid solutions containing more than 72% (mass) acid, or mixtures of perchloric acid with any liquid other than water;
- chloric acid solution containing more than 10% chloric acid or mixtures of chloric acid with any liquid other than water;
- halogenated fluor compounds other than UN Nos. 1745 BROMINE PENTAFLUORIDE; 1746 BROMINE TRIFLUORIDE and 2495 IODINE PENTAFLUORIDE of Class 5.1 as well as UN Nos. 1749 CHLORINE TRIFLUORIDE and 2548 CHLORINE PENTAFLUORIDE of Class 2;
- ammonium chlorate and its aqueous solutions and mixtures of a chlorate with an ammonium salt;
- ammonium chlorite and its aqueous solutions and mixtures of a chlorite with an ammonium salt;
- mixtures of a hypochlorite with an ammonium salt;
- ammonium bromate and its aqueous solutions and mixtures of a bromate with an ammonium salt;

- ammonium permanganate and its aqueous solutions and mixtures of a permanganate with an ammonium salt;
- ammonium nitrate containing more than 0.2% combustible substances (including any organic substance calculated as carbon) unless it is a constituent of a substance or article of Class 1;
- fertilizers having an ammonium nitrate content (in determining the ammonium nitrate content, all nitrate ions for which a molecular equivalent of ammonium ions is present in the mixture shall be calculated as ammonium nitrate) or a content in combustible substances exceeding the values specified in special provision 307 except under the conditions applicable to Class 1;
- ammonium nitrite and its aqueous solutions and mixtures of an inorganic nitrite with an ammonium salt;
- mixtures of potassium nitrate, sodium nitrite and an ammonium salt.



**2.2.51.3** *List of collective entries*

|                                |                 |            |   |
|--------------------------------|-----------------|------------|---|
| <b>Oxidizing substances</b>    | <b>liquid</b>   | <b>O1</b>  | 3210 CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.<br>3211 PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.<br>3213 BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.<br>3214 PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.<br>3216 PERSULPHATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.<br>3218 NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.<br>3219 NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.<br>3139 OXIDIZING LIQUID, N.O.S. |
|                                |                 |            | 1450 BROMATES, INORGANIC, N.O.S.<br>1461 CHLORATES, INORGANIC, N.O.S.<br>1462 CHLORITES, INORGANIC, N.O.S.<br>1477 NITRATES, INORGANIC, N.O.S.<br>1481 PERCHLORATES, INORGANIC, N.O.S.<br>1482 PERMANGANATES, INORGANIC, N.O.S.<br>1483 PEROXIDES, INORGANIC, N.O.S.<br>2627 NITRITES, INORGANIC, N.O.S.<br>3212 HYPOCHLORITES, INORGANIC, N.O.S.<br>3215 PERSULPHATES, INORGANIC, N.O.S.<br>1479 OXIDIZING SOLID, N.O.S.             |
| <b>Without subsidiary risk</b> | <b>solid</b>    | <b>O2</b>  |   |
| <b>O</b>                       |                 |            |   |
|                                | <b>articles</b> | <b>O3</b>  | 3356 OXYGEN GENERATOR, CHEMICAL   |
| <b>Solid, flammable</b>        |                 | <b>OF</b>  | 3137 OXIDIZING SOLID, FLAMMABLE, N.O.S. (not allowed, see 2.2.51.2)   |
| <b>Solid, self-heating</b>     |                 | <b>OS</b>  | 3100 OXIDIZING SOLID, SELF-HEATING, N.O.S. (not allowed, see 2.2.51.2)  |
| <b>Solid, water reactive</b>   |                 | <b>OW</b>  | 3121 OXIDIZING SOLID, WATER REACTIVE, N.O.S. (not allowed, see 2.2.51.2)  |
| <b>Toxic</b>                   | <b>liquid</b>   | <b>OT1</b> | 3099 OXIDIZING LIQUID, TOXIC, N.O.S.  |
|                                | <b>solid</b>    | <b>OT2</b> | 3087 OXIDIZING SOLID, TOXIC, N.O.S.   |
| <b>Corrosive</b>               | <b>liquid</b>   | <b>OC1</b> | 3098 OXIDIZING LIQUID, CORROSIVE, N.O.S.  |
|                                | <b>solid</b>    | <b>OC2</b> | 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.   |
| <b>Toxic, corrosive</b>        |                 | <b>OTC</b> | (No collective entry with this classification code available; if need be, classification under a collective entry with a classification code to be determined according to the table of precedence of hazard in 2.1.3.10.)  |

**2.2.52 Class 5.2 Organic peroxides****2.2.52.1 Criteria**

2.2.52.1.1 The heading of Class 5.2 covers organic peroxides and formulations of organic peroxides.

2.2.52.1.2 The substances of Class 5.2 are subdivided as follows:

- P1 Organic peroxides, not requiring temperature control;  
 P2 Organic peroxides, requiring temperature control.

*Definition*

2.2.52.1.3 *Organic peroxides* are organic substances which contain the bivalent -O-O- structure and may be considered derivatives of hydrogen peroxide, where one or both of the hydrogen atoms have been replaced by organic radicals.

*Properties*

2.2.52.1.4 Organic peroxides are liable to exothermic decomposition at normal or elevated temperatures. The decomposition can be initiated by heat, contact with impurities (e.g. acids, heavy-metal compounds, amines), friction or impact. The rate of decomposition increases with temperature and varies with the organic peroxide formulation. Decomposition may result in the evolution of harmful, or flammable, gases or vapours. For certain organic peroxides the temperature shall be controlled during carriage. Some organic peroxides may decompose explosively, particularly if confined. This characteristic may be modified by the addition of diluents or by the use of appropriate packagings. Many organic peroxides burn vigorously. Contact of organic peroxides with the eyes is to be avoided. Some organic peroxides will cause serious injury to the cornea, even after brief contact, or will be corrosive to the skin.

**NOTE:** Test methods for determining the flammability of organic peroxides are set out in the *Manual of Tests and Criteria, Part III, sub-section 32.4*. Because organic peroxides may react vigorously when heated, it is recommended to determine their flash-point using small sample sizes such as described in ISO 3679:1983.

*Classification*

2.2.52.1.5 Any organic peroxide shall be considered for classification in Class 5.2 unless the organic peroxide formulation contains:

- (a) Not more than 1.0% available oxygen from the organic peroxides when containing not more than 1.0% hydrogen peroxide;
- (b) Not more than 0.5% available oxygen from the organic peroxides when containing more than 1.0% but not more than 7.0% hydrogen peroxide.

**NOTE:** The available oxygen content (%) of an organic peroxide formulation is given by the formula

$$16 \times \sum (n_i \times c_i / m_i)$$

where:

- $n_i$  = number of peroxygen groups per molecule of organic peroxide  $i$ ;  
 $c_i$  = concentration (mass %) of organic peroxide  $i$ ; and  
 $m_i$  = molecular mass of organic peroxide  $i$ .

2.2.52.1.6 Organic peroxides are classified into seven types according to the degree of danger they present. The types of organic peroxide range from type A, which is not accepted for carriage in the packaging in which it is tested, to type G, which is not subject to the provisions of Class 5.2. The classification of types B to F is directly related to the maximum quantity allowed in one packaging. The principles to be applied to the classification of substances not listed in 2.2.52.4 are set out in the Manual of Tests and Criteria, Part II.

2.2.52.1.7 Organic peroxides which have already been classified and are already permitted for carriage in packagings are listed in 2.2.52.4, those already permitted for carriage in IBCs are listed in 4.1.4.2, packing instruction IBC520 and those already permitted for carriage in tanks in accordance with Chapters 4.2 and 4.3 are listed in 4.2.5.2, portable tank instruction T23. Each permitted substance listed is assigned to a generic entry of Table A of Chapter 3.2 (UN Nos. 3101 to 3120) and appropriate subsidiary risks and remarks providing relevant transport information are given.

These generic entries specify:

- the type (B to F) of organic peroxide (see 2.2.52.1.6 above);
- physical state (liquid/solid); and
- temperature control (when required), see 2.2.52.1.15 to 2.2.52.1.18.

Mixtures of these formulations may be classified as the same type of organic peroxide as that of the most dangerous component and be carried under the conditions of carriage given for this type. However, as two stable components can form a thermally less stable mixture, the self-accelerating decomposition temperature (SADT) of the mixture shall be determined and, if necessary, the control and emergency temperatures derived from the SADT in accordance with 2.2.52.1.16.

2.2.52.1.8 Classification of organic peroxides, formulations or mixtures of organic peroxides not listed in 2.2.52.4, 4.1.4.2 packing instruction IBC520 or 4.2.5.2, portable tank instruction T23, and assignment to a collective entry shall be made by the competent authority of the country of origin. The statement of approval shall contain the classification and the relevant conditions of carriage. If the country of origin is not a Contracting Party to ADR, the classification and conditions of carriage shall be recognized by the competent authority of the first country Contracting Party to ADR reached by the consignment.

2.2.52.1.9 Samples of organic peroxides or formulations of organic peroxides not listed in 2.2.52.4, for which a complete set of test results is not available and which are to be carried for further testing or evaluation, shall be assigned to one of the appropriate entries for organic peroxides type C provided the following conditions are met:

- the available data indicate that the sample would be no more dangerous than organic peroxides type B;
- the sample is packaged in accordance with packing method OP2 and the quantity per transport unit is limited to 10 kg;
- the available data indicate that the control temperature, if any, is sufficiently low to prevent any dangerous decomposition and sufficiently high to prevent any dangerous phase separation.

*Desensitization of organic peroxides*

- 2.2.52.1.10 In order to ensure safety during carriage, organic peroxides are in many cases desensitized by organic liquids or solids, inorganic solids or water. Where a percentage of a substance is stipulated, this refers to the percentage by mass, rounded to the nearest whole number. In general, desensitization shall be such that, in case of spillage, the organic peroxide will not concentrate to a dangerous extent.
- 2.2.52.1.11 Unless otherwise stated for the individual organic peroxide formulation, the following definition(s) shall apply to diluents used for desensitization:
- diluents type A are organic liquids which are compatible with the organic peroxide and which have a boiling point of not less than 150 °C. Type A diluents may be used for desensitizing all organic peroxides;
  - diluents type B are organic liquids which are compatible with the organic peroxide and which have a boiling point of less than 150 °C but not less than 60 °C and a flash-point of not less than 5 °C.
- Type B diluents may be used for desensitization of all organic peroxides provided that the boiling point of the liquid is at least 60 °C higher than the SADT in a 50 kg package.
- 2.1.52.1.12 Diluents, other than type A or type B, may be added to organic peroxide formulations as listed in 2.2.52.4 provided that they are compatible. However, replacement of all or part of a type A or type B diluent by another diluent with differing properties requires that the organic peroxide formulation be re-assessed in accordance with the normal acceptance procedure for Class 5.2.
- 2.2.52.1.13 Water may only be used for the desensitization of organic peroxides which are listed in 2.2.52.4 or in the competent authority decision according to 2.2.52.1.8 as being "with water" or "as a stable dispersion in water". Samples of organic peroxides or formulations of organic peroxides not listed in 2.2.52.4 may also be desensitized with water provided the requirements of 2.2.52.1.9 are met.
- 2.2.52.1.14 Organic and inorganic solids may be used for desensitization of organic peroxides provided that they are compatible. Compatible liquids and solids are those which have no detrimental influence on the thermal stability and hazard type of the organic peroxide formulation.

*Temperature control requirements*

- 2.2.52.1.15 Certain organic peroxides may only be carried under temperature-controlled conditions. The control temperature is the maximum temperature at which the organic peroxide can be safely carried. It is assumed that the temperature of the immediate surroundings of a package only exceeds 55 °C during carriage for a relatively short time in a 24 hour period. In the event of loss of temperature control, it may be necessary to implement emergency procedures. The emergency temperature is the temperature at which such procedures shall be implemented.
- 2.2.52.1.16 The control and emergency temperatures are derived from the SADT which is defined as the lowest temperature at which self-accelerating decomposition may occur with a substance in the packaging as used during carriage (see Table 1). The SADT shall be determined in order to decide whether a substance shall be subjected to temperature control during carriage. Provisions for the determination of the SADT are given in the Manual of Tests and Criteria, Part II, Sections 20 and 28.4.

**Table 1: Derivation of control and emergency temperatures**

| Type of receptacle         | SADT <sup>a</sup>      | Control temperature | Emergency temperature |
|----------------------------|------------------------|---------------------|-----------------------|
| Single packagings and IBCs | 20 °C or less          | 20 °C below SADT    | 10 °C below SADT      |
|                            | over 20 °C to 35 °C    | 15 °C below SADT    | 10 °C below SADT      |
|                            | over 35 °C             | 10 °C below SADT    | 5 °C below SADT       |
| Tanks                      | not greater than 50 °C | 10 °C below SADT    | 5 °C below SADT       |

<sup>a</sup>*SADT of the substance as packaged for carriage*

2.2.52.1.17 The following organic peroxides shall be subject to temperature control during carriage:

- organic peroxides types B and C with an SADT  $\leq 50$  °C;
- organic peroxides type D showing a medium effect when heated under confinement with an SADT  $\leq 50$  °C or showing a low or no effect when heated under confinement with an SADT  $\leq 45$  °C; and
- organic peroxides types E and F with an SADT  $\leq 45$  °C.

**NOTE:** Provisions for the determination of the effects of heating under confinement are given in the Manual of Tests and Criteria, Part II, Section 20 and Sub-section 28.4.

2.2.52.1.18 Where applicable, control and emergency temperatures are listed in 2.2.52.4. The actual temperature during carriage may be lower than the control temperature but shall be selected so as to avoid dangerous separation of phases.

**2.2.52.2 Substances not accepted for carriage**

Organic peroxides, type A, shall not be accepted for carriage under the provisions of Class 5.2 (see Manual of Tests and Criteria, Part II, paragraph 20.4.3 (a)).

**2.2.52.3** *List of collective entries*

|  |      |   |   |
|--|------|---|---|
| <b>Organic peroxides</b>                           |      | ORGANIC PEROXIDE TYPE A, LIQUID                         | } Not accepted for carriage,<br>see 2.2.52.2                                  |
|  |      | ORGANIC PEROXIDE TYPE A, SOLID                          |   |
|  | 3101 | ORGANIC PEROXIDE TYPE B, LIQUID                         |   |
|  | 3102 | ORGANIC PEROXIDE TYPE B, SOLID                          |   |
|  | 3103 | ORGANIC PEROXIDE TYPE C, LIQUID                         |   |
|  | 3104 | ORGANIC PEROXIDE TYPE C, SOLID                          |   |
|  | 3105 | ORGANIC PEROXIDE TYPE D, LIQUID                         |   |
|  | 3106 | ORGANIC PEROXIDE TYPE D, SOLID                          |   |
|  | 3107 | ORGANIC PEROXIDE TYPE E, LIQUID                         |   |
|  | 3108 | ORGANIC PEROXIDE TYPE E, SOLID                          |   |
| <b>Not requiring temperature control</b> <b>P1</b> | 3109 | ORGANIC PEROXIDE TYPE F, LIQUID                         |   |
|  | 3110 | ORGANIC PEROXIDE TYPE F, SOLID                          |   |
|  |      | ORGANIC PEROXIDE TYPE G, LIQUID                         | } Not subject to the provisions<br>applicable to Class 5.2,<br>see 2.2.52.1.6 |
|  |      | ORGANIC PEROXIDE TYPE G, SOLID                          |   |
|  | 3111 | ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED |   |
|  | 3112 | ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED  |   |
|  | 3113 | ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED |   |
|  | 3114 | ORGANIC PEROXIDE TYPE C, SOLID, TEMPERATURE CONTROLLED  |   |
|  | 3115 | ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED |   |
|  | 3116 | ORGANIC PEROXIDE TYPE D, SOLID, TEMPERATURE CONTROLLED  |   |
| <b>Requiring temperature control</b> <b>P2</b>     | 3117 | ORGANIC PEROXIDE TYPE E, LIQUID, TEMPERATURE CONTROLLED |   |
|  | 3118 | ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED  |   |
|  | 3119 | ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED |   |
|  | 3120 | ORGANIC PEROXIDE TYPE F, SOLID, TEMPERATURE CONTROLLED  |   |

**2.2.52.4** *List of currently assigned organic peroxides in packagings*

In the column "Packing Method", codes "OP1" to "OP8" refer to packing methods in 4.1.4.1, packing instruction P520 (see also 4.1.7.1). Organic peroxides to be carried shall fulfil the classification and the control and emergency temperatures (derived from the SADT) as listed. For substances permitted in IBCs, see 4.1.4.2, packing instruction IBC520 and, for those permitted in tanks according to Chapters 4.2 and 4.3, see 4.2.5.2, portable tank instruction T23.

| ORGANIC PEROXIDE                                 | Concentration (%) | Diluent type A (%) | Diluent type B (%) 1) | Inert solid (%) | Water | Packing Method | Control temperature (°C) | Emergency temperature (°C) | Number (Generic entry) | Subsidiary risks and remarks |
|--|-------------------|--------------------|-----------------------|-----------------|-------|----------------|--------------------------|----------------------------|------------------------|------------------------------|
| ACETYL ACETONE PEROXIDE                          | ≤ 42              | ≥ 48               |                       |                 | ≥ 8   | OP7            |                          |                            | 3105                   | 2)                           |
| "  | ≤ 32 as a paste   |                    |                       |                 |       | OP7            |                          |                            | 3106                   | 20)                          |
| ACETYL CYCLOHEXANESULPHONYL PEROXIDE             | ≤ 82              |                    |                       |                 | ≥ 12  | OP4            | -10                      | 0                          | 3112                   | 3)                           |
| "  | ≤ 32              |                    | ≥ 68                  |                 |       | OP7            | -10                      | 0                          | 3115                   |                              |
| tert-AMYL HYDROPEROXIDE                          | ≤ 88              | ≥ 6                |                       |                 | ≥ 6   | OP8            |                          |                            | 3107                   |                              |
| tert-AMYL PEROXYACETATE                          | ≤ 62              | ≥ 38               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| tert-AMYL PEROXYBENZOATE                         | ≤ 100             |                    |                       |                 |       | OP5            |                          |                            | 3103                   |                              |
| tert-AMYL PEROXY-2-ETHYLHEXANOATE                | ≤ 100             |                    |                       |                 |       | OP7            | +20                      | +25                        | 3115                   |                              |
| tert-AMYL PEROXY-2-ETHYLHEXYL CARBONATE          | ≤ 100             |                    |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| tert-AMYL PEROXY ISOPROPYL CARBONATE             | ≤ 77              | ≥ 23               |                       |                 |       | OP5            |                          |                            | 3103                   |                              |
| tert-AMYL PEROXYNEODECANOATE                     | ≤ 77              |                    | ≥ 23                  |                 |       | OP7            | 0                        | +10                        | 3115                   |                              |
| "  | ≤ 47              | ≥ 53               |                       |                 |       | OP8            | 0                        | +10                        | 3119                   |                              |
| tert-AMYL PEROXYPIVALATE                         | ≤ 77              |                    | ≥ 23                  |                 |       | OP5            | +10                      | +15                        | 3113                   |                              |
| tert-AMYLPEROXY-3,5,5-TRIMETHYLHEXANOATE         | ≤ 100             |                    |                       |                 |       | OP7            |                          |                            | 3105                   | 3)                           |
| tert-BUTYL CUMYL PEROXIDE                        | > 42 - 100        |                    |                       |                 |       | OP8            |                          |                            | 3107                   |                              |
| "  | ≤ 52              |                    |                       | ≥ 48            |       | OP8            |                          |                            | 3108                   |                              |
| n-BUTYL-4,4-DI-(tert-BUTYLPEROXY)VALERATE        | > 52 - 100        |                    |                       |                 |       | OP5            |                          |                            | 3103                   |                              |
| "  | ≤ 52              |                    |                       | ≥ 48            |       | OP8            |                          |                            | 3108                   |                              |
| tert-BUTYL HYDROPEROXIDE                         | >79 - 90          |                    |                       |                 | ≥ 10  | OP5            |                          |                            | 3103                   | 13)                          |
| "  | ≤ 80              | ≥ 20               |                       |                 |       | OP7            |                          |                            | 3105                   | 4) 13)                       |
| "  | ≤ 79              |                    |                       |                 | > 14  | OP8            |                          |                            | 3107                   | 13) 23)                      |
| "  | ≤ 72              |                    |                       |                 | ≥ 28  | OP8            |                          |                            | 3109                   | 13)                          |
| tert-BUTYL HYDROPEROXIDE + DI-tert-BUTYLPEROXIDE | < 82 + >9         |                    |                       |                 | ≥ 7   | OP5            |                          |                            | 3103                   | 13)                          |

| ORGANIC PEROXIDE   | Concentration (%) | Diluent type A (%) | Diluent type B (%) 1) | Inert solid (%) | Water | Packing Method | Control temperature (°C) | Emergency temperature (°C) | Number (Generic entry) | Subsidiary risks and remarks |
|--|-------------------|--------------------|-----------------------|-----------------|-------|----------------|--------------------------|----------------------------|------------------------|------------------------------|
| tert-BUTYL MONOPEROXYMALEATE   | > 52 - 100        |                    |                       |                 |       | OP5            |                          |                            | 3102                   | 3)                           |
| "  | ≤ 52              | ≥ 48               |                       |                 |       | OP6            |                          |                            | 3103                   |                              |
| "  | ≤ 52              |                    |                       | ≥ 48            |       | OP8            |                          |                            | 3108                   |                              |
| "  | ≤ 52 as a paste   |                    |                       |                 |       | OP8            |                          |                            | 3108                   |                              |
| tert-BUTYL PEROXYACETATE   | > 52 - 77         | ≥ 23               |                       |                 |       | OP5            |                          |                            | 3101                   | 3)                           |
| "  | > 32 - 52         | ≥ 48               |                       |                 |       | OP6            |                          |                            | 3103                   |                              |
| "  | ≤ 32              |                    | ≥ 68                  |                 |       | OP8            |                          |                            | 3109                   |                              |
| tert-BUTYL PEROXYBENZOATE  | > 77 - 100        |                    |                       |                 |       | OP5            |                          |                            | 3103                   |                              |
| "  | > 52 - 77         | ≥ 23               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| "  | ≤ 52              |                    |                       | ≥ 48            |       | OP7            |                          |                            | 3106                   |                              |
| tert-BUTYL PEROXYBUTYL FUMARATE                                      | ≤ 52              | ≥ 48               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| tert-BUTYL PEROXYCROTONATE   | ≤ 77              | ≥ 23               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| tert-BUTYL PEROXYDIETHYLACETATE                                      | ≤ 100             |                    |                       |                 |       | OP5            | +20                      | +25                        | 3113                   |                              |
| tert-BUTYL PEROXY-2-ETHYLHEXANOATE                                   | > 52 – 100        |                    |                       |                 |       | OP6            | +20                      | +25                        | 3113                   |                              |
| "  | > 32 - 52         |                    | ≥ 48                  |                 |       | OP8            | +30                      | +35                        | 3117                   |                              |
| "  | ≤ 52              |                    |                       | ≥ 48            |       | OP8            | +20                      | +25                        | 3118                   |                              |
| "  | ≤ 32              |                    | ≥ 68                  |                 |       | OP8            | +40                      | +45                        | 3119                   |                              |
| tert-BUTYL PEROXY-2-ETHYLHEXANOATE + 2,2-DI-(tert-BUTYLPEROXY)BUTANE | ≤ 12 + ≤ 14       | ≥ 14               |                       | ≥ 60            |       | OP7            |                          |                            | 3106                   |                              |
| "  | ≤ 31 + ≤ 36       |                    | ≥ 33                  |                 |       | OP7            | +35                      | +40                        | 3115                   |                              |
| tert-BUTYL PEROXY-2-ETHYLHEXYLCARBONATE                              | ≤ 100             |                    |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| tert-BUTYL PEROXYISOBUTYRATE   | > 52 - 77         |                    | ≥ 23                  |                 |       | OP5            | +15                      | +20                        | 3111                   | 3)                           |
| "  | ≤ 52              |                    | ≥ 48                  |                 |       | OP7            | +15                      | +20                        | 3115                   |                              |
| tert-BUTYLPEROXY ISOPROPYLCARBONATE                                  | ≤ 77              | ≥ 23               |                       |                 |       | OP5            |                          |                            | 3103                   |                              |



| ORGANIC PEROXIDE                                      | Concentration (%)                             | Diluent type A (%) | Diluent type B (%) 1) | Inert solid (%) | Water | Packing Method | Control temperature (°C) | Emergency temperature (°C) | Number (Generic entry) | Subsidiary risks and remarks |
|---|---|--------------------|-----------------------|-----------------|-------|----------------|--------------------------|----------------------------|------------------------|------------------------------|
| 1-(2-tert-BUTYLPEROXY ISOPROPYL)-3-ISOPROPENYLBENZENE | ≤ 77  | ≥ 23               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| "   | ≤ 42  |                    |                       | ≥ 58            |       | OP8            |                          |                            | 3108                   |                              |
| tert-BUTYL PEROXY-2-METHYLBENZOATE                    | ≤ 100   |                    |                       |                 |       | OP5            |                          |                            | 3103                   |                              |
| tert-BUTYL PEROXYNEODECANOATE                         | > 77 - 100                                    |                    |                       |                 |       | OP7            | -5                       | +5                         | 3115                   |                              |
| "   | ≤ 77  |                    | ≥ 23                  |                 |       | OP7            | 0                        | +10                        | 3115                   |                              |
| "   | ≤ 52 as a stable dispersion in water          |                    |                       |                 |       | OP8            | 0                        | +10                        | 3119                   |                              |
| "   | ≤ 42 as a stable dispersion in water (frozen) |                    |                       |                 |       | OP8            | 0                        | +10                        | 3118                   |                              |
| "   | ≤ 32  | ≥ 68               |                       |                 |       | OP8            | 0                        | +10                        | 3119                   |                              |
| tert-BUTYL PEROXYNEOHEPTANOATE                        | ≤ 77  | ≥ 23               |                       |                 |       | OP7            | 0                        | +10                        | 3115                   |                              |
| "   | ≤ 42 as a stable dispersion in water          |                    |                       |                 |       | OP8            | 0                        | +10                        | 3117                   |                              |
| tert-BUTYL PEROXYPIVALATE                             | > 67 - 77                                     | ≥ 23               |                       |                 |       | OP5            | 0                        | +10                        | 3113                   |                              |
| "   | > 27 - 67                                     |                    | ≥ 33                  |                 |       | OP7            | 0                        | +10                        | 3115                   |                              |
| "   | ≤ 27  |                    | ≥ 73                  |                 |       | OP8            | +30                      | +35                        | 3119                   |                              |
| tert-BUTYLPEROXY STEARYLCARBONATE                     | ≤ 100   |                    |                       |                 |       | OP7            |                          |                            | 3106                   |                              |
| tert-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE            | > 32 - 100                                    |                    |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| "   | ≤ 42  |                    |                       | ≥ 58            |       | OP7            |                          |                            | 3106                   |                              |
| "   | ≤ 32  |                    | ≥ 68                  |                 |       | OP8            |                          |                            | 3109                   |                              |
| 3-CHLOROPEROXYBENZOIC ACID                            | > 57 - 86                                     |                    |                       | ≥ 14            |       | OP1            |                          |                            | 3102                   | 3)                           |
| "   | ≤ 57  |                    |                       | ≥ 3             | ≥ 40  | OP7            |                          |                            | 3106                   |                              |
| "   | ≤ 77  |                    |                       | ≥ 6             | ≥ 17  | OP7            |                          |                            | 3106                   |                              |
| CUMYL HYDROPEROXIDE                                   | > 90 - 98                                     | ≤ 10               |                       |                 |       | OP8            |                          |                            | 3107                   | 13)                          |
| "   | ≤ 90  | ≥ 10               |                       |                 |       | OP8            |                          |                            | 3109                   | 13) 18)                      |

| ORGANIC PEROXIDE                    | Concentration (%)                    | Diluent type A (%) | Diluent type B (%) 1) | Inert solid (%) | Water | Packing Method | Control temperature (°C) | Emergency temperature (°C) | Number (Generic entry) | Subsidiary risks and remarks |
|-------------------------------------|--------------------------------------|--------------------|-----------------------|-----------------|-------|----------------|--------------------------|----------------------------|------------------------|------------------------------|
| CUMYL PEROXYNEODECANOATE            | ≤ 87                                 | ≥ 13               |                       |                 |       | OP7            | - 10                     | 0                          | 3115                   |                              |
| "                                   | ≤ 77                                 |                    | ≥ 23                  |                 |       | OP7            | -10                      | 0                          | 3115                   |                              |
| "                                   | ≤ 52 as a stable dispersion in water |                    |                       |                 |       | OP8            | -10                      | 0                          | 3119                   |                              |
| CUMYL PEROXYNEOHEPTANOATE           | ≤ 77                                 | ≥ 23               |                       |                 |       | OP7            | -10                      | 0                          | 3115                   |                              |
| CUMYL PEROXYPIVALATE                | ≤ 77                                 |                    | ≥ 23                  |                 |       | OP7            | -5                       | +5                         | 3115                   |                              |
| CYCLOHEXANONE PEROXIDE(S)           | ≤ 91                                 |                    |                       |                 | ≥ 9   | OP6            |                          |                            | 3104                   | 13)                          |
| "                                   | ≤ 72                                 | ≥ 28               |                       |                 |       | OP7            |                          |                            | 3105                   | 5)                           |
| "                                   | ≤ 72 as a paste                      |                    |                       |                 |       | OP7            |                          |                            | 3106                   | 5) 20)                       |
| "                                   | ≤ 32                                 |                    |                       | ≥ 68            |       |                |                          |                            | Exempt                 | 29)                          |
| DIACETONE ALCOHOL PEROXIDES         | ≤ 57                                 |                    | ≥ 26                  |                 | ≥ 8   | OP7            | +40                      | +45                        | 3115                   | 6)                           |
| DIACETYL PEROXIDE                   | ≤ 27                                 |                    | ≥ 73                  |                 |       | OP7            | +20                      | +25                        | 3115                   | 7) 13)                       |
| DI-tert-AMYL PEROXIDE               | ≤ 100                                |                    |                       |                 |       | OP8            |                          |                            | 3107                   |                              |
| 2,2-DI-(tert-AMYLPEROXY)BUTANE      | ≤ 57                                 | ≥ 43               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| 1,1-DI-(tert-AMYLPEROXY)CYCLOHEXANE | ≤ 82                                 | ≥ 18               |                       |                 |       | OP6            |                          |                            | 3103                   |                              |
| DIBENZOYL PEROXIDE                  | > 51 - 100                           |                    |                       | ≤ 48            |       | OP2            |                          |                            | 3102                   | 3)                           |
| "                                   | > 77 - 94                            |                    |                       |                 | ≥ 6   | OP4            |                          |                            | 3102                   | 3)                           |
| "                                   | ≤ 77                                 |                    |                       |                 | ≥ 23  | OP6            |                          |                            | 3104                   |                              |
| "                                   | ≤ 62                                 |                    |                       | ≥ 28            | ≥ 10  | OP7            |                          |                            | 3106                   |                              |
| "                                   | > 52 – 62 as a paste                 |                    |                       |                 |       | OP7            |                          |                            | 3106                   | 20)                          |
| "                                   | > 35 - 52                            |                    |                       | ≥ 48            |       | OP7            |                          |                            | 3106                   |                              |
| "                                   | > 36 - 42                            | ≥ 18               |                       |                 | ≤ 40  | OP8            |                          |                            | 3107                   |                              |
| "                                   | ≤ 56.5 as a paste                    |                    |                       |                 | ≥ 15  | OP8            |                          |                            | 3108                   |                              |
| "                                   | ≤ 52 as a paste                      |                    |                       |                 |       | OP8            |                          |                            | 3108                   | 20)                          |
| "                                   | ≤ 42 as a stable dispersion in water |                    |                       |                 |       | OP8            |                          |                            | 3109                   |                              |
| "                                   | ≤ 35                                 |                    |                       | ≥ 65            |       |                |                          |                            | Exempt                 | 29)                          |

| ORGANIC PEROXIDE   | Concentration (%)                             | Diluent type A (%) | Diluent type B (%) 1) | Inert solid (%) | Water | Packing Method | Control temperature (°C) | Emergency temperature (°C) | Number (Generic entry) | Subsidiary risks and remarks |
|--|---|--------------------|-----------------------|-----------------|-------|----------------|--------------------------|----------------------------|------------------------|------------------------------|
| DI-(4-tert-BUTYLCYCLOHEXYL) PEROXYDICARBONATE                              | ≤ 100   |                    |                       |                 |       | OP6            | +30                      | +35                        | 3114                   |                              |
| "  | ≤ 42 as a stable dispersion in water          |                    |                       |                 |       | OP8            | +30                      | +35                        | 3119                   |                              |
| DI-tert-BUTYL PEROXIDE   | > 52 - 100                                    |                    |                       |                 |       | OP8            |                          |                            | 3107                   |                              |
| "  | ≤ 52  |                    | ≥ 48                  |                 |       | OP8            |                          |                            | 3109                   | 25)                          |
| DI-tert-BUTYL PEROXYAZELATE  | ≤ 52  | ≥ 48               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| 2,2-DI-(tert-BUTYLPEROXY)BUTANE  | ≤ 52  | ≥ 48               |                       |                 |       | OP6            |                          |                            | 3103                   |                              |
| 1,6-Di-(tert-BUTYLPEROXYCARBONYLOXY) HEXANE                                | ≤ 72  | ≥ 28               |                       |                 |       | OP5            |                          |                            | 3103                   |                              |
| 1,1-DI-(tert-BUTYLPEROXY) CYCLOHEXANE                                      | > 80 - 100                                    |                    |                       |                 |       | OP5            |                          |                            | 3101                   | 3)                           |
| "  | ≤ 72  |                    | ≥ 28                  |                 |       | OP5            |                          |                            | 3103                   | 30)                          |
| "  | > 52 - 80                                     | ≥ 20               |                       |                 |       | OP5            |                          |                            | 3103                   |                              |
| "  | > 42 - 52                                     | ≥ 48               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| "  | ≤ 42  | ≥ 13               |                       | ≥ 45            |       | OP7            |                          |                            | 3106                   |                              |
| "  | ≤ 42  | ≥ 58               |                       |                 |       | OP8            |                          |                            | 3109                   |                              |
| "  | ≤ 27  | ≥ 25               |                       |                 |       | OP8            |                          |                            | 3107                   | 21)                          |
| "  | ≤ 13  | ≥ 13               | ≥ 74                  |                 |       | OP8            |                          |                            | 3109                   |                              |
| 1,1-DI-(tert-BUTYLPEROXY) CYCLOHEXANE + tert-BUTYL PEROXY-2-ETHYLHEXANOATE | ≤ 43 + ≤ 16                                   | ≥ 41               |                       |                 |       | OP 7           |                          |                            | 3105                   |                              |
| DI-n-BUTYL PEROXYDICARBONATE   | > 27 - 52                                     |                    | ≥ 48                  |                 |       | OP7            | -15                      | -5                         | 3115                   |                              |
| "  | ≤ 27  |                    | ≥ 73                  |                 |       | OP8            | -10                      | 0                          | 3117                   |                              |
| "  | ≤ 42 as a stable dispersion in water (frozen) |                    |                       |                 |       | OP8            | -15                      | -5                         | 3118                   |                              |
| DI-sec-BUTYL PEROXYDICARBONATE   | > 52 - 100                                    |                    |                       |                 |       | OP4            | -20                      | -10                        | 3113                   |                              |
| "  | ≤ 52  |                    | ≥ 48                  |                 |       | OP7            | -15                      | -5                         | 3115                   |                              |

| ORGANIC PEROXIDE                                     | Concentration (%)                    | Diluent type A (%) | Diluent type B (%) 1) | Inert solid (%) | Water | Packing Method | Control temperature (°C) | Emergency temperature (°C) | Number (Generic entry) | Subsidiary risks and remarks |
|--|--------------------------------------|--------------------|-----------------------|-----------------|-------|----------------|--------------------------|----------------------------|------------------------|------------------------------|
| DI-(2-tert-BUTYLPEROXYISOPROPYL)BENZENE(S)           | > 42 - 100                           |                    |                       | ≤ 57            |       | OP7            |                          |                            | 3106                   |                              |
| "  | ≤ 42                                 |                    |                       | ≥ 58            |       |                |                          |                            | Exempt                 | 29)                          |
| DI-(tert-BUTYLPEROXY) PHTHALATE                      | > 42 - 52                            | ≥ 48               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| "  | ≤ 52 as a paste                      |                    |                       |                 |       | OP7            |                          |                            | 3106                   | 20)                          |
| "  | ≤ 42                                 | ≥ 58               |                       |                 |       | OP8            |                          |                            | 3107                   |                              |
| 2,2-DI-(tert-BUTYLPEROXY)PROPANE                     | ≤ 52                                 | ≥ 48               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| "  | ≤ 42                                 | ≥ 13               |                       | ≥ 45            |       | OP7            |                          |                            | 3106                   |                              |
| 1,1-DI-(tert-BUTYLPEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE | > 90 - 100                           |                    |                       |                 |       | OP5            |                          |                            | 3101                   | 3)                           |
| "  | ≤ 90                                 |                    | ≥ 10                  |                 |       | OP5            |                          |                            | 3103                   | 30)                          |
| "  | > 57 - 90                            | ≥ 10               |                       |                 |       | OP5            |                          |                            | 3103                   |                              |
| "  | ≤ 77                                 |                    | ≥ 23                  |                 |       | OP5            |                          |                            | 3103                   |                              |
| "  | ≤ 57                                 |                    |                       | ≥ 43            |       | OP8            |                          |                            | 3110                   |                              |
| "  | ≤ 57                                 | ≥ 43               |                       |                 |       | OP8            |                          |                            | 3107                   |                              |
| "  | ≤ 32                                 | ≥ 26               | ≥ 42                  |                 |       | OP8            |                          |                            | 3107                   |                              |
| DICETYL PEROXYDICARBONATE                            | ≤ 100                                |                    |                       |                 |       | OP7            | +30                      | +35                        | 3116                   |                              |
| "  | ≤ 42 as a stable dispersion in water |                    |                       |                 |       | OP8            | +30                      | +35                        | 3119                   |                              |
| DI-4-CHLOROBENZOYL PEROXIDE                          | ≤ 77                                 |                    |                       |                 | ≥ 23  | OP5            |                          |                            | 3102                   | 3)                           |
| "  | ≤ 52 as a paste                      |                    |                       |                 |       | OP7            |                          |                            | 3106                   | 20)                          |
| "  | ≤ 32                                 |                    |                       | ≥ 68            |       |                |                          |                            | Exempt                 | 29)                          |
| DICUMYL PEROXIDE                                     | > 52 - 100                           |                    |                       |                 |       | OP8            |                          |                            | 3110                   | 12)                          |
| "  | ≤ 52                                 |                    |                       | ≥ 48            |       |                |                          |                            | Exempt                 | 29)                          |
| DICYCLOHEXYL PEROXYDICARBONATE                       | > 91 - 100                           |                    |                       |                 |       | OP3            | +10                      | +15                        | 3112                   | 3)                           |
| "  | ≤ 91                                 |                    |                       |                 | ≥ 9   | OP5            | +10                      | +15                        | 3114                   |                              |
| "  | ≤ 42 as a stable dispersion in water |                    |                       |                 |       | OP8            | +15                      | +20                        | 3119                   |                              |

| ORGANIC PEROXIDE                                      | Concentration (%)                             | Diluent type A (%) | Diluent type B (%) 1) | Inert solid (%) | Water | Packing Method | Control temperature (°C) | Emergency temperature (°C) | Number (Generic entry) | Subsidiary risks and remarks |
|---|---|--------------------|-----------------------|-----------------|-------|----------------|--------------------------|----------------------------|------------------------|------------------------------|
| DIDECANOYL PEROXIDE                                   | ≤ 100   |                    |                       |                 |       | OP6            | +30                      | +35                        | 3114                   |                              |
| 2,2-DI-(4,4-DI (tert-BUTYLPEROXY) CYCLOHEXYL) PROPANE | ≤ 42  |                    |                       | ≥ 58            |       | OP7            |                          |                            | 3106                   |                              |
| "   | ≤ 22  |                    | ≥ 78                  |                 |       | OP8            |                          |                            | 3107                   |                              |
| DI-2,4-DICHLOROBENZOYL PEROXIDE                       | ≤ 77  |                    |                       |                 | ≥ 23  | OP5            |                          |                            | 3102                   | 3)                           |
| "   | ≤ 52 as a paste                               |                    |                       |                 |       | OP8            | + 20                     | + 25                       | 3118                   |                              |
| "   | ≤ 52 as a paste with silicon oil              |                    |                       |                 |       | OP7            |                          |                            | 3106                   |                              |
| DI-(2-ETHOXYETHYL) PEROXYDICARBONATE                  | ≤ 52  |                    | ≥ 48                  |                 |       | OP7            | -10                      | 0                          | 3115                   |                              |
| DI-(2-ETHYLHEXYL) PEROXYDICARBONATE                   | > 77 – 100                                    |                    |                       |                 |       | OP5            | -20                      | -10                        | 3113                   |                              |
| "   | ≤ 77  |                    | ≥ 23                  |                 |       | OP7            | -15                      | -5                         | 3115                   |                              |
| "   | ≤ 62 as a stable dispersion in water          |                    |                       |                 |       | OP8            | -15                      | -5                         | 3119                   |                              |
| "   | ≤ 52 as a stable dispersion in water (frozen) |                    |                       |                 |       | OP8            | -15                      | -5                         | 3120                   |                              |
| 2,2-DIHYDROPEROXYPROPANE                              | ≤ 27  |                    |                       | ≥ 73            |       | OP5            |                          |                            | 3102                   | 3)                           |
| DI-(1-HYDROXYCYCLOHEXYL) PEROXIDE                     | ≤ 100   |                    |                       |                 |       | OP7            |                          |                            | 3106                   |                              |
| DIISOBUTYRYL PEROXIDE                                 | > 32 – 52                                     |                    | ≥ 48                  |                 |       | OP5            | -20                      | -10                        | 3111                   | 3)                           |
| "   | ≤ 32  |                    | ≥ 68                  |                 |       | OP7            | -20                      | -10                        | 3115                   |                              |
| DIISOPROPYLBENZENE DIHYDROPEROXIDE                    | ≤ 82  | ≥ 5                |                       |                 | ≥ 5   | OP7            |                          |                            | 3106                   | 24)                          |
| DIISOPROPYL PEROXYDICARBONATE                         | > 52-100                                      |                    |                       |                 |       | OP2            | -15                      | -5                         | 3112                   | 3)                           |
| "   | ≤ 52  |                    | ≥ 48                  |                 |       | OP7            | -20                      | -10                        | 3115                   |                              |
| "   | ≤ 28  | ≥ 72               |                       |                 |       | OP7            | -15                      | -5                         | 3115                   |                              |
| DILAULOYL PEROXIDE                                    | ≤ 100   |                    |                       |                 |       | OP7            |                          |                            | 3106                   |                              |
| "   | ≤ 42 as a stable dispersion in water          |                    |                       |                 |       | OP8            |                          |                            | 3109                   |                              |
| DI-(3-METHOXYBUTYL) PEROXYDICARBONATE                 | ≤ 52  |                    | ≥ 48                  |                 |       | OP7            | -5                       | +5                         | 3115                   |                              |

| ORGANIC PEROXIDE  | Concentration (%)                    | Diluent type A (%) | Diluent type B (%) 1) | Inert solid (%) | Water | Packing Method | Control temperature (°C) | Emergency temperature (°C) | Number (Generic entry) | Subsidiary risks and remarks |
|---|--------------------------------------|--------------------|-----------------------|-----------------|-------|----------------|--------------------------|----------------------------|------------------------|------------------------------|
| DI-(2-METHYLBENZOYL) PEROXIDE   | ≤ 87                                 |                    |                       |                 | ≥ 13  | OP5            | +30                      | +35                        | 3112                   | 3)                           |
| DI-(3-METHYLBENZOYL) PEROXIDE + BENZOYL (3-METHYLBENZOYL) PEROXIDE + DIBENZOYL PEROXIDE | ≤ 20 + ≤ 18 + ≤ 4                    |                    | ≥ 58                  |                 |       | OP7            | +35                      | +40                        | 3115                   |                              |
| DI-(4-METHYLBENZOYL) PEROXIDE   | ≤ 52 as a paste with silicon oil     |                    |                       |                 |       | OP7            |                          |                            | 3106                   |                              |
| 2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE   | > 82-100                             |                    |                       |                 |       | OP5            |                          |                            | 3102                   | 3)                           |
| "   | ≤ 82                                 |                    |                       | ≥ 18            |       | OP7            |                          |                            | 3106                   |                              |
| "   | ≤ 82                                 |                    |                       |                 | ≥ 18  | OP5            |                          |                            | 3104                   |                              |
| 2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY)HEXANE  | > 52 – 100                           |                    |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| "   | ≤ 77                                 |                    |                       | ≥ 23            |       | OP8            |                          |                            | 3108                   |                              |
| "   | ≤ 52                                 | ≥ 48               |                       |                 |       | OP8            |                          |                            | 3109                   |                              |
| "   | ≤ 47 as a paste                      |                    |                       |                 |       | OP8            |                          |                            | 3108                   |                              |
| 2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY)HEXYNE-3  | > 86-100                             |                    |                       |                 |       | OP5            |                          |                            | 3101                   | 3)                           |
| "   | >52-86                               | ≥ 14               |                       |                 |       | OP5            |                          |                            | 3103                   | 26)                          |
| "   | ≤ 52                                 |                    |                       | ≥ 48            |       | OP7            |                          |                            | 3106                   |                              |
| 2,5-DIMETHYL-2,5-DI-(2-ETHYLHEXANOYLPEROXY)HEXANE                                       | ≤ 100                                |                    |                       |                 |       | OP5            | +20                      | +25                        | 3113                   |                              |
| 2,5-DIMETHYL-2,5-DIHYDROPEROXYHEXANE  | ≤ 82                                 |                    |                       |                 | ≥ 18  | OP6            |                          |                            | 3104                   |                              |
| 2,5-DIMETHYL-2,5-DI-(3,5,5-TRIMETHYLHEXANOYLPEROXY)HEXANE                               | ≤ 77                                 | ≥ 23               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| 1,1-DIMETHYL-3-HYDROXYBUTYL PEROXYNEOHEPTANOATE   | ≤ 52                                 | ≥ 48               |                       |                 |       | OP8            | 0                        | +10                        | 3117                   |                              |
| DIMYRISTYL PEROXYDICARBONATE  | ≤ 100                                |                    |                       |                 |       | OP7            | +20                      | +25                        | 3116                   |                              |
| "   | ≤ 42 as a stable dispersion in water |                    |                       |                 |       | OP8            | +20                      | +25                        | 3119                   |                              |

| ORGANIC PEROXIDE   | Concentration (%)                    | Diluent type A (%) | Diluent type B (%) 1) | Inert solid (%) | Water | Packing Method | Control temperature (°C) | Emergency temperature (°C) | Number (Generic entry) | Subsidiary risks and remarks |
|--|--------------------------------------|--------------------|-----------------------|-----------------|-------|----------------|--------------------------|----------------------------|------------------------|------------------------------|
| DI-(2-NEODECANOYLPEROXYISOPROPYL) BENZENE                  | ≤ 52                                 | ≥ 48               |                       |                 |       | OP7            | -10                      | 0                          | 3115                   |                              |
| DI-n-NONANOYL PEROXIDE                                     | ≤ 100                                |                    |                       |                 |       | OP7            | 0                        | +10                        | 3116                   |                              |
| DI-n-OCTANOYL PEROXIDE                                     | ≤ 100                                |                    |                       |                 |       | OP5            | +10                      | +15                        | 3114                   |                              |
| DI-(2-PHENOXYETHYL) PEROXYDICARBONATE                      | >85-100                              |                    |                       |                 |       | OP5            |                          |                            | 3102                   | 3)                           |
| "  | ≤ 85                                 |                    |                       |                 | ≥ 15  | OP7            |                          |                            | 3106                   |                              |
| DIPROPIONYL PEROXIDE                                       | ≤ 27                                 |                    | ≥ 73                  |                 |       | OP8            | +15                      | +20                        | 3117                   |                              |
| DI-n-PROPYL PEROXYDICARBONATE                              | ≤ 100                                |                    |                       |                 |       | OP3            | -25                      | -15                        | 3113                   |                              |
| "  | ≤ 77                                 |                    | ≥ 23                  |                 |       | OP5            | -20                      | -10                        | 3113                   |                              |
| DISUCCINIC ACID PEROXIDE                                   | > 72-100                             |                    |                       |                 |       | OP4            |                          |                            | 3102                   | 3) 17)                       |
| "  | ≤ 72                                 |                    |                       |                 | ≥ 28  | OP7            | +10                      | +15                        | 3116                   |                              |
| DI-(3,5,5-TRIMETHYLHEXANOYL) PEROXIDE                      | > 38-82                              | ≥ 18               |                       |                 |       | OP7            | 0                        | +10                        | 3115                   |                              |
| "  | ≤ 52 as a stable dispersion in water |                    |                       |                 |       | OP8            | +10                      | +15                        | 3119                   |                              |
| "  | ≤ 38                                 | ≥ 62               |                       |                 |       | OP8            | +20                      | +25                        | 3119                   |                              |
| ETHYL 3,3-DI-(tert-AMYLPEROXY)BUTYRATE                     | ≤ 67                                 | ≥ 33               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| ETHYL 3,3-DI-(tert-BUTYLPEROXY)BUTYRATE                    | > 77 - 100                           |                    |                       |                 |       | OP5            |                          |                            | 3103                   |                              |
| "  | ≤ 77                                 | ≥ 23               |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| "  | ≤ 52                                 |                    |                       | ≥ 48            |       | OP7            |                          |                            | 3106                   |                              |
| 1-(2-ETHYLHEXANOYLPEROXY)-1,3-DIMETHYLBUTYL PEROXYPIVALATE | ≤ 52                                 | ≥ 45               | ≥ 10                  |                 |       | OP7            | -20                      | -10                        | 3115                   |                              |
| tert-HEXYL PEROXYNEODECANOATE                              | ≤ 71                                 | ≥ 29               |                       |                 |       | OP7            | 0                        | +10                        | 3115                   |                              |
| tert-HEXYL PEROXYPIVALATE                                  | ≤ 72                                 |                    | ≥ 28                  |                 |       | OP7            | +10                      | +15                        | 3115                   |                              |
| 3-HYDROXY-1,1-DIMETHYLBUTYL PEROXYNEODECANOATE             | ≤ 77                                 | ≥ 23               |                       |                 |       | OP 7           | - 5                      | + 5                        | 3115                   |                              |
| "  | ≤ 52                                 | ≥ 48               |                       |                 |       | OP 8           | - 5                      | + 5                        | 3117                   |                              |
| "  | ≤ 52 as a stable dispersion in water |                    |                       |                 |       | OP 8           | - 5                      | + 5                        | 3119                   |                              |

| ORGANIC PEROXIDE  | Concentration (%)                          | Diluent type A (%) | Diluent type B (%) 1) | Inert solid (%) | Water | Packing Method | Control temperature (°C) | Emergency temperature (°C) | Number (Generic entry) | Subsidiary risks and remarks |
|---|--|--------------------|-----------------------|-----------------|-------|----------------|--------------------------|----------------------------|------------------------|------------------------------|
| ISOPROPYL sec-BUTYL PEROXYDICARBONATE<br>+DI-sec-BUTYL PEROXYDICARBONATE<br>+DI-ISOPROPYL PEROXYDICARBONATE | $\leq 32 + \leq 15 - 18$<br>$\leq 12 - 15$ | $\geq 38$          |                       |                 |       | OP7            | -20                      | -10                        | 3115                   |                              |
| "   | $\leq 52 + \leq 28 + \leq 22$              |                    |                       |                 |       | OP5            | -20                      | -10                        | 3111                   | 3)                           |
| ISOPROPYLCUMYL HYDROPEROXIDE  | $\leq 72$                                  | $\geq 28$          |                       |                 |       | OP8            |                          |                            | 3109                   | 13)                          |
| p-MENTHYL HYDROPEROXIDE   | $> 72 - 100$                               |                    |                       |                 |       | OP7            |                          |                            | 3105                   | 13)                          |
| "   | $\leq 72$                                  | $\geq 28$          |                       |                 |       | OP8            |                          |                            | 3109                   | 27)                          |
| METHYLCYCLOHEXANONE PEROXIDE(S)   | $\leq 67$                                  |                    | $\geq 33$             |                 |       | OP7            | +35                      | +40                        | 3115                   |                              |
| METHYL ETHYL KETONE PEROXIDE(S)   | see remark 8)                              | $\geq 48$          |                       |                 |       | OP5            |                          |                            | 3101                   | 3) 8) 13)                    |
| "   | see remark 9)                              | $\geq 55$          |                       |                 |       | OP7            |                          |                            | 3105                   | 9)                           |
| "   | see remark 10)                             | $\geq 60$          |                       |                 |       | OP8            |                          |                            | 3107                   | 10)                          |
| METHYL ISOBUTYL KETONE PEROXIDE(S)  | $\leq 62$                                  | $\geq 19$          |                       |                 |       | OP7            |                          |                            | 3105                   | 22)                          |
| METHYL ISOPROPYL KETONE PEROXIDE(S)   | see remark 31)                             | $\geq 70$          |                       |                 |       | OP8            |                          |                            | 3109                   | 31)                          |
| ORGANIC PEROXIDE, LIQUID, SAMPLE  |  |                    |                       |                 |       | OP2            |                          |                            | 3103                   | 11)                          |
| ORGANIC PEROXIDE, LIQUID, SAMPLE,<br>TEMPERATURE CONTROLLED   |  |                    |                       |                 |       | OP2            |                          |                            | 3113                   | 11)                          |
| ORGANIC PEROXIDE, SOLID, SAMPLE   |  |                    |                       |                 |       | OP2            |                          |                            | 3104                   | 11)                          |
| ORGANIC PEROXIDE, SOLID, SAMPLE,<br>TEMPERATURE CONTROLLED  |  |                    |                       |                 |       | OP2            |                          |                            | 3114                   | 11)                          |
| 3,3,5,7,7-PENTAMETHYL-1,2,4-TRIOXEPANE  | $\leq 100$                                 |                    |                       |                 |       | OP8            |                          |                            | 3107                   |                              |
| PEROXYACETIC ACID, TYPE D, stabilized   | $\leq 43$                                  |                    |                       |                 |       | OP7            |                          |                            | 3105                   | 13) 14) 19)                  |
| PEROXYACETIC ACID, TYPE E, stabilized   | $\leq 43$                                  |                    |                       |                 |       | OP8            |                          |                            | 3107                   | 13) 15) 19)                  |
| PEROXYACETIC ACID, TYPE F, stabilized   | $\leq 43$                                  |                    |                       |                 |       | OP8            |                          |                            | 3109                   | 13) 16) 19)                  |
| PEROXYLAURIC ACID   | $\leq 100$                                 |                    |                       |                 |       | OP8            | +35                      | +40                        | 3118                   |                              |
| PINANYL HYDROPEROXIDE   | $> 56 - 100$                               |                    |                       |                 |       | OP7            |                          |                            | 3105                   | 13)                          |
| "   | $\leq 56$                                  | $\geq 44$          |                       |                 |       | OP8            |                          |                            | 3109                   |                              |
| POLYETHER POLY-tert-BUTYLPEROXY-CARBONATE   | $\leq 52$                                  |                    | $\geq 48$             |                 |       | OP8            |                          |                            | 3107                   |                              |



| ORGANIC PEROXIDE                                   | Concentration (%)                    | Diluent type A (%) | Diluent type B (%) 1) | Inert solid (%) | Water | Packing Method | Control temperature (°C) | Emergency temperature (°C) | Number (Generic entry) | Subsidiary risks and remarks |
|--|--------------------------------------|--------------------|-----------------------|-----------------|-------|----------------|--------------------------|----------------------------|------------------------|------------------------------|
| 1,1,3,3-TETRAMETHYLBUTYL HYDROPEROXIDE             | ≤ 100                                |                    |                       |                 |       | OP7            |                          |                            | 3105                   |                              |
| 1,1,3,3-TETRAMETHYLBUTYL PEROXY-2-ETHYLHEXANOATE   | ≤ 100                                |                    |                       |                 |       | OP7            | +15                      | +20                        | 3115                   |                              |
| 1,1,3,3- TETRAMETHYLBUTYL PEROXYNEODECANOATE       | ≤ 72                                 |                    | ≥ 28                  |                 |       | OP7            | -5                       | +5                         | 3115                   |                              |
| "  | ≤ 52 as a stable dispersion in water |                    |                       |                 |       | OP8            | -5                       | +5                         | 3119                   |                              |
| 1,1,3,3-TETRAMETHYLBUTYL PEROXYPIVALATE            | ≤ 77                                 | ≥ 23               |                       |                 |       | OP7            | 0                        | +10                        | 3115                   |                              |
| 3,6,9-TRIETHYL-3,6,9-TRIMETHYL-1,4,7 TRIPEROXONANE | ≤ 42                                 | ≥ 58               |                       |                 |       | OP7            |                          |                            | 3105                   | 28)                          |

**Remarks (refer to the last column of the Table in 2.2.52.4):**

- 1) Diluent type B may always be replaced by diluent type A. The boiling point of diluent type B shall be at least 60°C higher than the SADT of the organic peroxide.
- 2) Available oxygen  $\leq 4.7\%$ .
- 3) "EXPLOSIVE" subsidiary risk label required (Model No.1, see 5.2.2.2.2).
- 4) Diluent may be replaced by di-tert-butyl peroxide.
- 5) Available oxygen  $\leq 9\%$ .
- 6) With  $\leq 9\%$  hydrogen peroxide; available oxygen  $\leq 10\%$ .
- 7) Only non-metallic packagings allowed.
- 8) Available oxygen  $> 10\%$  and  $\leq 10.7\%$ , with or without water.
- 9) Available oxygen  $\leq 10\%$ , with or without water.
- 10) Available oxygen  $\leq 8.2\%$ , with or without water.
- 11) See 2.2.52.1.9.
- 12) Up to 2000 kg per receptacle assigned to ORGANIC PEROXIDE TYPE F on the basis of large scale trials.
- 13) "CORROSIVE" subsidiary risk label required (Model No.8, see 5.2.2.2.2).
- 14) Peroxyacetic acid formulations which fulfil the criteria of the Manual of Tests and Criteria, paragraph 20.4.3 (d).
- 15) Peroxyacetic acid formulations which fulfil the criteria of the Manual of Tests and Criteria, paragraph 20.4.3 (e).
- 16) Peroxyacetic acid formulations which fulfil the criteria of the Manual of Tests and Criteria, paragraph 20.4.3 (f).
- 17) Addition of water to this organic peroxide will decrease its thermal stability.
- 18) No "CORROSIVE" subsidiary risk label (Model No.8, see 5.2.2.2.2) required for concentrations below 80%.
- 19) Mixtures with hydrogen peroxide, water and acid(s).
- 20) With diluent type A, with or without water.
- 21) With  $\geq 25\%$  diluent type A by mass, and in addition ethylbenzene.
- 22) With  $\geq 19\%$ , diluent type A by mass, and in addition methyl isobutyl ketone.
- 23) With  $< 6\%$  di-tert-butyl peroxide.
- 24) With  $\leq 8\%$  1-isopropylhydroperoxy-4-isopropylhydroxybenzene.
- 25) Diluent type B with boiling point  $> 110\text{ }^{\circ}\text{C}$ .
- 26) With  $< 0.5\%$  hydroperoxides content.
- 27) For concentrations more than 56%, "CORROSIVE" subsidiary risk label required (Model No.8, see 5.2.2.2.2).
- 28) Available active oxygen  $\leq 7.6\%$  in diluent type A having a 95% boil-off point in the range of 200 - 260 °C.
- 29) Not subject to the requirements of ADR for Class 5.2.
- 30) Diluent type B with boiling point  $> 130\text{ }^{\circ}\text{C}$ .
- 31) Active oxygen  $\leq 6.7\%$ .

**2.2.61            Class 6.1            Toxic substances****2.2.61.1            *Criteria***

2.2.61.1.1            The heading of Class 6.1 covers substances of which it is known by experience or regarding which it is presumed from experiments on animals that in relatively small quantities they are able by a single action or by action of short duration to cause damage to human health, or death, by inhalation, by cutaneous absorption or by ingestion.

2.2.61.1.2            Substances of Class 6.1 are subdivided as follows:

T            Toxic substances without subsidiary risk:

- T1    Organic, liquid;
- T2    Organic, solid;
- T3    Organometallic substances;
- T4    Inorganic, liquid;
- T5    Inorganic, solid;
- T6    Liquid, used as pesticides;
- T7    Solid, used as pesticides;
- T8    Samples;
- T9    Other toxic substances;

TF    Toxic substances, flammable:

- TF1   Liquid;
- TF2   Liquid, used as pesticides;
- TF3   Solid;

TS    Toxic substances, self-heating, solid;

TW    Toxic substances, which, in contact with water, emit flammable gases:

- TW1   Liquid;
- TW2   Solid;

TO    Toxic substances, oxidizing:

- TO1   Liquid;
- TO2   Solid;

TC    Toxic substances, corrosive:

- TC1   Organic, liquid;
- TC2   Organic, solid;
- TC3   Inorganic, liquid;
- TC4   Inorganic, solid;

TFC   Toxic substances, flammable, corrosive.

*Definitions*

## 2.2.61.1.3 For the purposes of ADR:

*LD<sub>50</sub> (median lethal dose) for acute oral toxicity* is the statistically derived single dose of a substance that can be expected to cause death within 14 days in 50 per cent of young adult albino rats when administered by the oral route. The LD<sub>50</sub> value is expressed in terms of mass of test substance per mass of test animal (mg/kg);

*LD<sub>50</sub> for acute dermal toxicity* is that dose of the substance which, administered by continuous contact for 24 hours with the bare skin of albino rabbits, is most likely to cause death within 14 days in one half of the animals tested. The number of animals tested shall be sufficient to give a statistically significant result and be in conformity with good pharmacological practice. The result is expressed in milligrams per kg body mass;

*LC<sub>50</sub> for acute toxicity on inhalation* is that concentration of vapour, mist or dust which, administered by continuous inhalation to both male and female young adult albino rats for one hour, is most likely to cause death within 14 days in one half of the animals tested. A solid substance shall be tested if at least 10% (by mass) of its total mass is likely to be dust in a respirable range, e.g. the aerodynamic diameter of that particle-fraction is 10 µm or less. A liquid substance shall be tested if a mist is likely to be generated in a leakage of the transport containment. Both for solid and liquid substances more than 90% (by mass) of a specimen prepared for inhalation toxicity shall be in the respirable range as defined above. The result is expressed in milligrams per litre of air for dusts and mists or in millilitres per cubic metre of air (parts per million) for vapours.

*Classification and assignment of packing groups*

## 2.2.61.1.4 Substances of Class 6.1 shall be classified in three packing groups according to the degree of danger they present for carriage, as follows:

|                    |                            |
|--------------------|----------------------------|
| Packing group I:   | highly toxic substances    |
| Packing group II:  | toxic substances           |
| Packing group III: | slightly toxic substances. |

## 2.2.61.1.5 Substances, mixtures, solutions and articles classified in Class 6.1 are listed in Table A of Chapter 3.2. The assignment of substances, mixtures and solutions not mentioned by name in Table A of Chapter 3.2 to the relevant entry of sub-section 2.2.61.3 and to the relevant packing group in accordance with the provisions of Chapter 2.1, shall be made according to the following criteria in 2.2.61.1.6 to 2.2.61.1.11.

## 2.2.61.1.6 To assess the degree of toxicity, account shall be taken of human experience of instances of accidental poisoning, as well as special properties possessed by any individual substances: liquid state, high volatility, any special likelihood of cutaneous absorption, and special biological effects.

- 2.2.61.1.7 In the absence of observations on humans, the degree of toxicity shall be assessed using the available data from animal experiments in accordance with the table below:

|                | Packing group    | Oral toxicity<br>LD <sub>50</sub><br>(mg/kg) | Dermal toxicity<br>LD <sub>50</sub><br>(mg/kg) | Inhalation toxicity<br>by dusts and mists<br>LC <sub>50</sub> (mg/l) |
|----------------|------------------|--|--|--|
| Highly toxic   | I                | ≤ 5  | ≤ 50   | ≤ 0.2  |
| Toxic          | II               | > 5 and ≤ 50                                 | > 50 and ≤ 200                                 | > 0.2 and ≤ 2  |
| Slightly toxic | III <sup>a</sup> | > 50 and ≤ 300                               | > 200 and ≤ 1 000                              | > 2 and ≤ 4  |

<sup>a</sup> *Tear gas substances shall be included in packing group II even if data concerning their toxicity correspond to packing group III criteria.*

- 2.2.61.1.7.1 Where a substance exhibits different degrees of toxicity for two or more kinds of exposure, it shall be classified under the highest such degree of toxicity.
- 2.2.61.1.7.2 Substances meeting the criteria of Class 8 and with an inhalation toxicity of dusts and mists (LC<sub>50</sub>) leading to packing group I shall only be accepted for an allocation to Class 6.1 if the toxicity through oral ingestion or dermal contact is at least in the range of packing groups I or II. Otherwise an assignment to Class 8 shall be made if appropriate (see 2.2.8.1.5).
- 2.2.61.1.7.3 The criteria for inhalation toxicity of dusts and mists are based on LC<sub>50</sub> data relating to 1-hour exposure, and where such information is available it shall be used. However, where only LC<sub>50</sub> data relating to 4-hour exposure are available, such figures can be multiplied by four and the product substituted in the above criteria, i.e. LC<sub>50</sub> value multiplied by four (4 hour) is considered the equivalent of LC<sub>50</sub> (1 hour).

*Inhalation toxicity of vapours*

- 2.2.61.1.8 Liquids giving off toxic vapours shall be classified into the following groups where "V" is the saturated vapour concentration (in ml/m<sup>3</sup> of air) (volatility) at 20 °C and standard atmospheric pressure:

|                | Packing group    |   |
|----------------|------------------|---|
| Highly toxic   | I                | Where $V \geq 10 \text{ LC}_{50}$ and $\text{LC}_{50} \leq 1\,000 \text{ ml/m}^3$   |
| Toxic          | II               | Where $V \geq \text{LC}_{50}$ and $\text{LC}_{50} \leq 3\,000 \text{ ml/m}^3$ and the criteria for packing group I are not met              |
| Slightly toxic | III <sup>a</sup> | Where $V \geq 1/5 \text{ LC}_{50}$ and $\text{LC}_{50} \leq 5\,000 \text{ ml/m}^3$ and the criteria for packing groups I and II are not met |

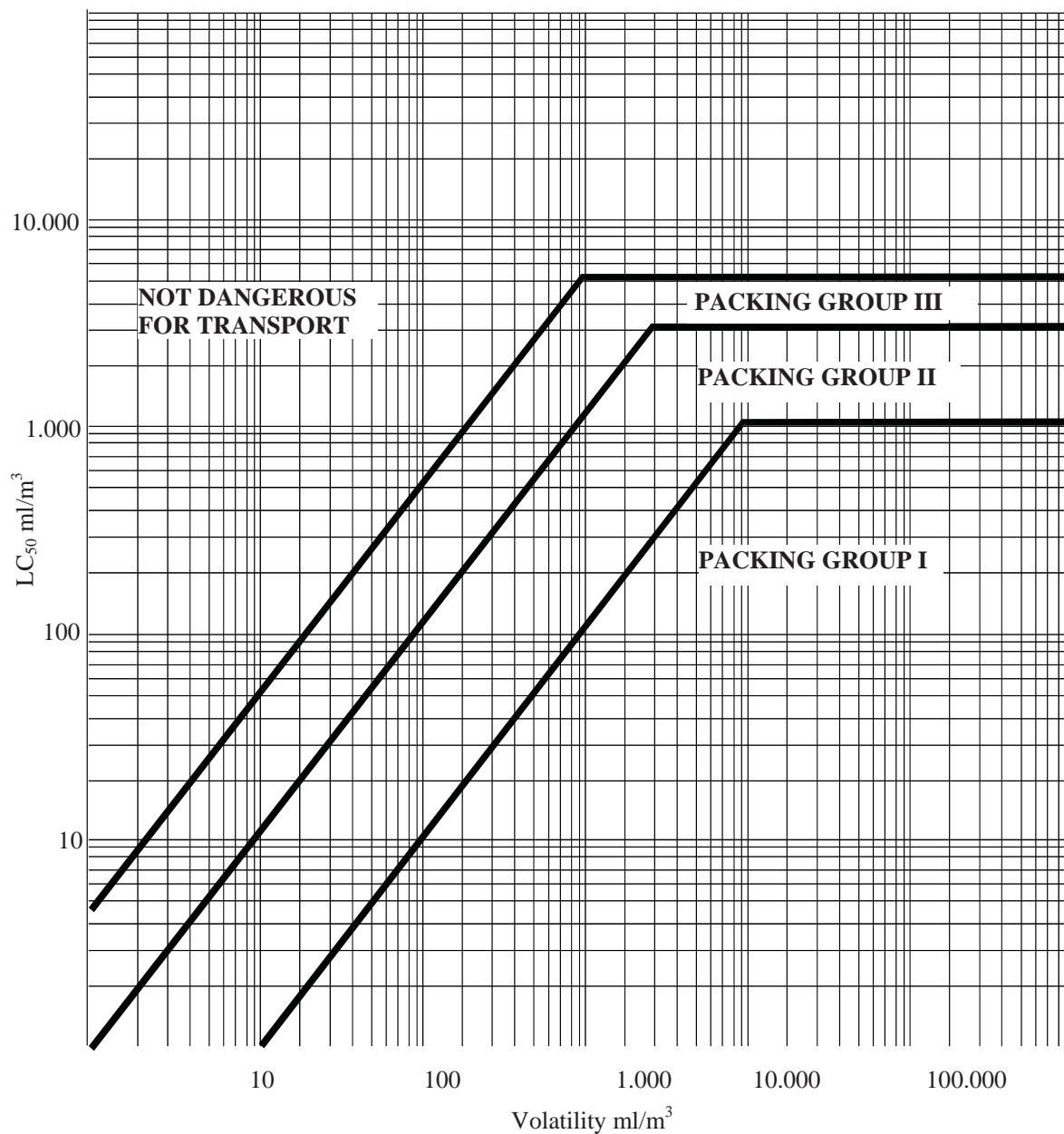
<sup>a</sup> *Tear gas substances shall be included in packing group II even if data concerning their toxicity correspond to packing group III criteria.*

These criteria for inhalation toxicity of vapours are based on LC<sub>50</sub> data relating to 1-hour exposure, and where such information is available, it shall be used.

However, where only LC<sub>50</sub> data relating to 4-hour exposure to the vapours are available, such figures can be multiplied by two and the product substituted in the above criteria, i.e. LC<sub>50</sub> (4 hour) × 2 is considered the equivalent of LC<sub>50</sub> (1 hour).

In this figure, the criteria are expressed in graphical form, as an aid to easy classification. However, due to approximations inherent in the use of graphs, substances falling on or near group borderlines shall be checked using numerical criteria.

#### GROUP BORDERLINES INHALATION TOXICITY OF VAPOURS



*Mixtures of liquids*

2.2.61.1.9 Mixtures of liquids which are toxic on inhalation shall be assigned to packing groups according to the following criteria:

2.2.61.1.9.1 If  $LC_{50}$  is known for each of the toxic substances constituting the mixture, the packing group may be determined as follows:

(a) calculation of the  $LC_{50}$  of the mixture:

$$LC_{50} \text{ (mixture)} = \frac{1}{\sum_{i=1}^n \frac{f_i}{LC_{50i}}}$$

where  $f_i$  = molar fraction of constituent  $i$  of the mixture;

$LC_{50i}$  = average lethal concentration of constituent  $i$  in  $ml/m^3$ .

(b) calculation of volatility of each mixture constituent:

$$V_i = P_i \times \frac{10^6}{101.3} \text{ (ml/m}^3\text{)}$$

where  $P_i$  = partial pressure of constituent  $i$  in kPa at 20 °C and at standard atmospheric pressure.

(c) calculation of the ratio of volatility to  $LC_{50}$ :

$$R = \sum_{i=1}^n \frac{V_i}{LC_{50i}}$$

(d) the values calculated for  $LC_{50}$  (mixture) and  $R$  are then used to determine the packing group of the mixture:

Packing group I  $R \geq 10$  and  $LC_{50} \text{ (mixture)} \leq 1\,000 \text{ ml/m}^3$ ;

Packing group II  $R \geq 1$  and  $LC_{50} \text{ (mixture)} \leq 3\,000 \text{ ml/m}^3$ , if the mixture does not meet the criteria for packing group I;

Packing group III  $R \geq 1/5$  and  $LC_{50} \text{ (mixture)} \leq 5\,000 \text{ ml/m}^3$ , if the mixture does not meet the criteria of packing groups I or II.

2.2.61.1.9.2 In the absence of  $LC_{50}$  data on the toxic constituent substances, the mixture may be assigned to a group based on the following simplified threshold toxicity tests. When these threshold tests are used, the most restrictive group shall be determined and used for carrying the mixture.

2.2.61.1.9.3 A mixture is assigned to packing group I only if it meets both of the following criteria:

- (a) A sample of the liquid mixture is vaporized and diluted with air to create a test atmosphere of 1 000 ml/m<sup>3</sup> vaporized mixture in air. Ten albino rats (5 male and 5 female) are exposed to the test atmosphere for 1 hour and observed for 14 days. If five or more of the animals die within the 14-day observation period, the mixture is presumed to have an LC<sub>50</sub> equal to or less than 1 000 ml/m<sup>3</sup>;
- (b) A sample of vapour in equilibrium with the liquid mixture is diluted with 9 equal volumes of air to form a test atmosphere. Ten albino rats (5 male and 5 female) are exposed to the test atmosphere for 1 hour and observed for 14 days. If five or more of the animals die within the 14-day observation period, the mixture is presumed to have a volatility equal to or greater than 10 times the mixture LC<sub>50</sub>.

2.2.61.1.9.4 A mixture is assigned to packing group II only if it meets both of the following criteria, and does not meet the criteria for packing group I:

- (a) A sample of the liquid mixture is vaporized and diluted with air to create a test atmosphere of 3 000 ml/m<sup>3</sup> vaporized mixture in air. Ten albino rats (5 male and 5 female) are exposed to the test atmosphere for 1 hour and observed for 14 days. If five or more of the animals die within the 14-day observation period, the mixture is presumed to have an LC<sub>50</sub> equal to or less than 3 000 ml/m<sup>3</sup>;
- (b) A sample of the vapour in equilibrium with the liquid mixture is used to form a test atmosphere. Ten albino rats (5 male and 5 female) are exposed to the test atmosphere for 1 hour and observed for 14 days. If five or more of the animals die within the 14-day observation period, the mixture is presumed to have a volatility equal to or greater than the mixture LC<sub>50</sub>.

2.2.61.1.9.5 A mixture is assigned to packing group III only if it meets both of the following criteria, and does not meet the criteria for packing groups I or II:

- (a) A sample of the liquid mixture is vaporized and diluted with air to create a test atmosphere of 5 000 ml/m<sup>3</sup> vaporized mixture in air. Ten albino rats (5 male and 5 female) are exposed to the test atmosphere for 1 hour and observed for 14 days. If five or more of the animals die within the 14-day observation period, the mixture is presumed to have an LC<sub>50</sub> equal to or less than 5 000 ml/m<sup>3</sup>;
- (b) The vapour concentration (volatility) of the liquid mixture is measured and if the vapour concentration is equal to or greater than 1 000 ml/m<sup>3</sup>, the mixture is presumed to have a volatility equal to or greater than 1/5 the mixture LC<sub>50</sub>.

*Methods for determining oral and dermal toxicity of mixtures*

2.2.61.1.10 When classifying and assigning the appropriate packing group to mixtures in Class 6.1 in accordance with the oral and dermal toxicity criteria (see 2.2.61.1.3), it is necessary to determine the acute LD<sub>50</sub> of the mixture.

2.2.61.1.10.1 If a mixture contains only one active substance, and the LD<sub>50</sub> of that constituent is known, in the absence of reliable acute oral and dermal toxicity data on the actual mixture to be carried, the oral or dermal LD<sub>50</sub> may be obtained by the following method:

$$\text{LD}_{50} \text{ value of preparation} = \frac{\text{LD}_{50} \text{ value of active substance} \times 100}{\text{percentage of active substance by mass}}$$



2.2.61.1.10.2 If a mixture contains more than one active constituent, there are three possible approaches that may be used to determine the oral or dermal LD<sub>50</sub> of the mixture. The preferred method is to obtain reliable acute oral and dermal toxicity data on the actual mixture to be carried. If reliable, accurate data are not available, then either of the following methods may be performed:

- (a) Classify the formulation according to the most hazardous constituent of the mixture as if that constituent were present in the same concentration as the total concentration of all active constituents; or
- (b) Apply the formula:

$$\frac{C_A}{T_A} + \frac{C_B}{T_B} + \dots + \frac{C_Z}{T_Z} = \frac{100}{T_M}$$

where:

- C = the percentage concentration of constituent A, B, ..., Z in the mixture;
- T = the oral LD<sub>50</sub> values of constituent A, B, ... Z;
- T<sub>M</sub> = the oral LD<sub>50</sub> value of the mixture.

**NOTE:** This formula can also be used for dermal toxicities provided that this information is available on the same species for all constituents. The use of this formula does not take into account any potentiation or protective phenomena.

#### *Classification of pesticides*

2.2.61.1.11 All active pesticide substances and their preparations for which the LC<sub>50</sub> and/or LD<sub>50</sub> values are known and which are classified in Class 6.1 shall be classified under appropriate packing groups in accordance with the criteria given in 2.2.61.1.6 to 2.2.61.1.9. Substances and preparations which are characterized by subsidiary risks shall be classified according to the precedence of hazard Table in 2.1.3.10 with the assignment of appropriate packing groups.

2.2.61.1.11.1 If the oral or dermal LD<sub>50</sub> value for a pesticide preparation is not known, but the LD<sub>50</sub> value of its active substance(s) is known, the LD<sub>50</sub> value for the preparation may be obtained by applying the procedures in 2.2.61.1.10.

**NOTE:** LD<sub>50</sub> toxicity data for a number of common pesticides may be obtained from the most current edition of the document "The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification" available from the International Programme on Chemical Safety, World Health Organisation (WHO), 1211 Geneva 27, Switzerland. While that document may be used as a source of LD<sub>50</sub> data for pesticides, its classification system shall not be used for purposes of transport classification of, or assignment of packing groups to, pesticides, which shall be in accordance with the requirements of ADR.

2.2.61.1.11.2 The proper shipping name used in the carriage of the pesticide shall be selected on the basis of the active ingredient, of the physical state of the pesticide and any subsidiary risks it may exhibit (see 3.1.2).

2.2.61.1.12 If substances of Class 6.1, as a result of admixtures, come into categories of risk different from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures or solutions shall be assigned to the entries to which they belong on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes), see also 2.1.3.

2.2.61.1.13 On the basis of the criteria of 2.2.61.1.6 to 2.2.61.1.11, it may also be determined whether the nature of a solution or mixture mentioned by name or containing a substance mentioned by name is such that the solution or mixture is not subject to the requirements for this Class.

2.2.61.1.14 Substances, solutions and mixtures, with the exception of substances and preparations used as pesticides, which do not meet the criteria of Directives 67/548/EEC <sup>3</sup> or 1999/45/EC <sup>4</sup> as amended and which are not therefore classified as highly toxic, toxic or harmful according to these directives, as amended, may be considered as substances not belonging to Class 6.1.

**2.2.61.2 Substances not accepted for carriage**

2.2.61.2.1 Chemically unstable substances of Class 6.1 shall not be accepted for carriage unless the necessary steps have been taken to prevent their dangerous decomposition or polymerization during carriage. To this end, it shall in particular be ensured that receptacles and tanks do not contain any substance(s) likely to cause such a reaction.

2.2.61.2.2 The following substances and mixtures shall not be accepted for carriage:

- Hydrogen cyanide, anhydrous or in solution, which do not meet the descriptions of UN Nos. 1051, 1613, 1614 and 3294;
- metal carbonyls, having a flash-point below 23 °C, other than UN Nos. 1259 NICKEL CARBONYL and 1994 IRON PENTACARBONYL;
- 2,3,7,8-TETRACHLORODIBENZO-P-DIOXINE (TCDD) in concentrations considered highly toxic in accordance with the criteria in 2.2.61.1.7;
- UN No. 2249 DICHLORODIMETHYL ETHER, SYMMETRICAL;
- preparations of phosphides without additives inhibiting the emission of toxic flammable gases.

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<sup>3</sup> Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (Official Journal of the European Communities No. L 196 of 16.08.1967, page 1).

<sup>4</sup> Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 on the approximation of laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations (Official Journal of the European Communities No. L 200 of 30 July 1999, pages 1 to 68).

2.2.61.3 *List of collective entries***Toxic substances without subsidiary risk(s)**

|                                      |                             |           |   |
|--------------------------------------|-----------------------------|-----------|---|
| <b>Organic</b>                       | <b>liquid<sup>a</sup></b>   | <b>T1</b> | 1583 CHLOROPICRIN MIXTURE, N.O.S.<br>1602 DYE, LIQUID, TOXIC, N.O.S., or<br>1602 DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.<br>1693 TEAR GAS SUBSTANCE, LIQUID, N.O.S.<br>1851 MEDICINE, LIQUID, TOXIC, N.O.S.<br>2206 ISOCYANATES, TOXIC, N.O.S. or<br>2206 ISOCYANATE SOLUTION, TOXIC, N.O.S.<br>3140 ALKALOIDS, LIQUID, N.O.S. or<br>3140 ALKALOID SALTS, LIQUID, N.O.S.<br>3142 DISINFECTANT, LIQUID, TOXIC, N.O.S.<br>3144 NICOTINE COMPOUND, LIQUID, N.O.S. or<br>3144 NICOTINE PREPARATION, LIQUID, N.O.S.<br>3172 TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.<br>3276 NITRILES, TOXIC, LIQUID, N.O.S.<br>3278 ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.<br>3381 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub><br>3382 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub><br>2810 TOXIC LIQUID, ORGANIC, N.O.S. |
|                                      | <b>solid<sup>a, b</sup></b> | <b>T2</b> | 1544 ALKALOIDS, SOLID, N.O.S. or<br>1544 ALKALOID SALTS, SOLID, N.O.S.<br>1601 DISINFECTANT, SOLID, TOXIC, N.O.S.<br>1655 NICOTINE COMPOUND, SOLID, N.O.S., or<br>1655 NICOTINE PREPARATION, SOLID, N.O.S.<br>3448 TEAR GAS SUBSTANCE, SOLID, N.O.S.<br>3143 DYE, SOLID, TOXIC, N.O.S. or<br>3143 DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.<br>3462 TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.<br>3249 MEDICINE, SOLID, TOXIC, N.O.S.<br>3464 ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.<br>3439 NITRILES, TOXIC, SOLID, N.O.S.<br>2811 TOXIC SOLID, ORGANIC, N.O.S.  |
| <b>Organometallic<sup>c, d</sup></b> |                             | <b>T3</b> | 2026 PHENYLMERCURIC COMPOUND, N.O.S.<br>2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.<br>3146 ORGANOTIN COMPOUND, SOLID, N.O.S.<br>3280 ORGANOARSENIC COMPOUND, LIQUID, N.O.S.<br>3465 ORGANOARSENIC COMPOUND, SOLID, N.O.S.<br>3281 METAL CARBONYLS, LIQUID, N.O.S.<br>3466 METAL CARBONYLS, SOLID, N.O.S.<br>3282 ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S.<br>3467 ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.  |

(cont'd on next page)

<sup>a</sup> Substances and preparations containing alkaloids or nicotine used as pesticides shall be classified under UN No. 2588 PESTICIDES, SOLID, TOXIC, N.O.S., UN No. 2902 PESTICIDES, LIQUID, TOXIC, N.O.S. or UN No. 2903 PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.

<sup>b</sup> Active substances and triturations or mixtures of substances intended for laboratories and experiments and for the manufacture of pharmaceutical products with other substances shall be classified according to their toxicity (see 2.2.61.1.7 to 2.2.61.1.11).

<sup>c</sup> Self-heating substances, slightly toxic and spontaneously combustible organometallic compounds, are substances of Class 4.2.

<sup>d</sup> Water-reactive substances, slightly toxic, and water-reactive organometallic compounds, are substances of Class 4.3.

2.2.61.3 *List of collective entries (cont'd)***Toxic substances without subsidiary risk(s) (cont'd)**

|                   |                                |  |
|-------------------|--------------------------------|--|
| <b>Inorganic</b>  | <b>liquid<sup>e</sup> T4</b>   | 1556 ARSENIC COMPOUND, LIQUID, N.O.S., inorganic including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.<br>1935 CYANIDE SOLUTION, N.O.S.<br>2024 MERCURY COMPOUND, LIQUID, N.O.S.<br>3141 ANTIMONY COMPOUND, INORGANIC, LIQUID, N.O.S.<br>3440 SELENIUM COMPOUND, LIQUID, N.O.S.<br>3381 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub><br>3382 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub><br>3287 TOXIC LIQUID, INORGANIC, N.O.S. |
|                   | <b>solids<sup>f,g</sup> T5</b> | 1549 ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.<br>1557 ARSENIC COMPOUND, SOLID, N.O.S., including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.<br>1564 BARIUM COMPOUND, N.O.S.<br>1566 BERYLLIUM COMPOUND, N.O.S.<br>1588 CYANIDES, INORGANIC, SOLID, N.O.S.<br>1707 THALLIUM COMPOUND, N.O.S.<br>2025 MERCURY COMPOUND, SOLID, N.O.S.<br>2291 LEAD COMPOUND, SOLUBLE, N.O.S.<br>2570 CADMIUM COMPOUND<br>2630 SELENATES or<br>2630 SELENITES<br>2856 FLUOROSILICATES, N.O.S.<br>3283 SELENIUM COMPOUND, SOLID, N.O.S.<br>3284 TELLURIUM COMPOUND, N.O.S.<br>3285 VANADIUM COMPOUND, N.O.S.<br>3288 TOXIC SOLID, INORGANIC, N.O.S.   |
| <b>Pesticides</b> | <b>liquid<sup>h</sup> T6</b>   | 2992 CARBAMATE PESTICIDE, LIQUID, TOXIC<br>2994 ARSENICAL PESTICIDE, LIQUID, TOXIC<br>2996 ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC<br>2998 TRIAZINE PESTICIDE, LIQUID, TOXIC<br>3006 THIOCARBAMATE PESTICIDE, LIQUID, TOXIC<br>3010 COPPER BASED PESTICIDE, LIQUID, TOXIC<br>3012 MERCURY BASED PESTICIDE, LIQUID, TOXIC<br>3014 SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC<br>3016 BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC<br>3018 ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC<br>3020 ORGANOTIN PESTICIDE, LIQUID, TOXIC<br>3026 COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC<br>3348 PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC<br>3352 PYRETHROID PESTICIDE, LIQUID, TOXIC<br>2902 PESTICIDE, LIQUID, TOXIC, N.O.S.                      |

(cont'd on next page)

<sup>e</sup> Mercury fulminate, wetted with not less than 20% water, or mixture of alcohol and water by mass is a substance of Class 1, UN No. 0135.

<sup>f</sup> Ferricyanides, ferrocyanides, alkaline thiocyanates and ammonium thiocyanates are not subject to the provisions of ADR.

<sup>g</sup> Lead salts and lead pigments which, when mixed in a ratio of 1:1,000 with 0.07M hydrochloric acid and stirred for one hour at a temperature of 23 °C ± 2 °C, exhibit a solubility of 5% or less, are not subject to the provisions of ADR.

<sup>h</sup> Articles impregnated with this pesticide, such as fibreboard plates, paper strips, cotton-wool balls, sheets of plastics material, in hermetically closed wrappings, are not subject to the provisions of ADR.

**2.2.61.3 List of collective entries (cont'd)****Toxic substances without subsidiary risk(s) (cont'd)**

|   |           |  |
|---|-----------|--|
| <b>Pesticides (cont'd)</b>                |           |  |
|   |           | 2757 CARBAMATE PESTICIDE, SOLID, TOXIC<br>2759 ARSENICAL PESTICIDE, SOLID, TOXIC<br>2761 ORGANOCHLORINE PESTICIDE, SOLID, TOXIC<br>2763 TRIAZINE PESTICIDE, SOLID, TOXIC<br>2771 THIOCARBAMATE PESTICIDE, SOLID, TOXIC<br>2775 COPPER BASED PESTICIDE, SOLID, TOXIC<br>2777 MERCURY BASED PESTICIDE, SOLID, TOXIC<br>2779 SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC<br>2781 BIPYRIDILIUM PESTICIDE, SOLID, TOXIC<br>2783 ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC<br>2786 ORGANOTIN PESTICIDE, SOLID, TOXIC<br>3027 COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC<br>3048 ALUMINIUM PHOSPHIDE PESTICIDE<br>3345 PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC<br>3349 PYRETHROID PESTICIDE, SOLID, TOXIC<br>2588 PESTICIDE, SOLID, TOXIC, N.O.S. |
| <b>Solid<sup>h</sup></b>                  | <b>T7</b> |  |
| <b>Samples</b>                            |           |  |
|   | <b>T8</b> | 3315 CHEMICAL SAMPLE, TOXIC  |
| <b>Other toxic substances<sup>i</sup></b> |           |  |
|   | <b>T9</b> | 3243 SOLIDS CONTAINING TOXIC LIQUID, N.O.S.  |

**Toxic substances with subsidiary risk(s)**

|                             |            |   |
|-----------------------------|------------|---|
|                             |            | 3071 MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S. or<br>3071 MERCAPTAN MIXTURE, LIQUID, TOXIC, FLAMMABLE, N.O.S.<br>3080 ISOCYANATES, TOXIC, FLAMMABLE, N.O.S. or<br>3080 ISOCYANATE SOLUTION, TOXIC, FLAMMABLE, N.O.S.<br>3275 NITRILES, TOXIC, FLAMMABLE, N.O.S.<br>3279 ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S.<br>3383 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub><br>3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub><br>2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. |
| <b>Liquid<sup>j,k</sup></b> | <b>TF1</b> |   |
| <b>Flammable</b>            |            |   |
| <b>TF</b>                   |            |   |

(cont'd on next page)

<sup>h</sup> Articles impregnated with this pesticide, such as fibreboard plates, paper strips, cotton-wool balls, sheets of plastics material, in hermetically closed wrappings, are not subject to the provisions of ADR.

<sup>i</sup> Mixtures of solids which are not subject to the provisions of ADR and of toxic liquids may be carried under UN No. 3243 without first applying the classification criteria of Class 6.1, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging, container or transport unit is closed. Each packaging shall correspond to a design type that has passed a leakproofness test at the packing group II level. This entry shall not be used for solids containing a packing group I liquid.

<sup>j</sup> Highly toxic or toxic, flammable liquids having a flash-point below 23 °C excluding substances which are highly toxic on inhalation, i.e. UN Nos. 1051, 1092, 1098, 1143, 1163, 1182, 1185, 1238, 1239, 1244, 1251, 1259, 1613, 1614, 1695, 1994, 2334, 2382, 2407, 2438, 2480, 2482, 2484, 2485, 2606, 2929, 3279 and 3294 are substances of Class 3.

<sup>k</sup> Flammable liquids, slightly toxic, with the exception of substances and preparations used as pesticides, having a flash-point between 23 °C and 60 °C inclusive, are substances of Class 3.

2.2.61.3 *List of collective entries (cont'd)**Toxic substances with subsidiary risk(s) (cont'd)*

|  |  |     |      |  |
|--|--|-----|------|--|
| Flammable TF<br>(cont'd)               | pesticides,<br>liquid<br>(flash-<br>point not<br>less than<br>23 °C) | TF2 | 2991 | CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE  |
|  |  |     | 2993 | ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE  |
|  |  |     | 2995 | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE   |
|  |  |     | 2997 | TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE   |
|  |  |     | 3005 | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE  |
|  |  |     | 3009 | COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE   |
|  |  |     | 3011 | MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE  |
|  |  |     | 3013 | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE  |
|  |  |     | 3015 | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE   |
|  |  |     | 3017 | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE   |
|  |  |     | 3019 | ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE  |
|  |  |     | 3025 | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE  |
|  |  |     | 3347 | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE  |
|  |  |     | 3351 | PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE   |
|  |  |     | 2903 | PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S.  |
|  | solid  | TF3 | 1700 | TEAR GAS CANDLES   |
|  |  |     | 2930 | TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.  |
| Solid, self-heating <sup>c</sup><br>TS |  |     | 3124 | TOXIC SOLID, SELF-HEATING, N.O.S.  |
|  | liquid   | TW1 | 3385 | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub> |
|  |  |     | 3386 | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub> |
| Water-reactive <sup>d</sup><br>TW      | solid <sup>n</sup>   | TW2 | 3123 | TOXIC LIQUID, WATER-REACTIVE, N.O.S.   |
|  |  |     | 3125 | TOXIC SOLID, WATER-REACTIVE, N.O.S.  |
|  | liquid   | TO1 | 3387 | TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>      |
|  |  |     | 3388 | TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>      |
| Oxidizing <sup>l</sup><br>TO           | solid  | TO2 | 3122 | TOXIC LIQUID, OXIDIZING, N.O.S.  |
|  |  |     | 3086 | TOXIC SOLID, OXIDIZING, N.O.S.   |
|  | liquid   | TC1 | 3277 | CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.   |
|  |  |     | 3361 | CHLOROSILANES, TOXIC, CORROSIVE, N.O.S.  |
| Corro-<br>sive <sup>m</sup><br>TC      | organic  |     | 3389 | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>      |
|  |  |     | 3390 | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>      |
|  |  |     | 2927 | TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.   |
|  |  |     | 2928 | TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.  |

(cont'd on next page)

<sup>c</sup> Self-heating substances, slightly toxic and spontaneously combustible organometallic compounds, are substances of Class 4.2.<sup>d</sup> Water-reactive substances, slightly toxic, and water-reactive organometallic compounds, are substances of Class 4.3.<sup>l</sup> Oxidizing substances, slightly toxic, are substances of Class 5.1.<sup>m</sup> Substances slightly toxic and slightly corrosive, are substances of Class 8.<sup>n</sup> Metal phosphides assigned to UN Nos. 1360, 1397, 1432, 1714, 2011 and 2013 are substances of Class 4.3.

**2.2.61.3** *List of collective entries (cont'd)***Toxic substances with subsidiary risk(s) (cont'd)**

|                               |                  |   |
|-------------------------------|------------------|---|
| <b>Corrosive <sup>m</sup></b> |                  |   |
| <b>TC</b><br>(cont'd)         | <b>inorganic</b> | <b>liquid TC3</b>   |
|                               |                  | 3389 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>  |
|                               |                  | 3390 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>  |
|                               |                  | 3289 TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.   |
|                               | <b>solid TC4</b> | 3290 TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.  |
| <b>Flammable, corrosive</b>   |                  |   |
| <b>TFC</b>                    |                  | 2742 CHLOROFORMATES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.  |
|                               |                  | 3362 CHLOROSILANES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.<br>(No other collective entry available; if need be, classification under a collective entry with a classification code to be determined according to the table of precedence of hazards in 2.1.3.10) |

<sup>m</sup> Substances slightly toxic and slightly corrosive, are substances of Class 8.



**2.2.62 Class 6.2 Infectious substances****2.2.62.1 Criteria**

2.2.62.1.1 The heading of Class 6.2 covers infectious substances. For the purposes of ADR, infectious substances are substances which are known or are reasonably expected to contain pathogens. Pathogens are defined as microorganisms (including bacteria, viruses, rickettsiae, parasites, fungi) and other agents such as prions, which can cause disease in humans or animals.

*NOTE 1: Genetically modified microorganisms and organisms, biological products, diagnostic specimens and infected live animals shall be assigned to this Class if they meet the conditions for this class.*

*NOTE 2: Toxins from plant, animal or bacterial sources which do not contain any infectious substances or organisms or which are not contained in them are substances of Class 6.1, UN Nos. 3172 or 3462.*

2.2.62.1.2 Substances of Class 6.2 are subdivided as follows:

- I1 Infectious substances affecting humans;
- I2 Infectious substances affecting animals only;
- I3 Clinical waste;
- I4 Biological substances.

*Definitions*

2.2.62.1.3 For the purposes of ADR,

*"Biological products"* are those products derived from living organisms which are manufactured and distributed in accordance with the requirements of appropriate national authorities, which may have special licensing requirements, and are used either for prevention, treatment, or diagnosis of disease in humans or animals, or for development, experimental or investigational purposes related thereto. They include, but are not limited to, finished or unfinished products such as vaccines;

*"Cultures"* are the result of a process by which pathogens are intentionally propagated. This definition does not include human or animal patient specimens as defined in this paragraph;

*"Genetically modified microorganisms and organisms"* are microorganisms and organisms in which genetic material has been purposely altered through genetic engineering in a way that does not occur naturally;

*"Medical or clinical wastes"* are wastes derived from the medical treatment of animals or humans or from bio-research;

*"Patient specimens"* are human or animal materials, collected directly from humans or animals, including, but not limited to, excreta, secreta, blood and its components, tissue and tissue fluid swabs, and body parts being carried for purposes such as research, diagnosis, investigational activities, disease treatment and prevention.



*Classification*

- 2.2.62.1.4 Infectious substances shall be classified in Class 6.2 and assigned to UN Nos. 2814, 2900, 3291 or 3373, as appropriate.

Infectious substances are divided into the following categories:

- 2.2.62.1.4.1 Category A: An infectious substance which is carried in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals. Indicative examples of substances that meet these criteria are given in the table in this paragraph.

**NOTE:** *An exposure occurs when an infectious substance is released outside of the protective packaging, resulting in physical contact with humans or animals.*

- (a) Infectious substances meeting these criteria which cause disease in humans or both in humans and animals shall be assigned to UN No. 2814. Infectious substances which cause disease only in animals shall be assigned to UN No. 2900;
- (b) Assignment to UN No. 2814 or UN No. 2900 shall be based on the known medical history and symptoms of the source human or animal, endemic local conditions, or professional judgement concerning individual circumstances of the source human or animal.

**NOTE 1:** *The proper shipping name for UN No. 2814 is "INFECTIOUS SUBSTANCE, AFFECTING HUMANS". The proper shipping name for UN No. 2900 is "INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only".*

**NOTE 2:** *The following table is not exhaustive. Infectious substances, including new or emerging pathogens, which do not appear in the table but which meet the same criteria shall be assigned to Category A. In addition, if there is doubt as to whether or not a substance meets the criteria it shall be included in Category A.*

**NOTE 3:** *In the following table, the microorganisms written in italics are bacteria, mycoplasmas, rickettsia or fungi.*

| INDICATIVE EXAMPLES OF INFECTIOUS SUBSTANCES INCLUDED IN CATEGORY A<br>IN ANY FORM UNLESS OTHERWISE INDICATED<br>(2.2.62.1.4.1) |  |
|---|--|
| UN Number and name  | Microorganism  |
| UN No. 2814<br>Infectious<br>substances<br>affecting humans   | <i>Bacillus anthracis</i> (cultures only)<br><i>Brucella abortus</i> (cultures only)<br><i>Brucella melitensis</i> (cultures only)<br><i>Brucella suis</i> (cultures only)<br><i>Burkholderia mallei</i> - <i>Pseudomonas mallei</i> – Glanders (cultures only)<br><i>Burkholderia pseudomallei</i> – <i>Pseudomonas pseudomallei</i> (cultures only)<br><i>Chlamydia psittaci</i> - avian strains (cultures only)<br><i>Clostridium botulinum</i> (cultures only)<br><i>Coccidioides immitis</i> (cultures only)<br><i>Coxiella burnetii</i> (cultures only)<br>Crimean-Congo haemorrhagic fever virus<br>Dengue virus (cultures only)<br>Eastern equine encephalitis virus (cultures only)<br><i>Escherichia coli</i> , verotoxigenic (cultures only) <sup>a</sup><br>Ebola virus<br>Flexal virus<br><i>Francisella tularensis</i> (cultures only)<br>Guanarito virus<br>Hantaan virus<br>Hantavirus causing haemorrhagic fever with renal syndrome<br>Hendra virus<br>Hepatitis B virus (cultures only)<br>Herpes B virus (cultures only)<br>Human immunodeficiency virus (cultures only)<br>Highly pathogenic avian influenza virus (cultures only)<br>Japanese Encephalitis virus (cultures only)<br>Junin virus<br>Kyasanur Forest disease virus<br>Lassa virus<br>Machupo virus<br>Marburg virus<br>Monkeypox virus<br><i>Mycobacterium tuberculosis</i> (cultures only) <sup>a</sup><br>Nipah virus<br>Omsk haemorrhagic fever virus<br>Poliovirus (cultures only)<br>Rabies virus (cultures only)<br><i>Rickettsia prowazekii</i> (cultures only)<br><i>Rickettsia rickettsii</i> (cultures only)<br>Rift Valley fever virus (cultures only)<br>Russian spring-summer encephalitis virus (cultures only)<br>Sabia virus<br><i>Shigella dysenteriae</i> type 1 (cultures only) <sup>a</sup><br>Tick-borne encephalitis virus (cultures only)<br>Variola virus<br>Venezuelan equine encephalitis virus (cultures only)<br>West Nile virus (cultures only)<br>Yellow fever virus (cultures only)<br><i>Yersinia pestis</i> (cultures only) |

<sup>a</sup> Nevertheless, when the cultures are intended for diagnostic or clinical purposes, they may be classified as infectious substances of Category B.

| INDICATIVE EXAMPLES OF INFECTIOUS SUBSTANCES INCLUDED IN CATEGORY A<br>IN ANY FORM UNLESS OTHERWISE INDICATED<br>(2.2.62.1.4.1) |   |
|---|---|
| UN Number<br>and name   | Microorganism   |
| UN No. 2900<br>Infectious<br>substances<br>affecting animals<br>only  | African swine fever virus (cultures only)<br>Avian paramyxovirus Type 1 - Velogenic Newcastle disease virus (cultures only)<br>Classical swine fever virus (cultures only)<br>Foot and mouth disease virus (cultures only)<br>Lumpy skin disease virus (cultures only)<br><i>Mycoplasma mycoides</i> - Contagious bovine pleuropneumonia (cultures only)<br>Peste des petits ruminants virus (cultures only)<br>Rinderpest virus (cultures only)<br>Sheep-pox virus (cultures only)<br>Goatpox virus (cultures only)<br>Swine vesicular disease virus (cultures only)<br>Vesicular stomatitis virus (cultures only) |

2.2.62.1.4.2 Category B: An infectious substance which does not meet the criteria for inclusion in Category A. Infectious substances in Category B shall be assigned to UN No. 3373.

**NOTE:** The proper shipping name of UN No. 3373 is "BIOLOGICAL SUBSTANCE, CATEGORY B".

#### 2.2.62.1.5 Exemptions

2.2.62.1.5.1 Substances which do not contain infectious substances or substances which are unlikely to cause disease in humans or animals are not subject to the provisions of ADR unless they meet the criteria for inclusion in another class.

2.2.62.1.5.2 Substances containing microorganisms which are non-pathogenic to humans or animals are not subject to ADR unless they meet the criteria for inclusion in another class.

2.2.62.1.5.3 Substances in a form that any present pathogens have been neutralized or inactivated such that they no longer pose a health risk are not subject to ADR unless they meet the criteria for inclusion in another class.

2.2.62.1.5.4 Substances where the concentration of pathogens is at a level naturally encountered (including foodstuff and water samples) and which are not considered to pose a significant risk of infection are not subject to ADR unless they meet the criteria for inclusion in another class.

2.2.62.1.5.5 Dried blood spots, collected by applying a drop of blood onto absorbent material, or faecal occult blood screening tests and blood or blood components which have been collected for the purposes of transfusion or for the preparation of blood products to be used for transfusion or transplantation and any tissues or organs intended for use in transplantation are not subject to the provisions of ADR.

2.2.62.1.5.6 Human or animal specimens for which there is minimal likelihood that pathogens are present are not subject to ADR if the specimen is carried in a packaging which will prevent any leakage and which is marked with the words "Exempt human specimen" or "Exempt animal specimen", as appropriate.

The packaging is deemed to comply with the above requirements if it meets the following conditions:

- (a) The packaging consists of three components:
  - (i) a leak-proof primary receptacle(s);
  - (ii) a leak-proof secondary packaging; and
  - (iii) an outer packaging of adequate strength for its capacity, mass and intended use, and with at least one surface having minimum dimensions of 100 mm × 100 mm;
- (b) For liquids, absorbent material in sufficient quantity to absorb the entire contents is placed between the primary receptacle(s) and the secondary packaging so that, during carriage, any release or leak of a liquid substance will not reach the outer packaging and will not compromise the integrity of the cushioning material;
- (c) When multiple fragile primary receptacles are placed in a single secondary packaging, they are either individually wrapped or separated to prevent contact between them.

**NOTE 1:** *An element of professional judgment is required to determine if a substance is exempt under this paragraph. That judgment should be based on the known medical history, symptoms and individual circumstances of the source, human or animal, and endemic local conditions. Examples of specimens which may be carried under this paragraph include the blood or urine tests to monitor cholesterol levels, blood glucose levels, hormone levels, or prostate specific antibodies (PSA); those required to monitor organ function such as heart, liver or kidney function for humans or animals with non-infectious diseases, or for therapeutic drug monitoring; those conducted for insurance or employment purposes and are intended to determine the presence of drugs or alcohol; pregnancy test; biopsies to detect cancer; and antibody detection in humans or animals in the absence of any concern for infection (e.g. evaluation of vaccine induced immunity, diagnosis of autoimmune disease, etc.).*

**NOTE 2:** *For air transport, packagings for specimens exempted under this paragraph shall meet the conditions in (a) to (c).*

2.2.62.1.6 to 2.2.62.1.8 (Reserved)

2.2.62.1.9 *Biological products*

For the purposes of ADR, biological products are divided into the following groups:

- (a) those which are manufactured and packaged in accordance with the requirements of appropriate national authorities and carried for the purposes of final packaging or distribution, and use for personal health care by medical professionals or individuals. Substances in this group are not subject to the provisions of ADR;
- (b) those which do not fall under paragraph (a) and are known or reasonably believed to contain infectious substances and which meet the criteria for inclusion in Category A or Category B. Substances in this group shall be assigned to UN Nos. 2814, 2900 or 3373, as appropriate.

**NOTE:** *Some licensed biological products may present a biohazard only in certain parts of the world. In that case, competent authorities may require these biological products to be in compliance with local requirements for infectious substances or may impose other restrictions.*

2.2.62.1.10 *Genetically modified microorganisms and organisms*

Genetically modified microorganisms not meeting the definition of infectious substance shall be classified according to section 2.2.9.

2.2.62.1.11 *Medical or clinical wastes*

- 2.2.62.1.11.1 Medical or clinical wastes containing Category A infectious substances shall be assigned to UN No. 2814 or UN No. 2900 as appropriate. Medical or clinical wastes containing infectious substances in Category B shall be assigned to UN No. 3291.

**NOTE:** Medical or clinical wastes assigned to number 18 01 03 (Wastes from human or animal health care and/or related research – wastes from natal care, diagnosis, treatment or prevention of disease in humans – wastes whose collection and disposal is subject to special requirements in order to prevent infection) or 18 02 02 (Wastes from human or animal health care and/or related research – wastes from research, diagnosis, treatment or prevention of disease involving animals – wastes whose collection and disposal is subject to special requirements in order to prevent infection) according to the list of wastes annexed to the Commission Decision 2000/532/EC<sup>5</sup> as amended, shall be classified according to the provisions set out in this paragraph, based on the medical or veterinary diagnosis concerning the patient or the animal.

- 2.2.62.1.11.2 Medical or clinical wastes which are reasonably believed to have a low probability of containing infectious substances shall be assigned to UN No. 3291. For the assignment, international, regional or national waste catalogues may be taken into account.

**NOTE 1:** The proper shipping name for UN No. 3291 is "CLINICAL WASTE, UNSPECIFIED, N.O.S." or "(BIO) MEDICAL WASTE, N.O.S". or "REGULATED MEDICAL WASTE, N.O.S".

**NOTE 2:** Notwithstanding the classification criteria set out above, medical or clinical wastes assigned to number 18 01 04 (Wastes from human or animal health care and/or related research – wastes from natal care, diagnosis, treatment or prevention of disease in humans – wastes whose collection and disposal is not subject to special requirements in order to prevent infection) or 18 02 03 (Wastes from human or animal health care and/or related research – wastes from research, diagnosis, treatment or prevention of disease involving animals – wastes whose collection and disposal is not subject to special requirements in order to prevent infection) according to the list of wastes annexed to the Commission Decision 2000/532/EC<sup>5</sup> as amended, are not subject to the provisions of ADR.

- 2.2.62.1.11.3 Decontaminated medical or clinical wastes which previously contained infectious substances are not subject to the provisions of ADR unless they meet the criteria for inclusion in another class.

- 2.2.62.1.11.4 Medical or clinical wastes assigned to UN No. 3291 are assigned to packing group II.

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<sup>5</sup> Commission Decision 2000/532/EC of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste (replaced by the Directive 2006/12/EC of the European Parliament and of the Council (Official Journal of the European Communities No. L 114 of 27 April 2006, page 9)) and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste (Official Journal of the European Communities No. L 226 of 6 September 2000, page 3).

#### 2.2.62.1.12 *Infected animals*

2.2.62.1.12.1 Unless an infectious substance cannot be consigned by any other means, live animals shall not be used to consign such a substance. A live animal which has been intentionally infected and is known or suspected to contain an infectious substance shall only be carried under terms and conditions approved by the competent authority <sup>6</sup>.

2.2.62.1.12.2 Animal material affected by pathogens of Category A or by pathogens which would be assigned to Category A in cultures only, shall be assigned to UN 2814 or UN 2900 as appropriate. Animal material affected by pathogens of Category B, other than those which would be assigned to Category A if they were in cultures, shall be assigned to UN 3373.

#### 2.2.62.2 *Substances not accepted for carriage*

Live vertebrate or invertebrate animals shall not be used to carry an infectious agent unless the agent cannot be carried by other means or unless this carriage has been approved by the competent authority (see 2.2.62.1.12.1).

#### 2.2.62.3 *List of collective entries*

|                         |    |  |
|-------------------------|----|--|
| Effects on humans       | 11 | 2814 INFECTIOUS SUBSTANCE, AFFECTING HUMANS  |
| Effects on animals only | 12 | 2900 INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only  |
| Clinical waste          | 13 | 3291 CLINICAL WASTE, UNSPECIFIED, N.O.S. or<br>3291 (BIO) MEDICAL WASTE, N.O.S. or<br>3291 REGULATED MEDICAL WASTE, N.O.S. |
| Biological substances   | 14 | 3373 BIOLOGICAL SUBSTANCE, CATEGORY B  |

<sup>6</sup> Regulations governing the carriage of live animals are contained in, e.g. Directive 91/628/EEC of 19 November 1991 on the protection of animals during transport (Official Journal of the European Communities No. L 340 of 11.12.1991, p.17) and in the Recommendations of the Council of Europe (Ministerial Committee) on the carriage of certain animal species.

**2.2.7            Class 7            Radioactive material****2.2.7.1            Definitions**

2.2.7.1.1            *Radioactive material* means any material containing radionuclides where both the activity concentration and the total activity in the consignment exceed the values specified in 2.2.7.2.2.1 to 2.2.7.2.2.6.

2.2.7.1.2            *Contamination*

*Contamination* means the presence of a radioactive substance on a surface in quantities in excess of 0.4 Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or 0.04 Bq/cm<sup>2</sup> for all other alpha emitters.

*Non-fixed contamination* means contamination that can be removed from a surface during routine conditions of carriage.

*Fixed contamination* means contamination other than non-fixed contamination.

2.2.7.1.3            *Definitions of specific terms*

$A_1$  and  $A_2$

$A_1$  means the activity value of special form radioactive material which is listed in the Table in 2.2.7.2.2.1 or derived in 2.2.7.2.2.2 and is used to determine the activity limits for the requirements of ADR.

$A_2$  means the activity value of radioactive material, other than special form radioactive material, which is listed in the Table in 2.2.7.2.2.1 or derived in 2.2.7.2.2.2 and is used to determine the activity limits for the requirements of ADR.

*Fissile material* means uranium-233, uranium-235, plutonium-239, plutonium-241, or any combination of these radionuclides. Excepted from this definition is:

- (a)    Natural uranium or depleted uranium which is unirradiated; and
- (b)    Natural uranium or depleted uranium which has been irradiated in thermal reactors only.

*Low dispersible radioactive material* means either a solid radioactive material or a solid radioactive material in a sealed capsule, that has limited dispersibility and is not in powder form.

*Low specific activity (LSA) material* means radioactive material which by its nature has a limited specific activity, or radioactive material for which limits of estimated average specific activity apply. External shielding materials surrounding the LSA material shall not be considered in determining the estimated average specific activity.

*Low toxicity alpha emitters* are: natural uranium; depleted uranium; natural thorium; uranium-235 or uranium-238; thorium-232; thorium-228 and thorium-230 when contained in ores or physical and chemical concentrates; or alpha emitters with a half-life of less than 10 days.



*Special form radioactive material* means either:

- (a) An indispersible solid radioactive material; or
- (b) A sealed capsule containing radioactive material.

*Specific activity of a radionuclide* means the activity per unit mass of that nuclide. The specific activity of a material shall mean the activity per unit mass of the material in which the radionuclides are essentially uniformly distributed.

*Surface contaminated object (SCO)* means a solid object which is not itself radioactive but which has radioactive material distributed on its surfaces.

*Unirradiated thorium* means thorium containing not more than  $10^{-7}$  g of uranium-233 per gram of thorium-232.

*Unirradiated uranium* means uranium containing not more than  $2 \times 10^3$  Bq of plutonium per gram of uranium-235, not more than  $9 \times 10^6$  Bq of fission products per gram of uranium-235 and not more than  $5 \times 10^{-3}$  g of uranium-236 per gram of uranium-235.

*Uranium - natural, depleted, enriched* means the following:

*Natural uranium* means uranium (which may be chemically separated) containing the naturally occurring distribution of uranium isotopes (approximately 99.28% uranium-238, and 0.72% uranium-235 by mass).

*Depleted uranium* means uranium containing a lesser mass percentage of uranium-235 than in natural uranium.

*Enriched uranium* means uranium containing a greater mass percentage of uranium-235 than 0.72%.

In all cases, a very small mass percentage of uranium-234 is present.

## **2.2.7.2 Classification**

### **2.2.7.2.1 General provisions**

- 2.2.7.2.1.1 Radioactive material shall be assigned to one of the UN number specified in Table 2.2.7.2.1.1 depending on the activity level of the radionuclides contained in a package, the fissile or non-fissile properties of these radionuclides, the type of package to be presented for carriage, and the nature or form of the contents of the package, or special arrangements governing the carriage operation, in accordance with the provisions laid down in 2.2.7.2.2 to 2.2.7.2.5.



**Table 2.2.7.2.1.1      Assignment of UN numbers**

|   |  |
|---|--|
| <b>Excepted packages</b> (1.7.1.5)                              |  |
| UN 2908   | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - EMPTY PACKAGING   |
| UN 2909   | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES<br>MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or<br>NATURAL THORIUM |
| UN 2910   | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF<br>MATERIAL   |
| UN 2911   | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - INSTRUMENTS or<br>ARTICLES  |
| <b>Low specific activity radioactive material</b> (2.2.7.2.3.1) |  |
| UN 2912   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I),<br>non-fissile or fissile-excepted  |
| UN 3321   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II),<br>non fissile or fissile-excepted   |
| UN 3322   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III),<br>non fissile or fissile-excepted  |
| UN 3324   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), FISSILE  |
| UN 3325   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, (LSA-III), FISSILE  |
| <b>Surface contaminated objects</b> (2.2.7.2.3.2)               |  |
| UN 2913   | RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS<br>(SCO-I or SCO-II), non-fissile or fissile-excepted                         |
| UN 3326   | RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS<br>(SCO-I or SCO-II), FISSILE   |
| <b>Type A packages</b> (2.2.7.2.4.4)                            |  |
| UN 2915   | RADIOACTIVE MATERIAL, TYPE A PACKAGE, non-special form, non-fissile or<br>fissile-excepted                                       |
| UN 3327   | RADIOACTIVE MATERIAL, TYPE A PACKAGE, FISSILE, non-special form  |
| UN 3332   | RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, non fissile or<br>fissile-excepted   |
| UN 3333   | RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, FISSILE  |
| <b>Type B(U) packages</b> (2.2.7.2.4.6)                         |  |
| UN 2916   | RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, non-fissile or fissile-excepted   |
| UN 3328   | RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, FISSILE   |
| <b>Type B(M) packages</b> (2.2.7.2.4.6)                         |  |
| UN 2917   | RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, non-fissile or fissile-excepted   |
| UN 3329   | RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, FISSILE   |
| <b>Type C packages</b> (2.2.7.2.4.6)                            |  |
| UN 3323   | RADIOACTIVE MATERIAL, TYPE C PACKAGE, non fissile or fissile-excepted  |
| UN 3330   | RADIOACTIVE MATERIAL, TYPE C PACKAGE, FISSILE  |
| <b>Special arrangement</b> (2.2.7.2.5)                          |  |
| UN 2919   | RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL<br>ARRANGEMENT, non-fissile or fissile-excepted                                  |
| UN 3331   | RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL<br>ARRANGEMENT, FISSILE  |
| <b>Uranium hexafluoride</b> (2.2.7.2.4.5)                       |  |
| UN 2977   | RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE  |
| UN 2978   | RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, non-fissile or fissile-<br>excepted  |

2.2.7.2.2 *Determination of activity level*

2.2.7.2.2.1 The following basic values for individual radionuclides are given in Table 2.2.7.2.2.1:

- (a)  $A_1$  and  $A_2$  in TBq;
- (b) Activity concentration for exempt material in Bq/g; and
- (c) Activity limits for exempt consignments in Bq.

**Table 2.2.7.2.2.1: Basic radionuclides values for individual radionuclides**

| Radionuclide<br>(atomic number) | $A_1$<br>(TBq)     | $A_2$<br>(TBq)     | Activity<br>concentration<br>for exempt<br>material<br>(Bq/g) | Activity limit<br>for an exempt<br>consignment<br>(Bq) |
|---------------------------------|--------------------|--------------------|---|--|
| Actinium (89)                   |                    |                    |   |  |
| Ac-225 (a)                      | $8 \times 10^{-1}$ | $6 \times 10^{-3}$ | $1 \times 10^1$   | $1 \times 10^4$  |
| Ac-227 (a)                      | $9 \times 10^{-1}$ | $9 \times 10^{-5}$ | $1 \times 10^{-1}$  | $1 \times 10^3$  |
| Ac-228                          | $6 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$   | $1 \times 10^6$  |
| Silver (47)                     |                    |                    |   |  |
| Ag-105                          | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^2$   | $1 \times 10^6$  |
| Ag-108m (a)                     | $7 \times 10^{-1}$ | $7 \times 10^{-1}$ | $1 \times 10^1$ (b)   | $1 \times 10^6$ (b)                                    |
| Ag-110m (a)                     | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$   | $1 \times 10^6$  |
| Ag-111                          | $2 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^3$   | $1 \times 10^6$  |
| Aluminium (13)                  |                    |                    |   |  |
| Al-26                           | $1 \times 10^{-1}$ | $1 \times 10^{-1}$ | $1 \times 10^1$   | $1 \times 10^5$  |
| Americium (95)                  |                    |                    |   |  |
| Am-241                          | $1 \times 10^1$    | $1 \times 10^{-3}$ | $1 \times 10^0$   | $1 \times 10^4$  |
| Am-242m (a)                     | $1 \times 10^1$    | $1 \times 10^{-3}$ | $1 \times 10^0$ (b)   | $1 \times 10^4$ (b)                                    |
| Am-243 (a)                      | $5 \times 10^0$    | $1 \times 10^{-3}$ | $1 \times 10^0$ (b)   | $1 \times 10^3$ (b)                                    |
| Argon (18)                      |                    |                    |   |  |
| Ar-37                           | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^6$   | $1 \times 10^8$  |
| Ar-39                           | $4 \times 10^1$    | $2 \times 10^1$    | $1 \times 10^7$   | $1 \times 10^4$  |
| Ar-41                           | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^2$   | $1 \times 10^9$  |
| Arsenic (33)                    |                    |                    |   |  |
| As-72                           | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^1$   | $1 \times 10^5$  |
| As-73                           | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^3$   | $1 \times 10^7$  |
| As-74                           | $1 \times 10^0$    | $9 \times 10^{-1}$ | $1 \times 10^1$   | $1 \times 10^6$  |

| Radionuclide<br>(atomic number) | A <sub>1</sub><br><br>(TBq) | A <sub>2</sub><br><br>(TBq) | Activity<br>concentration<br>for exempt<br>material<br>(Bq/g) | Activity limit<br>for an exempt<br>consignment<br>(Bq) |
|---------------------------------|-----------------------------|-----------------------------|---|--|
| As-76                           | $3 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^5$  |
| As-77                           | $2 \times 10^1$             | $7 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Astatine (85)                   |                             |                             |   |  |
| At-211 (a)                      | $2 \times 10^1$             | $5 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^7$  |
| Gold (79)                       |                             |                             |   |  |
| Au-193                          | $7 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^7$  |
| Au-194                          | $1 \times 10^0$             | $1 \times 10^0$             | $1 \times 10^1$   | $1 \times 10^6$  |
| Au-195                          | $1 \times 10^1$             | $6 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^7$  |
| Au-198                          | $1 \times 10^0$             | $6 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Au-199                          | $1 \times 10^1$             | $6 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Barium (56)                     |                             |                             |   |  |
| Ba-131 (a)                      | $2 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Ba-133                          | $3 \times 10^0$             | $3 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Ba-133m                         | $2 \times 10^1$             | $6 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Ba-140 (a)                      | $5 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^1$ (b)   | $1 \times 10^5$ (b)                                    |
| Beryllium (4)                   |                             |                             |   |  |
| Be-7                            | $2 \times 10^1$             | $2 \times 10^1$             | $1 \times 10^3$   | $1 \times 10^7$  |
| Be-10                           | $4 \times 10^1$             | $6 \times 10^{-1}$          | $1 \times 10^4$   | $1 \times 10^6$  |
| Bismuth (83)                    |                             |                             |   |  |
| Bi-205                          | $7 \times 10^{-1}$          | $7 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Bi-206                          | $3 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Bi-207                          | $7 \times 10^{-1}$          | $7 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Bi-210                          | $1 \times 10^0$             | $6 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Bi-210m (a)                     | $6 \times 10^{-1}$          | $2 \times 10^{-2}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Bi-212 (a)                      | $7 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^1$ (b)   | $1 \times 10^5$ (b)                                    |
| Berkelium (97)                  |                             |                             |   |  |
| Bk-247                          | $8 \times 10^0$             | $8 \times 10^{-4}$          | $1 \times 10^0$   | $1 \times 10^4$  |
| Bk-249 (a)                      | $4 \times 10^1$             | $3 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Bromine (35)                    |                             |                             |   |  |
| Br-76                           | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Br-77                           | $3 \times 10^0$             | $3 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |

| Radionuclide<br>(atomic number) | A <sub>1</sub><br><br>(TBq) | A <sub>2</sub><br><br>(TBq) | Activity<br>concentration<br>for exempt<br>material<br>(Bq/g) | Activity limit<br>for an exempt<br>consignment<br>(Bq) |
|---------------------------------|-----------------------------|-----------------------------|---|--|
| Br-82                           | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Carbon (6)                      |                             |                             |   |  |
| C-11                            | $1 \times 10^0$             | $6 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| C-14                            | $4 \times 10^1$             | $3 \times 10^0$             | $1 \times 10^4$   | $1 \times 10^7$  |
| Calcium (20)                    |                             |                             |   |  |
| Ca-41                           | Unlimited                   | Unlimited                   | $1 \times 10^5$   | $1 \times 10^7$  |
| Ca-45                           | $4 \times 10^1$             | $1 \times 10^0$             | $1 \times 10^4$   | $1 \times 10^7$  |
| Ca-47 (a)                       | $3 \times 10^0$             | $3 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Cadmium (48)                    |                             |                             |   |  |
| Cd-109                          | $3 \times 10^1$             | $2 \times 10^0$             | $1 \times 10^4$   | $1 \times 10^6$  |
| Cd-113m                         | $4 \times 10^1$             | $5 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Cd-115 (a)                      | $3 \times 10^0$             | $4 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Cd-115m                         | $5 \times 10^{-1}$          | $5 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Cerium (58)                     |                             |                             |   |  |
| Ce-139                          | $7 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Ce-141                          | $2 \times 10^1$             | $6 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^7$  |
| Ce-143                          | $9 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Ce-144 (a)                      | $2 \times 10^{-1}$          | $2 \times 10^{-1}$          | $1 \times 10^2$ (b)   | $1 \times 10^5$ (b)                                    |
| Californium (98)                |                             |                             |   |  |
| Cf-248                          | $4 \times 10^1$             | $6 \times 10^{-3}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| Cf-249                          | $3 \times 10^0$             | $8 \times 10^{-4}$          | $1 \times 10^0$   | $1 \times 10^3$  |
| Cf-250                          | $2 \times 10^1$             | $2 \times 10^{-3}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| Cf-251                          | $7 \times 10^0$             | $7 \times 10^{-4}$          | $1 \times 10^0$   | $1 \times 10^3$  |
| Cf-252                          | $1 \times 10^{-1}$          | $3 \times 10^{-3}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| Cf-253 (a)                      | $4 \times 10^1$             | $4 \times 10^{-2}$          | $1 \times 10^2$   | $1 \times 10^5$  |
| Cf-254                          | $1 \times 10^{-3}$          | $1 \times 10^{-3}$          | $1 \times 10^0$   | $1 \times 10^3$  |
| Chlorine (17)                   |                             |                             |   |  |
| Cl-36                           | $1 \times 10^1$             | $6 \times 10^{-1}$          | $1 \times 10^4$   | $1 \times 10^6$  |
| Cl-38                           | $2 \times 10^{-1}$          | $2 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |

| <b>Radionuclide<br/>(atomic number)</b> | <b>A<sub>1</sub><br/><br/>(TBq)</b> | <b>A<sub>2</sub><br/><br/>(TBq)</b> | <b>Activity<br/>concentration<br/>for exempt<br/>material<br/>(Bq/g)</b> | <b>Activity limit<br/>for an exempt<br/>consignment<br/>(Bq)</b> |
|---|-------------------------------------|-------------------------------------|--|--|
| Curium (96)                             |                                     |                                     |  |  |
| Cm-240                                  | $4 \times 10^1$                     | $2 \times 10^{-2}$                  | $1 \times 10^2$  | $1 \times 10^5$  |
| Cm-241                                  | $2 \times 10^0$                     | $1 \times 10^0$                     | $1 \times 10^2$  | $1 \times 10^6$  |
| Cm-242                                  | $4 \times 10^1$                     | $1 \times 10^{-2}$                  | $1 \times 10^2$  | $1 \times 10^5$  |
| Cm-243                                  | $9 \times 10^0$                     | $1 \times 10^{-3}$                  | $1 \times 10^0$  | $1 \times 10^4$  |
| Cm-244                                  | $2 \times 10^1$                     | $2 \times 10^{-3}$                  | $1 \times 10^1$  | $1 \times 10^4$  |
| Cm-245                                  | $9 \times 10^0$                     | $9 \times 10^{-4}$                  | $1 \times 10^0$  | $1 \times 10^3$  |
| Cm-246                                  | $9 \times 10^0$                     | $9 \times 10^{-4}$                  | $1 \times 10^0$  | $1 \times 10^3$  |
| Cm-247 (a)                              | $3 \times 10^0$                     | $1 \times 10^{-3}$                  | $1 \times 10^0$  | $1 \times 10^4$  |
| Cm-248                                  | $2 \times 10^{-2}$                  | $3 \times 10^{-4}$                  | $1 \times 10^0$  | $1 \times 10^3$  |
| Cobalt (27)                             |                                     |                                     |  |  |
| Co-55                                   | $5 \times 10^{-1}$                  | $5 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^6$  |
| Co-56                                   | $3 \times 10^{-1}$                  | $3 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^5$  |
| Co-57                                   | $1 \times 10^1$                     | $1 \times 10^1$                     | $1 \times 10^2$  | $1 \times 10^6$  |
| Co-58                                   | $1 \times 10^0$                     | $1 \times 10^0$                     | $1 \times 10^1$  | $1 \times 10^6$  |
| Co-58m                                  | $4 \times 10^1$                     | $4 \times 10^1$                     | $1 \times 10^4$  | $1 \times 10^7$  |
| Co-60                                   | $4 \times 10^{-1}$                  | $4 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^5$  |
| Chromium (24)                           |                                     |                                     |  |  |
| Cr-51                                   | $3 \times 10^1$                     | $3 \times 10^1$                     | $1 \times 10^3$  | $1 \times 10^7$  |
| Caesium (55)                            |                                     |                                     |  |  |
| Cs-129                                  | $4 \times 10^0$                     | $4 \times 10^0$                     | $1 \times 10^2$  | $1 \times 10^5$  |
| Cs-131                                  | $3 \times 10^1$                     | $3 \times 10^1$                     | $1 \times 10^3$  | $1 \times 10^6$  |
| Cs-132                                  | $1 \times 10^0$                     | $1 \times 10^0$                     | $1 \times 10^1$  | $1 \times 10^5$  |
| Cs-134                                  | $7 \times 10^{-1}$                  | $7 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^4$  |
| Cs-134m                                 | $4 \times 10^1$                     | $6 \times 10^{-1}$                  | $1 \times 10^3$  | $1 \times 10^5$  |
| Cs-135                                  | $4 \times 10^1$                     | $1 \times 10^0$                     | $1 \times 10^4$  | $1 \times 10^7$  |
| Cs-136                                  | $5 \times 10^{-1}$                  | $5 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^5$  |
| Cs-137 (a)                              | $2 \times 10^0$                     | $6 \times 10^{-1}$                  | $1 \times 10^1$ (b)  | $1 \times 10^4$ (b)  |

| Radionuclide<br>(atomic number) | A <sub>1</sub><br>(TBq) | A <sub>2</sub><br>(TBq) | Activity<br>concentration<br>for exempt<br>material<br>(Bq/g) | Activity limit<br>for an exempt<br>consignment<br>(Bq) |
|---------------------------------|-------------------------|-------------------------|---|--|
| Copper (29)                     |                         |                         |   |  |
| Cu-64                           | $6 \times 10^0$         | $1 \times 10^0$         | $1 \times 10^2$   | $1 \times 10^6$  |
| Cu-67                           | $1 \times 10^1$         | $7 \times 10^{-1}$      | $1 \times 10^2$   | $1 \times 10^6$  |
| Dysprosium (66)                 |                         |                         |   |  |
| Dy-159                          | $2 \times 10^1$         | $2 \times 10^1$         | $1 \times 10^3$   | $1 \times 10^7$  |
| Dy-165                          | $9 \times 10^{-1}$      | $6 \times 10^{-1}$      | $1 \times 10^3$   | $1 \times 10^6$  |
| Dy-166 (a)                      | $9 \times 10^{-1}$      | $3 \times 10^{-1}$      | $1 \times 10^3$   | $1 \times 10^6$  |
| Erbium (68)                     |                         |                         |   |  |
| Er-169                          | $4 \times 10^1$         | $1 \times 10^0$         | $1 \times 10^4$   | $1 \times 10^7$  |
| Er-171                          | $8 \times 10^{-1}$      | $5 \times 10^{-1}$      | $1 \times 10^2$   | $1 \times 10^6$  |
| Europium (63)                   |                         |                         |   |  |
| Eu-147                          | $2 \times 10^0$         | $2 \times 10^0$         | $1 \times 10^2$   | $1 \times 10^6$  |
| Eu-148                          | $5 \times 10^{-1}$      | $5 \times 10^{-1}$      | $1 \times 10^1$   | $1 \times 10^6$  |
| Eu-149                          | $2 \times 10^1$         | $2 \times 10^1$         | $1 \times 10^2$   | $1 \times 10^7$  |
| Eu-150(short lived)             | $2 \times 10^0$         | $7 \times 10^{-1}$      | $1 \times 10^3$   | $1 \times 10^6$  |
| Eu-150(long lived)              | $7 \times 10^{-1}$      | $7 \times 10^{-1}$      | $1 \times 10^1$   | $1 \times 10^6$  |
| Eu-152                          | $1 \times 10^0$         | $1 \times 10^0$         | $1 \times 10^1$   | $1 \times 10^6$  |
| Eu-152m                         | $8 \times 10^{-1}$      | $8 \times 10^{-1}$      | $1 \times 10^2$   | $1 \times 10^6$  |
| Eu-154                          | $9 \times 10^{-1}$      | $6 \times 10^{-1}$      | $1 \times 10^1$   | $1 \times 10^6$  |
| Eu-155                          | $2 \times 10^1$         | $3 \times 10^0$         | $1 \times 10^2$   | $1 \times 10^7$  |
| Eu-156                          | $7 \times 10^{-1}$      | $7 \times 10^{-1}$      | $1 \times 10^1$   | $1 \times 10^6$  |
| Fluorine (9)                    |                         |                         |   |  |
| F-18                            | $1 \times 10^0$         | $6 \times 10^{-1}$      | $1 \times 10^1$   | $1 \times 10^6$  |
| Iron (26)                       |                         |                         |   |  |
| Fe-52 (a)                       | $3 \times 10^{-1}$      | $3 \times 10^{-1}$      | $1 \times 10^1$   | $1 \times 10^6$  |
| Fe-55                           | $4 \times 10^1$         | $4 \times 10^1$         | $1 \times 10^4$   | $1 \times 10^6$  |
| Fe-59                           | $9 \times 10^{-1}$      | $9 \times 10^{-1}$      | $1 \times 10^1$   | $1 \times 10^6$  |
| Fe-60 (a)                       | $4 \times 10^1$         | $2 \times 10^{-1}$      | $1 \times 10^2$   | $1 \times 10^5$  |
| Gallium (31)                    |                         |                         |   |  |
| Ga-67                           | $7 \times 10^0$         | $3 \times 10^0$         | $1 \times 10^2$   | $1 \times 10^6$  |
| Ga-68                           | $5 \times 10^{-1}$      | $5 \times 10^{-1}$      | $1 \times 10^1$   | $1 \times 10^5$  |

| Radionuclide<br>(atomic number) | A <sub>1</sub><br><br>(TBq) | A <sub>2</sub><br><br>(TBq) | Activity<br>concentration<br>for exempt<br>material<br>(Bq/g) | Activity limit<br>for an exempt<br>consignment<br>(Bq) |
|---------------------------------|-----------------------------|-----------------------------|---|--|
| Ga-72                           | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Gadolinium (64)                 |                             |                             |   |  |
| Gd-146 (a)                      | $5 \times 10^{-1}$          | $5 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Gd-148                          | $2 \times 10^1$             | $2 \times 10^{-3}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| Gd-153                          | $1 \times 10^1$             | $9 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^7$  |
| Gd-159                          | $3 \times 10^0$             | $6 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Germanium (32)                  |                             |                             |   |  |
| Ge-68 (a)                       | $5 \times 10^{-1}$          | $5 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Ge-71                           | $4 \times 10^1$             | $4 \times 10^1$             | $1 \times 10^4$   | $1 \times 10^8$  |
| Ge-77                           | $3 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Hafnium (72)                    |                             |                             |   |  |
| Hf-172 (a)                      | $6 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Hf-175                          | $3 \times 10^0$             | $3 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Hf-181                          | $2 \times 10^0$             | $5 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Hf-182                          | Unlimited                   | Unlimited                   | $1 \times 10^2$   | $1 \times 10^6$  |
| Mercury (80)                    |                             |                             |   |  |
| Hg-194 (a)                      | $1 \times 10^0$             | $1 \times 10^0$             | $1 \times 10^1$   | $1 \times 10^6$  |
| Hg-195m (a)                     | $3 \times 10^0$             | $7 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Hg-197                          | $2 \times 10^1$             | $1 \times 10^1$             | $1 \times 10^2$   | $1 \times 10^7$  |
| Hg-197m                         | $1 \times 10^1$             | $4 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Hg-203                          | $5 \times 10^0$             | $1 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^5$  |
| Holmium (67)                    |                             |                             |   |  |
| Ho-166                          | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^5$  |
| Ho-166m                         | $6 \times 10^{-1}$          | $5 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Iodine (53)                     |                             |                             |   |  |
| I-123                           | $6 \times 10^0$             | $3 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^7$  |
| I-124                           | $1 \times 10^0$             | $1 \times 10^0$             | $1 \times 10^1$   | $1 \times 10^6$  |
| I-125                           | $2 \times 10^1$             | $3 \times 10^0$             | $1 \times 10^3$   | $1 \times 10^6$  |
| I-126                           | $2 \times 10^0$             | $1 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| I-129                           | Unlimited                   | Unlimited                   | $1 \times 10^2$   | $1 \times 10^5$  |
| I-131                           | $3 \times 10^0$             | $7 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |

| Radionuclide<br>(atomic number) | A <sub>1</sub><br><br>(TBq) | A <sub>2</sub><br><br>(TBq) | Activity<br>concentration<br>for exempt<br>material<br>(Bq/g) | Activity limit<br>for an exempt<br>consignment<br>(Bq) |
|---------------------------------|-----------------------------|-----------------------------|---|--|
| I-132                           | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| I-133                           | $7 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| I-134                           | $3 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| I-135 (a)                       | $6 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Indium (49)                     |                             |                             |   |  |
| In-111                          | $3 \times 10^0$             | $3 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| In-113m                         | $4 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| In-114m (a)                     | $1 \times 10^1$             | $5 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| In-115m                         | $7 \times 10^0$             | $1 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Iridium (77)                    |                             |                             |   |  |
| Ir-189 (a)                      | $1 \times 10^1$             | $1 \times 10^1$             | $1 \times 10^2$   | $1 \times 10^7$  |
| Ir-190                          | $7 \times 10^{-1}$          | $7 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Ir-192                          | $1 \times 10^0$ (c)         | $6 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| Ir-194                          | $3 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^5$  |
| Potassium (19)                  |                             |                             |   |  |
| K-40                            | $9 \times 10^{-1}$          | $9 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| K-42                            | $2 \times 10^{-1}$          | $2 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| K-43                            | $7 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Krypton (36)                    |                             |                             |   |  |
| Kr-79                           | $4 \times 10^0$             | $1 \times 10^0$             | $1 \times 10^3$   | $1 \times 10^5$  |
| Kr-81                           | $4 \times 10^1$             | $4 \times 10^1$             | $1 \times 10^4$   | $1 \times 10^7$  |
| Kr-85                           | $1 \times 10^1$             | $1 \times 10^1$             | $1 \times 10^5$   | $1 \times 10^4$  |
| Kr-85m                          | $8 \times 10^0$             | $3 \times 10^0$             | $1 \times 10^3$   | $1 \times 10^{10}$                                     |
| Kr-87                           | $2 \times 10^{-1}$          | $2 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^9$  |
| Lanthanum (57)                  |                             |                             |   |  |
| La-137                          | $3 \times 10^1$             | $6 \times 10^0$             | $1 \times 10^3$   | $1 \times 10^7$  |
| La-140                          | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Lutetium (71)                   |                             |                             |   |  |
| Lu-172                          | $6 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Lu-173                          | $8 \times 10^0$             | $8 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^7$  |
| Lu-174                          | $9 \times 10^0$             | $9 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^7$  |



| <b>Radionuclide<br/>(atomic number)</b> | <b>A<sub>1</sub><br/><br/>(TBq)</b> | <b>A<sub>2</sub><br/><br/>(TBq)</b> | <b>Activity<br/>concentration<br/>for exempt<br/>material<br/>(Bq/g)</b> | <b>Activity limit<br/>for an exempt<br/>consignment<br/>(Bq)</b> |
|---|-------------------------------------|-------------------------------------|--|--|
| Lu-174m                                 | $2 \times 10^1$                     | $1 \times 10^1$                     | $1 \times 10^2$  | $1 \times 10^7$  |
| Lu-177                                  | $3 \times 10^1$                     | $7 \times 10^{-1}$                  | $1 \times 10^3$  | $1 \times 10^7$  |
| Magnesium (12)                          |                                     |                                     |  |  |
| Mg-28 (a)                               | $3 \times 10^{-1}$                  | $3 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^5$  |
| Manganese (25)                          |                                     |                                     |  |  |
| Mn-52                                   | $3 \times 10^{-1}$                  | $3 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^5$  |
| Mn-53                                   | Unlimited                           | Unlimited                           | $1 \times 10^4$  | $1 \times 10^9$  |
| Mn-54                                   | $1 \times 10^0$                     | $1 \times 10^0$                     | $1 \times 10^1$  | $1 \times 10^6$  |
| Mn-56                                   | $3 \times 10^{-1}$                  | $3 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^5$  |
| Molybdenum (42)                         |                                     |                                     |  |  |
| Mo-93                                   | $4 \times 10^1$                     | $2 \times 10^1$                     | $1 \times 10^3$  | $1 \times 10^8$  |
| Mo-99 (a)                               | $1 \times 10^0$                     | $6 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^6$  |
| Nitrogen (7)                            |                                     |                                     |  |  |
| N-13                                    | $9 \times 10^{-1}$                  | $6 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^9$  |
| Sodium (11)                             |                                     |                                     |  |  |
| Na-22                                   | $5 \times 10^{-1}$                  | $5 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^6$  |
| Na-24                                   | $2 \times 10^{-1}$                  | $2 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^5$  |
| Niobium (41)                            |                                     |                                     |  |  |
| Nb-93m                                  | $4 \times 10^1$                     | $3 \times 10^1$                     | $1 \times 10^4$  | $1 \times 10^7$  |
| Nb-94                                   | $7 \times 10^{-1}$                  | $7 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^6$  |
| Nb-95                                   | $1 \times 10^0$                     | $1 \times 10^0$                     | $1 \times 10^1$  | $1 \times 10^6$  |
| Nb-97                                   | $9 \times 10^{-1}$                  | $6 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^6$  |
| Neodymium (60)                          |                                     |                                     |  |  |
| Nd-147                                  | $6 \times 10^0$                     | $6 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^6$  |
| Nd-149                                  | $6 \times 10^{-1}$                  | $5 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^6$  |
| Nickel (28)                             |                                     |                                     |  |  |
| Ni-59                                   | Unlimited                           | Unlimited                           | $1 \times 10^4$  | $1 \times 10^8$  |
| Ni-63                                   | $4 \times 10^1$                     | $3 \times 10^1$                     | $1 \times 10^5$  | $1 \times 10^8$  |
| Ni-65                                   | $4 \times 10^{-1}$                  | $4 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^6$  |
| Neptunium (93)                          |                                     |                                     |  |  |
| Np-235                                  | $4 \times 10^1$                     | $4 \times 10^1$                     | $1 \times 10^3$  | $1 \times 10^7$  |

| <b>Radionuclide<br/>(atomic number)</b> | <b>A<sub>1</sub><br/><br/>(TBq)</b> | <b>A<sub>2</sub><br/><br/>(TBq)</b> | <b>Activity<br/>concentration<br/>for exempt<br/>material<br/>(Bq/g)</b> | <b>Activity limit<br/>for an exempt<br/>consignment<br/>(Bq)</b> |
|---|-------------------------------------|-------------------------------------|--|--|
| Np-236(short-lived)                     | $2 \times 10^1$                     | $2 \times 10^0$                     | $1 \times 10^3$  | $1 \times 10^7$  |
| Np-236(long-lived)                      | $9 \times 10^0$                     | $2 \times 10^{-2}$                  | $1 \times 10^2$  | $1 \times 10^5$  |
| Np-237                                  | $2 \times 10^1$                     | $2 \times 10^{-3}$                  | $1 \times 10^0$ (b)  | $1 \times 10^3$ (b)  |
| Np-239                                  | $7 \times 10^0$                     | $4 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^7$  |
| Osmium (76)                             |                                     |                                     |  |  |
| Os-185                                  | $1 \times 10^0$                     | $1 \times 10^0$                     | $1 \times 10^1$  | $1 \times 10^6$  |
| Os-191                                  | $1 \times 10^1$                     | $2 \times 10^0$                     | $1 \times 10^2$  | $1 \times 10^7$  |
| Os-191m                                 | $4 \times 10^1$                     | $3 \times 10^1$                     | $1 \times 10^3$  | $1 \times 10^7$  |
| Os-193                                  | $2 \times 10^0$                     | $6 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^6$  |
| Os-194 (a)                              | $3 \times 10^{-1}$                  | $3 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^5$  |
| Phosphorus (15)                         |                                     |                                     |  |  |
| P-32                                    | $5 \times 10^{-1}$                  | $5 \times 10^{-1}$                  | $1 \times 10^3$  | $1 \times 10^5$  |
| P-33                                    | $4 \times 10^1$                     | $1 \times 10^0$                     | $1 \times 10^5$  | $1 \times 10^8$  |
| Protactinium (91)                       |                                     |                                     |  |  |
| Pa-230 (a)                              | $2 \times 10^0$                     | $7 \times 10^{-2}$                  | $1 \times 10^1$  | $1 \times 10^6$  |
| Pa-231                                  | $4 \times 10^0$                     | $4 \times 10^{-4}$                  | $1 \times 10^0$  | $1 \times 10^3$  |
| Pa-233                                  | $5 \times 10^0$                     | $7 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^7$  |
| Lead (82)                               |                                     |                                     |  |  |
| Pb-201                                  | $1 \times 10^0$                     | $1 \times 10^0$                     | $1 \times 10^1$  | $1 \times 10^6$  |
| Pb-202                                  | $4 \times 10^1$                     | $2 \times 10^1$                     | $1 \times 10^3$  | $1 \times 10^6$  |
| Pb-203                                  | $4 \times 10^0$                     | $3 \times 10^0$                     | $1 \times 10^2$  | $1 \times 10^6$  |
| Pb-205                                  | Unlimited                           | Unlimited                           | $1 \times 10^4$  | $1 \times 10^7$  |
| Pb-210 (a)                              | $1 \times 10^0$                     | $5 \times 10^{-2}$                  | $1 \times 10^1$ (b)  | $1 \times 10^4$ (b)  |
| Pb-212 (a)                              | $7 \times 10^{-1}$                  | $2 \times 10^{-1}$                  | $1 \times 10^1$ (b)  | $1 \times 10^5$ (b)  |
| Palladium (46)                          |                                     |                                     |  |  |
| Pd-103 (a)                              | $4 \times 10^1$                     | $4 \times 10^1$                     | $1 \times 10^3$  | $1 \times 10^8$  |
| Pd-107                                  | Unlimited                           | Unlimited                           | $1 \times 10^5$  | $1 \times 10^8$  |
| Pd-109                                  | $2 \times 10^0$                     | $5 \times 10^{-1}$                  | $1 \times 10^3$  | $1 \times 10^6$  |
| Promethium (61)                         |                                     |                                     |  |  |
| Pm-143                                  | $3 \times 10^0$                     | $3 \times 10^0$                     | $1 \times 10^2$  | $1 \times 10^6$  |
| Pm-144                                  | $7 \times 10^{-1}$                  | $7 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^6$  |

| <b>Radionuclide<br/>(atomic number)</b> | <b>A<sub>1</sub><br/><br/>(TBq)</b> | <b>A<sub>2</sub><br/><br/>(TBq)</b> | <b>Activity<br/>concentration<br/>for exempt<br/>material<br/>(Bq/g)</b> | <b>Activity limit<br/>for an exempt<br/>consignment<br/>(Bq)</b> |
|---|-------------------------------------|-------------------------------------|--|--|
| Pm-145                                  | $3 \times 10^1$                     | $1 \times 10^1$                     | $1 \times 10^3$  | $1 \times 10^7$  |
| Pm-147                                  | $4 \times 10^1$                     | $2 \times 10^0$                     | $1 \times 10^4$  | $1 \times 10^7$  |
| Pm-148m (a)                             | $8 \times 10^{-1}$                  | $7 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^6$  |
| Pm-149                                  | $2 \times 10^0$                     | $6 \times 10^{-1}$                  | $1 \times 10^3$  | $1 \times 10^6$  |
| Pm-151                                  | $2 \times 10^0$                     | $6 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^6$  |
| Polonium (84)                           |                                     |                                     |  |  |
| Po-210                                  | $4 \times 10^1$                     | $2 \times 10^{-2}$                  | $1 \times 10^1$  | $1 \times 10^4$  |
| Praseodymium (59)                       |                                     |                                     |  |  |
| Pr-142                                  | $4 \times 10^{-1}$                  | $4 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^5$  |
| Pr-143                                  | $3 \times 10^0$                     | $6 \times 10^{-1}$                  | $1 \times 10^4$  | $1 \times 10^6$  |
| Platinum (78)                           |                                     |                                     |  |  |
| Pt-188 (a)                              | $1 \times 10^0$                     | $8 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^6$  |
| Pt-191                                  | $4 \times 10^0$                     | $3 \times 10^0$                     | $1 \times 10^2$  | $1 \times 10^6$  |
| Pt-193                                  | $4 \times 10^1$                     | $4 \times 10^1$                     | $1 \times 10^4$  | $1 \times 10^7$  |
| Pt-193m                                 | $4 \times 10^1$                     | $5 \times 10^{-1}$                  | $1 \times 10^3$  | $1 \times 10^7$  |
| Pt-195m                                 | $1 \times 10^1$                     | $5 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^6$  |
| Pt-197                                  | $2 \times 10^1$                     | $6 \times 10^{-1}$                  | $1 \times 10^3$  | $1 \times 10^6$  |
| Pt-197m                                 | $1 \times 10^1$                     | $6 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^6$  |
| Plutonium (94)                          |                                     |                                     |  |  |
| Pu-236                                  | $3 \times 10^1$                     | $3 \times 10^{-3}$                  | $1 \times 10^1$  | $1 \times 10^4$  |
| Pu-237                                  | $2 \times 10^1$                     | $2 \times 10^1$                     | $1 \times 10^3$  | $1 \times 10^7$  |
| Pu-238                                  | $1 \times 10^1$                     | $1 \times 10^{-3}$                  | $1 \times 10^0$  | $1 \times 10^4$  |
| Pu-239                                  | $1 \times 10^1$                     | $1 \times 10^{-3}$                  | $1 \times 10^0$  | $1 \times 10^4$  |
| Pu-240                                  | $1 \times 10^1$                     | $1 \times 10^{-3}$                  | $1 \times 10^0$  | $1 \times 10^3$  |
| Pu-241 (a)                              | $4 \times 10^1$                     | $6 \times 10^{-2}$                  | $1 \times 10^2$  | $1 \times 10^5$  |
| Pu-242                                  | $1 \times 10^1$                     | $1 \times 10^{-3}$                  | $1 \times 10^0$  | $1 \times 10^4$  |
| Pu-244 (a)                              | $4 \times 10^{-1}$                  | $1 \times 10^{-3}$                  | $1 \times 10^0$  | $1 \times 10^4$  |
| Radium (88)                             |                                     |                                     |  |  |
| Ra-223 (a)                              | $4 \times 10^{-1}$                  | $7 \times 10^{-3}$                  | $1 \times 10^2$ (b)  | $1 \times 10^5$ (b)  |
| Ra-224 (a)                              | $4 \times 10^{-1}$                  | $2 \times 10^{-2}$                  | $1 \times 10^1$ (b)  | $1 \times 10^5$ (b)  |
| Ra-225 (a)                              | $2 \times 10^{-1}$                  | $4 \times 10^{-3}$                  | $1 \times 10^2$  | $1 \times 10^5$  |

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|---|-------------------------------------|-------------------------------------|--|--|
| Ra-226 (a)                              | $2 \times 10^{-1}$                  | $3 \times 10^{-3}$                  | $1 \times 10^1$ (b)  | $1 \times 10^4$ (b)  |
| Ra-228 (a)                              | $6 \times 10^{-1}$                  | $2 \times 10^{-2}$                  | $1 \times 10^1$ (b)  | $1 \times 10^5$ (b)  |
| Rubidium (37)                           |                                     |                                     |  |  |
| Rb-81                                   | $2 \times 10^0$                     | $8 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^6$  |
| Rb-83 (a)                               | $2 \times 10^0$                     | $2 \times 10^0$                     | $1 \times 10^2$  | $1 \times 10^6$  |
| Rb-84                                   | $1 \times 10^0$                     | $1 \times 10^0$                     | $1 \times 10^1$  | $1 \times 10^6$  |
| Rb-86                                   | $5 \times 10^{-1}$                  | $5 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^5$  |
| Rb-87                                   | Unlimited                           | Unlimited                           | $1 \times 10^4$  | $1 \times 10^7$  |
| Rb(nat)                                 | Unlimited                           | Unlimited                           | $1 \times 10^4$  | $1 \times 10^7$  |
| Rhenium (75)                            |                                     |                                     |  |  |
| Re-184                                  | $1 \times 10^0$                     | $1 \times 10^0$                     | $1 \times 10^1$  | $1 \times 10^6$  |
| Re-184m                                 | $3 \times 10^0$                     | $1 \times 10^0$                     | $1 \times 10^2$  | $1 \times 10^6$  |
| Re-186                                  | $2 \times 10^0$                     | $6 \times 10^{-1}$                  | $1 \times 10^3$  | $1 \times 10^6$  |
| Re-187                                  | Unlimited                           | Unlimited                           | $1 \times 10^6$  | $1 \times 10^9$  |
| Re-188                                  | $4 \times 10^{-1}$                  | $4 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^5$  |
| Re-189 (a)                              | $3 \times 10^0$                     | $6 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^6$  |
| Re(nat)                                 | Unlimited                           | Unlimited                           | $1 \times 10^6$  | $1 \times 10^9$  |
| Rhodium (45)                            |                                     |                                     |  |  |
| Rh-99                                   | $2 \times 10^0$                     | $2 \times 10^0$                     | $1 \times 10^1$  | $1 \times 10^6$  |
| Rh-101                                  | $4 \times 10^0$                     | $3 \times 10^0$                     | $1 \times 10^2$  | $1 \times 10^7$  |
| Rh-102                                  | $5 \times 10^{-1}$                  | $5 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^6$  |
| Rh-102m                                 | $2 \times 10^0$                     | $2 \times 10^0$                     | $1 \times 10^2$  | $1 \times 10^6$  |
| Rh-103m                                 | $4 \times 10^1$                     | $4 \times 10^1$                     | $1 \times 10^4$  | $1 \times 10^8$  |
| Rh-105                                  | $1 \times 10^1$                     | $8 \times 10^{-1}$                  | $1 \times 10^2$  | $1 \times 10^7$  |
| Radon (86)                              |                                     |                                     |  |  |
| Rn-222 (a)                              | $3 \times 10^{-1}$                  | $4 \times 10^{-3}$                  | $1 \times 10^1$ (b)  | $1 \times 10^8$ (b)  |
| Ruthenium (44)                          |                                     |                                     |  |  |
| Ru-97                                   | $5 \times 10^0$                     | $5 \times 10^0$                     | $1 \times 10^2$  | $1 \times 10^7$  |
| Ru-103 (a)                              | $2 \times 10^0$                     | $2 \times 10^0$                     | $1 \times 10^2$  | $1 \times 10^6$  |
| Ru-105                                  | $1 \times 10^0$                     | $6 \times 10^{-1}$                  | $1 \times 10^1$  | $1 \times 10^6$  |
| Ru-106 (a)                              | $2 \times 10^{-1}$                  | $2 \times 10^{-1}$                  | $1 \times 10^2$ (b)  | $1 \times 10^5$ (b)  |

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|---------------------------------|-----------------------------|-----------------------------|---|--|
| Sulphur (16)                    |                             |                             |   |  |
| S-35                            | $4 \times 10^1$             | $3 \times 10^0$             | $1 \times 10^5$   | $1 \times 10^8$  |
| Antimony (51)                   |                             |                             |   |  |
| Sb-122                          | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^4$  |
| Sb-124                          | $6 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Sb-125                          | $2 \times 10^0$             | $1 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Sb-126                          | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Scandium (21)                   |                             |                             |   |  |
| Sc-44                           | $5 \times 10^{-1}$          | $5 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Sc-46                           | $5 \times 10^{-1}$          | $5 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Sc-47                           | $1 \times 10^1$             | $7 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Sc-48                           | $3 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Selenium (34)                   |                             |                             |   |  |
| Se-75                           | $3 \times 10^0$             | $3 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Se-79                           | $4 \times 10^1$             | $2 \times 10^0$             | $1 \times 10^4$   | $1 \times 10^7$  |
| Silicon (14)                    |                             |                             |   |  |
| Si-31                           | $6 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Si-32                           | $4 \times 10^1$             | $5 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Samarium (62)                   |                             |                             |   |  |
| Sm-145                          | $1 \times 10^1$             | $1 \times 10^1$             | $1 \times 10^2$   | $1 \times 10^7$  |
| Sm-147                          | Unlimited                   | Unlimited                   | $1 \times 10^1$   | $1 \times 10^4$  |
| Sm-151                          | $4 \times 10^1$             | $1 \times 10^1$             | $1 \times 10^4$   | $1 \times 10^8$  |
| Sm-153                          | $9 \times 10^0$             | $6 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Tin (50)                        |                             |                             |   |  |
| Sn-113 (a)                      | $4 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^3$   | $1 \times 10^7$  |
| Sn-117m                         | $7 \times 10^0$             | $4 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Sn-119m                         | $4 \times 10^1$             | $3 \times 10^1$             | $1 \times 10^3$   | $1 \times 10^7$  |
| Sn-121m (a)                     | $4 \times 10^1$             | $9 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^7$  |
| Sn-123                          | $8 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Sn-125                          | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^5$  |
| Sn-126 (a)                      | $6 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |

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|---------------------------------|-----------------------------|-----------------------------|---|--|
| Strontium (38)                  |                             |                             |   |  |
| Sr-82 (a)                       | $2 \times 10^{-1}$          | $2 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Sr-85                           | $2 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Sr-85m                          | $5 \times 10^0$             | $5 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^7$  |
| Sr-87m                          | $3 \times 10^0$             | $3 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Sr-89                           | $6 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Sr-90 (a)                       | $3 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^2$ (b)   | $1 \times 10^4$ (b)                                    |
| Sr-91 (a)                       | $3 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Sr-92 (a)                       | $1 \times 10^0$             | $3 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Tritium (1)                     |                             |                             |   |  |
| T(H-3)                          | $4 \times 10^1$             | $4 \times 10^1$             | $1 \times 10^6$   | $1 \times 10^9$  |
| Tantalum (73)                   |                             |                             |   |  |
| Ta-178(long-lived)              | $1 \times 10^0$             | $8 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Ta-179                          | $3 \times 10^1$             | $3 \times 10^1$             | $1 \times 10^3$   | $1 \times 10^7$  |
| Ta-182                          | $9 \times 10^{-1}$          | $5 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| Terbium (65)                    |                             |                             |   |  |
| Tb-157                          | $4 \times 10^1$             | $4 \times 10^1$             | $1 \times 10^4$   | $1 \times 10^7$  |
| Tb-158                          | $1 \times 10^0$             | $1 \times 10^0$             | $1 \times 10^1$   | $1 \times 10^6$  |
| Tb-160                          | $1 \times 10^0$             | $6 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Technetium (43)                 |                             |                             |   |  |
| Tc-95m (a)                      | $2 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^1$   | $1 \times 10^6$  |
| Tc-96                           | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Tc-96m (a)                      | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^7$  |
| Tc-97                           | Unlimited                   | Unlimited                   | $1 \times 10^3$   | $1 \times 10^8$  |
| Tc-97m                          | $4 \times 10^1$             | $1 \times 10^0$             | $1 \times 10^3$   | $1 \times 10^7$  |
| Tc-98                           | $8 \times 10^{-1}$          | $7 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Tc-99                           | $4 \times 10^1$             | $9 \times 10^{-1}$          | $1 \times 10^4$   | $1 \times 10^7$  |
| Tc-99m                          | $1 \times 10^1$             | $4 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^7$  |
| Tellurium (52)                  |                             |                             |   |  |
| Te-121                          | $2 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^1$   | $1 \times 10^6$  |
| Te-121m                         | $5 \times 10^0$             | $3 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |

| Radionuclide<br>(atomic number)       | A <sub>1</sub><br><br>(TBq) | A <sub>2</sub><br><br>(TBq) | Activity<br>concentration<br>for exempt<br>material<br>(Bq/g) | Activity limit<br>for an exempt<br>consignment<br>(Bq) |
|---------------------------------------|-----------------------------|-----------------------------|---|--|
| Te-123m                               | $8 \times 10^0$             | $1 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^7$  |
| Te-125m                               | $2 \times 10^1$             | $9 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^7$  |
| Te-127                                | $2 \times 10^1$             | $7 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Te-127m (a)                           | $2 \times 10^1$             | $5 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^7$  |
| Te-129                                | $7 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Te-129m (a)                           | $8 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Te-131m (a)                           | $7 \times 10^{-1}$          | $5 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Te-132 (a)                            | $5 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^7$  |
| Thorium (90)                          |                             |                             |   |  |
| Th-227                                | $1 \times 10^1$             | $5 \times 10^{-3}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| Th-228 (a)                            | $5 \times 10^{-1}$          | $1 \times 10^{-3}$          | $1 \times 10^0$ (b)   | $1 \times 10^4$ (b)                                    |
| Th-229                                | $5 \times 10^0$             | $5 \times 10^{-4}$          | $1 \times 10^0$ (b)   | $1 \times 10^3$ (b)                                    |
| Th-230                                | $1 \times 10^1$             | $1 \times 10^{-3}$          | $1 \times 10^0$   | $1 \times 10^4$  |
| Th-231                                | $4 \times 10^1$             | $2 \times 10^{-2}$          | $1 \times 10^3$   | $1 \times 10^7$  |
| Th-232                                | Unlimited                   | Unlimited                   | $1 \times 10^1$   | $1 \times 10^4$  |
| Th-234 (a)                            | $3 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^3$ (b)   | $1 \times 10^5$ (b)                                    |
| Th(nat)                               | Unlimited                   | Unlimited                   | $1 \times 10^0$ (b)   | $1 \times 10^3$ (b)                                    |
| Titanium (22)                         |                             |                             |   |  |
| Ti-44 (a)                             | $5 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| Thallium (81)                         |                             |                             |   |  |
| Tl-200                                | $9 \times 10^{-1}$          | $9 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Tl-201                                | $1 \times 10^1$             | $4 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Tl-202                                | $2 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Tl-204                                | $1 \times 10^1$             | $7 \times 10^{-1}$          | $1 \times 10^4$   | $1 \times 10^4$  |
| Thulium (69)                          |                             |                             |   |  |
| Tm-167                                | $7 \times 10^0$             | $8 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Tm-170                                | $3 \times 10^0$             | $6 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Tm-171                                | $4 \times 10^1$             | $4 \times 10^1$             | $1 \times 10^4$   | $1 \times 10^8$  |
| Uranium (92)                          |                             |                             |   |  |
| U-230 (fast lung absorption) (a)(d)   | $4 \times 10^1$             | $1 \times 10^{-1}$          | $1 \times 10^1$ (b)   | $1 \times 10^5$ (b)                                    |
| U-230 (medium lung absorption) (a)(e) | $4 \times 10^1$             | $4 \times 10^{-3}$          | $1 \times 10^1$   | $1 \times 10^4$  |

| Radionuclide<br>(atomic number)                   | A <sub>1</sub><br><br>(TBq) | A <sub>2</sub><br><br>(TBq) | Activity<br>concentration<br>for exempt<br>material<br>(Bq/g) | Activity limit<br>for an exempt<br>consignment<br>(Bq) |
|---|-----------------------------|-----------------------------|---|--|
| U-230 (slow lung absorption) (a)(f)               | $3 \times 10^1$             | $3 \times 10^{-3}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| U-232 (fast lung absorption) (d)                  | $4 \times 10^1$             | $1 \times 10^{-2}$          | $1 \times 10^0$ (b)   | $1 \times 10^3$ (b)                                    |
| U-232 (medium lung absorption) (e)                | $4 \times 10^1$             | $7 \times 10^{-3}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| U-232 (slow lung absorption) (f)                  | $1 \times 10^1$             | $1 \times 10^{-3}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| U-233 (fast lung absorption) (d)                  | $4 \times 10^1$             | $9 \times 10^{-2}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| U-233 (medium lung absorption) (e)                | $4 \times 10^1$             | $2 \times 10^{-2}$          | $1 \times 10^2$   | $1 \times 10^5$  |
| U-233 (slow lung absorption) (f)                  | $4 \times 10^1$             | $6 \times 10^{-3}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| U-234 (fast lung absorption) (d)                  | $4 \times 10^1$             | $9 \times 10^{-2}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| U-234 (medium lung absorption) (e)                | $4 \times 10^1$             | $2 \times 10^{-2}$          | $1 \times 10^2$   | $1 \times 10^5$  |
| U-234 (slow lung absorption) (f)                  | $4 \times 10^1$             | $6 \times 10^{-3}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| U-235 (all lung absorption types)<br>(a)(d)(e)(f) | Unlimited                   | Unlimited                   | $1 \times 10^1$ (b)   | $1 \times 10^4$ (b)                                    |
| U-236 (fast lung absorption) (d)                  | Unlimited                   | Unlimited                   | $1 \times 10^1$   | $1 \times 10^4$  |
| U-236 (medium lung absorption) (e)                | $4 \times 10^1$             | $2 \times 10^{-2}$          | $1 \times 10^2$   | $1 \times 10^5$  |
| U-236 (slow lung absorption) (f)                  | $4 \times 10^1$             | $6 \times 10^{-3}$          | $1 \times 10^1$   | $1 \times 10^4$  |
| U-238 (all lung absorption types)<br>(d)(e)(f)    | Unlimited                   | Unlimited                   | $1 \times 10^1$ (b)   | $1 \times 10^4$ (b)                                    |
| U (nat)   | Unlimited                   | Unlimited                   | $1 \times 10^0$ (b)   | $1 \times 10^3$ (b)                                    |
| U (enriched to 20% or less) (g)                   | Unlimited                   | Unlimited                   | $1 \times 10^0$   | $1 \times 10^3$  |
| U (dep)   | Unlimited                   | Unlimited                   | $1 \times 10^0$   | $1 \times 10^3$  |
| Vanadium (23)                                     |                             |                             |   |  |
| V-48  | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^5$  |
| V-49  | $4 \times 10^1$             | $4 \times 10^1$             | $1 \times 10^4$   | $1 \times 10^7$  |
| Tungsten (74)                                     |                             |                             |   |  |
| W-178 (a)   | $9 \times 10^0$             | $5 \times 10^0$             | $1 \times 10^1$   | $1 \times 10^6$  |
| W-181   | $3 \times 10^1$             | $3 \times 10^1$             | $1 \times 10^3$   | $1 \times 10^7$  |
| W-185   | $4 \times 10^1$             | $8 \times 10^{-1}$          | $1 \times 10^4$   | $1 \times 10^7$  |
| W-187   | $2 \times 10^0$             | $6 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| W-188 (a)   | $4 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^5$  |



| Radionuclide<br>(atomic number) | A <sub>1</sub><br><br>(TBq) | A <sub>2</sub><br><br>(TBq) | Activity<br>concentration<br>for exempt<br>material<br>(Bq/g) | Activity limit<br>for an exempt<br>consignment<br>(Bq) |
|---------------------------------|-----------------------------|-----------------------------|---|--|
| Xenon (54)                      |                             |                             |   |  |
| Xe-122 (a)                      | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^9$  |
| Xe-123                          | $2 \times 10^0$             | $7 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^9$  |
| Xe-127                          | $4 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^3$   | $1 \times 10^5$  |
| Xe-131m                         | $4 \times 10^1$             | $4 \times 10^1$             | $1 \times 10^4$   | $1 \times 10^4$  |
| Xe-133                          | $2 \times 10^1$             | $1 \times 10^1$             | $1 \times 10^3$   | $1 \times 10^4$  |
| Xe-135                          | $3 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^3$   | $1 \times 10^{10}$                                     |
| Yttrium (39)                    |                             |                             |   |  |
| Y-87 (a)                        | $1 \times 10^0$             | $1 \times 10^0$             | $1 \times 10^1$   | $1 \times 10^6$  |
| Y-88                            | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Y-90                            | $3 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^5$  |
| Y-91                            | $6 \times 10^{-1}$          | $6 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^6$  |
| Y-91m                           | $2 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Y-92                            | $2 \times 10^{-1}$          | $2 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^5$  |
| Y-93                            | $3 \times 10^{-1}$          | $3 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^5$  |
| Ytterbium (70)                  |                             |                             |   |  |
| Yb-169                          | $4 \times 10^0$             | $1 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^7$  |
| Yb-175                          | $3 \times 10^1$             | $9 \times 10^{-1}$          | $1 \times 10^3$   | $1 \times 10^7$  |
| Zinc (30)                       |                             |                             |   |  |
| Zn-65                           | $2 \times 10^0$             | $2 \times 10^0$             | $1 \times 10^1$   | $1 \times 10^6$  |
| Zn-69                           | $3 \times 10^0$             | $6 \times 10^{-1}$          | $1 \times 10^4$   | $1 \times 10^6$  |
| Zn-69m (a)                      | $3 \times 10^0$             | $6 \times 10^{-1}$          | $1 \times 10^2$   | $1 \times 10^6$  |
| Zirconium (40)                  |                             |                             |   |  |
| Zr-88                           | $3 \times 10^0$             | $3 \times 10^0$             | $1 \times 10^2$   | $1 \times 10^6$  |
| Zr-93                           | Unlimited                   | Unlimited                   | $1 \times 10^3$ (b)   | $1 \times 10^7$ (b)                                    |
| Zr-95 (a)                       | $2 \times 10^0$             | $8 \times 10^{-1}$          | $1 \times 10^1$   | $1 \times 10^6$  |
| Zr-97 (a)                       | $4 \times 10^{-1}$          | $4 \times 10^{-1}$          | $1 \times 10^1$ (b)   | $1 \times 10^5$ (b)                                    |

- (a)  $A_1$  and/or  $A_2$  values for these parent radionuclides include contributions from daughter radionuclides with half-lives less than 10 days, as listed in the following:

|         |                        |
|---------|------------------------|
| Mg-28   | Al-28                  |
| Ar-42   | K-42                   |
| Ca-47   | Sc-47                  |
| Ti-44   | Sc-44                  |
| Fe-52   | Mn-52m                 |
| Fe-60   | Co-60m                 |
| Zn-69m  | Zn-69                  |
| Ge-68   | Ga-68                  |
| Rb-83   | Kr-83m                 |
| Sr-82   | Rb-82                  |
| Sr-90   | Y-90                   |
| Sr-91   | Y-91m                  |
| Sr-92   | Y-92                   |
| Y-87    | Sr-87m                 |
| Zr-95   | Nb-95m                 |
| Zr-97   | Nb-97m, Nb-97          |
| Mo-99   | Tc-99m                 |
| Tc-95m  | Tc-95                  |
| Tc-96m  | Tc-96                  |
| Ru-103  | Rh-103m                |
| Ru-106  | Rh-106                 |
| Pd-103  | Rh-103m                |
| Ag-108m | Ag-108                 |
| Ag-110m | Ag-110                 |
| Cd-115  | In-115m                |
| In-114m | In-114                 |
| Sn-113  | In-113m                |
| Sn-121m | Sn-121                 |
| Sn-126  | Sb-126m                |
| Te-118  | Sb-118                 |
| Te-127m | Te-127                 |
| Te-129m | Te-129                 |
| Te-131m | Te-131                 |
| Te-132  | I-132                  |
| I-135   | Xe-135m                |
| Xe-122  | I-122                  |
| Cs-137  | Ba-137m                |
| Ba-131  | Cs-131                 |
| Ba-140  | La-140                 |
| Ce-144  | Pr-144m, Pr-144        |
| Pm-148m | Pm-148                 |
| Gd-146  | Eu-146                 |
| Dy-166  | Ho-166                 |
| Hf-172  | Lu-172                 |
| W-178   | Ta-178                 |
| W-188   | Re-188                 |
| Re-189  | Os-189m                |
| Os-194  | Ir-194                 |
| Ir-189  | Os-189m                |
| Pt-188  | Ir-188                 |
| Hg-194  | Au-194                 |
| Hg-195m | Hg-195                 |
| Pb-210  | Bi-210                 |
| Pb-212  | Bi-212, Tl-208, Po-212 |
| Bi-210m | Tl-206                 |

|         |  |
|---------|--|
| Bi-212  | Tl-208, Po-212   |
| At-211  | Po-211   |
| Rn-222  | Po-218, Pb-214, At-218, Bi-214, Po-214                 |
| Ra-223  | Rn-219, Po-215, Pb-211, Bi-211, Po-211, Tl-207         |
| Ra-224  | Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212         |
| Ra-225  | Ac-225, Fr-221, At-217, Bi-213, Tl-209, Po-213, Pb-209 |
| Ra-226  | Rn-222, Po-218, Pb-214, At-218, Bi-214, Po-214         |
| Ra-228  | Ac-228   |
| Ac-225  | Fr-221, At-217, Bi-213, Tl-209, Po-213, Pb-209         |
| Ac-227  | Fr-223   |
| Th-228  | Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212 |
| Th-234  | Pa-234m, Pa-234  |
| Pa-230  | Ac-226, Th-226, Fr-222, Ra-222, Rn-218, Po-214         |
| U-230   | Th-226, Ra-222, Rn-218, Po-214                         |
| U-235   | Th-231   |
| Pu-241  | U-237  |
| Pu-244  | U-240, Np-240m   |
| Am-242m | Am-242, Np-238   |
| Am-243  | Np-239   |
| Cm-247  | Pu-243   |
| Bk-249  | Am-245   |
| Cf-253  | Cm-249   |

- (b) Parent nuclides and their progeny included in secular equilibrium are listed in the following:

|         |  |
|---------|--|
| Sr-90   | Y-90   |
| Zr-93   | Nb-93m   |
| Zr-97   | Nb-97  |
| Ru-106  | Rh-106   |
| Ag-108m | Ag-108   |
| Cs-137  | Ba-137m  |
| Ce-144  | Pr-144   |
| Ba-140  | La-140   |
| Bi-212  | Tl-208 (0.36), Po-212 (0.64)   |
| Pb-210  | Bi-210, Po-210   |
| Pb-212  | Bi-212, Tl-208 (0.36), Po-212 (0.64)   |
| Rn-222  | Po-218, Pb-214, Bi-214, Po-214   |
| Ra-223  | Rn-219, Po-215, Pb-211, Bi-211, Tl-207   |
| Ra-224  | Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)   |
| Ra-226  | Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210   |
| Ra-228  | Ac-228   |
| Th-228  | Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)                                   |
| Th-229  | Ra-225, Ac-225, Fr-221, At-217, Bi-213, Po-213, Pb-209   |
| Th-nat  | Ra-228, Ac-228, Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)           |
| Th-234  | Pa-234m  |
| U-230   | Th-226, Ra-222, Rn-218, Po-214   |
| U-232   | Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)                           |
| U-235   | Th-231   |
| U-238   | Th-234, Pa-234m  |
| U-nat   | Th-234, Pa-234m, U-234, Th-230, Ra-226, Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210 |
| Np-237  | Pa-233   |
| Am-242m | Am-242   |
| Am-243  | Np-239   |

- (c) The quantity may be determined from a measurement of the rate of decay or a measurement of the radiation level at a prescribed distance from the source.
- (d) These values apply only to compounds of uranium that take the chemical form of  $\text{UF}_6$ ,  $\text{UO}_2\text{F}_2$  and  $\text{UO}_2(\text{NO}_3)_2$  in both normal and accident conditions of carriage.
- (e) These values apply only to compounds of uranium that take the chemical form of  $\text{UO}_3$ ,  $\text{UF}_4$ ,  $\text{UCl}_4$  and hexavalent compounds in both normal and accident conditions of carriage.
- (f) These values apply to all compounds of uranium other than those specified in (d) and (e) above.
- (g) These values apply to unirradiated uranium only.

2.2.7.2.2.2 For individual radionuclides which are not listed in Table 2.2.7.2.2.1 the determination of the basic radionuclide values referred to in 2.2.7.2.2.1 shall require multilateral approval. It is permissible to use an  $A_2$  value calculated using a dose coefficient for the appropriate lung absorption type as recommended by the International Commission on Radiological Protection, if the chemical forms of each radionuclide under both normal and accident conditions of carriage are taken into consideration. Alternatively, the radionuclide values in Table 2.2.7.2.2.2 may be used without obtaining competent authority approval.

**Table 2.2.7.2.2.2: Basic radionuclide values for unknown radionuclides or mixtures**

| Radioactive contents  | $A_1$ | $A_2$              | Activity concentration for exempt material | Activity limit for exempt consignments |
|---|-------|--------------------|--|--|
|   | (TBq) | (TBq)              | (Bq/g)                                     | (Bq)                                   |
| Only beta or gamma emitting nuclides are known to be present                        | 0.1   | 0.02               | $1 \times 10^1$                            | $1 \times 10^4$                        |
| Alpha emitting nuclides but no neutron emitters are known to be present             | 0.2   | $9 \times 10^{-5}$ | $1 \times 10^{-1}$                         | $1 \times 10^3$                        |
| Neutron emitting nuclides are known to be present or no relevant data are available | 0.001 | $9 \times 10^{-5}$ | $1 \times 10^{-1}$                         | $1 \times 10^3$                        |

2.2.7.2.2.3 In the calculations of  $A_1$  and  $A_2$  for a radionuclide not in Table 2.2.7.2.2.1, a single radioactive decay chain in which the radionuclides are present in their naturally occurring proportions, and in which no daughter nuclide has a half-life either longer than 10 days or longer than that of the parent nuclide, shall be considered as a single radionuclide; and the activity to be taken into account and the  $A_1$  or  $A_2$  value to be applied shall be those corresponding to the parent nuclide of that chain. In the case of radioactive decay chains in which any daughter nuclide has a half-life either longer than 10 days or greater than that of the parent nuclide, the parent and such daughter nuclides shall be considered as mixtures of different nuclides.

- 2.2.7.2.2.4 For mixtures of radionuclides, the determination of the basic radionuclide values referred to in 2.2.7.2.2.1 may be determined as follows:

$$X_m = \frac{1}{\sum_i \frac{f(i)}{X(i)}}$$

where,

$f(i)$  is the fraction of activity or activity concentration of radionuclide  $i$  in the mixture;

$X(i)$  is the appropriate value of  $A_1$  or  $A_2$ , or the activity concentration for exempt material or the activity limit for an exempt consignment as appropriate for the radionuclide  $i$ ; and

$X_m$  is the derived value of  $A_1$  or  $A_2$ , or the activity concentration for exempt material or the activity limit for an exempt consignment in the case of a mixture.

- 2.2.7.2.2.5 When the identity of each radionuclide is known but the individual activities of some of the radionuclides are not known, the radionuclides may be grouped and the lowest radionuclide value, as appropriate, for the radionuclides in each group may be used in applying the formulas in 2.2.7.2.2.4 and 2.2.7.2.4.4. Groups may be based on the total alpha activity and the total beta/gamma activity when these are known, using the lowest radionuclide values for the alpha emitters or beta/gamma emitters, respectively.

- 2.2.7.2.2.6 For individual radionuclides or for mixtures of radionuclides for which relevant data are not available, the values shown in Table 2.2.7.2.2.2 shall be used.

#### 2.2.7.2.3 *Determination of other material characteristics*

##### 2.2.7.2.3.1 Low specific activity (LSA) material

##### 2.2.7.2.3.1.1 *(Reserved)*

##### 2.2.7.2.3.1.2 LSA material shall be in one of three groups:

###### (a) LSA-I

- (i) uranium and thorium ores and concentrates of such ores, and other ores containing naturally occurring radionuclides which are intended to be processed for the use of these radionuclides;
- (ii) natural uranium, depleted uranium, natural thorium or their compounds or mixtures, providing they are unirradiated and in solid or liquid form;
- (iii) radioactive material for which the  $A_2$  value is unlimited, excluding material classified as fissile according to 2.2.7.2.3.5; or
- (iv) other radioactive material in which the activity is distributed throughout and the estimated average specific activity does not exceed 30 times the values for activity concentration specified in 2.2.7.2.2.1 to 2.2.7.2.2.6, excluding material classified as fissile according to 2.2.7.2.3.5;

## (b) LSA-II

- (i) water with tritium concentration up to 0.8 TBq/l; or
- (ii) other material in which the activity is distributed throughout and the estimated average specific activity does not exceed  $10^{-4}$  A2/g for solids and gases, and  $10^{-5}$  A2/g for liquids;

## (c) LSA-III - Solids (e.g. consolidated wastes, activated materials), excluding powders, in which:

- (i) the radioactive material is distributed throughout a solid or a collection of solid objects, or is essentially uniformly distributed in a solid compact binding agent (such as concrete, bitumen, ceramic, etc.);
- (ii) the radioactive material is relatively insoluble, or it is intrinsically contained in a relatively insoluble matrix, so that, even under loss of packaging, the loss of radioactive material per package by leaching when placed in water for seven days would not exceed 0.1 A2; and
- (iii) the estimated average specific activity of the solid, excluding any shielding material, does not exceed  $2 \times 10^{-3}$  A2/g.

2.2.7.2.3.1.3 LSA-III material shall be a solid of such a nature that if the entire contents of a package were subjected to the test specified in 2.2.7.2.3.1.4 the activity in the water would not exceed 0.1 A<sub>2</sub>.

2.2.7.2.3.1.4 LSA-III material shall be tested as follows:

A solid material sample representing the entire contents of the package shall be immersed for 7 days in water at ambient temperature. The volume of water to be used in the test shall be sufficient to ensure that at the end of the 7 day test period the free volume of the unabsorbed and unreacted water remaining shall be at least 10% of the volume of the solid test sample itself. The water shall have an initial pH of 6-8 and a maximum conductivity of 1 mS/m at 20 °C. The total activity of the free volume of water shall be measured following the 7 day immersion of the test sample.

2.2.7.2.3.1.5 Demonstration of compliance with the performance standards in 2.2.7.2.3.1.4 shall be in accordance with 6.4.12.1 and 6.4.12.2.

2.2.7.2.3.2 Surface contaminated object (SCO)

SCO is classified in one of two groups:

## (a) SCO-I: A solid object on which:

- (i) the non-fixed contamination on the accessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed 4 Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or 0.4 Bq/cm<sup>2</sup> for all other alpha emitters; and
- (ii) the fixed contamination on the accessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed  $4 \times 10^4$  Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or  $4 \times 10^3$  Bq/cm<sup>2</sup> for all other alpha emitters; and

- (iii) the non-fixed contamination plus the fixed contamination on the inaccessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed  $4 \times 10^4$  Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or  $4 \times 10^3$  Bq/cm<sup>2</sup> for all other alpha emitters;
- (b) SCO-II: A solid object on which either the fixed or non-fixed contamination on the surface exceeds the applicable limits specified for SCO-I in (a) above and on which:
  - (i) the non-fixed contamination on the accessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed 400 Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or 40 Bq/cm<sup>2</sup> for all other alpha emitters; and
  - (ii) the fixed contamination on the accessible surface, averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed  $8 \times 10^5$  Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or  $8 \times 10^4$  Bq/cm<sup>2</sup> for all other alpha emitters; and
  - (iii) the non-fixed contamination plus the fixed contamination on the inaccessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed  $8 \times 10^5$  Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or  $8 \times 10^4$  Bq/cm<sup>2</sup> for all other alpha emitters.

#### 2.2.7.2.3.3 Special form radioactive material

2.2.7.2.3.3.1 Special form radioactive material shall have at least one dimension not less than 5 mm. When a sealed capsule constitutes part of the special form radioactive material, the capsule shall be so manufactured that it can be opened only by destroying it. The design for special form radioactive material requires unilateral approval.

2.2.7.2.3.3.2 Special form radioactive material shall be of such a nature or shall be so designed that if it is subjected to the tests specified in 2.2.7.2.3.3.4 to 2.2.7.2.3.3.8, it shall meet the following requirements:

- (a) It would not break or shatter under the impact, percussion and bending tests 2.2.7.2.3.3.5 (a), (b), (c) and 2.2.7.2.3.3.6 (a) as applicable;
- (b) It would not melt or disperse in the applicable heat test 2.2.7.2.3.3.5 (d) or 2.2.7.2.3.3.6 (b) as applicable; and
- (c) The activity in the water from the leaching tests specified in 2.2.7.2.3.3.7 and 2.2.7.2.3.3.8 would not exceed 2 kBq; or alternatively for sealed sources, the leakage rate for the volumetric leakage assessment test specified in ISO 9978:1992 "Radiation Protection - Sealed Radioactive Sources - Leakage Test Methods", would not exceed the applicable acceptance threshold acceptable to the competent authority.

2.2.7.2.3.3.3 Demonstration of compliance with the performance standards in 2.2.7.2.3.3.2 shall be in accordance with 6.4.12.1 and 6.4.12.2.

2.2.7.2.3.3.4 Specimens that comprise or simulate special form radioactive material shall be subjected to the impact test, the percussion test, the bending test, and the heat test specified in 2.2.7.2.3.3.5 or alternative tests as authorized in 2.2.7.2.3.3.6. A different specimen may be used for each of the tests. Following each test, a leaching assessment or volumetric leakage test shall be performed on the specimen by a method no less sensitive than the methods given in 2.2.7.2.3.3.7 for indispersible solid material or 2.2.7.2.3.3.8 for encapsulated material.

2.2.7.2.3.3.5 The relevant test methods are:

- (a) Impact test: The specimen shall drop onto the target from a height of 9 m. The target shall be as defined in 6.4.14;
- (b) Percussion test: The specimen shall be placed on a sheet of lead which is supported by a smooth solid surface and struck by the flat face of a mild steel bar so as to cause an impact equivalent to that resulting from a free drop of 1.4 kg through 1 m. The lower part of the bar shall be 25 mm in diameter with the edges rounded off to a radius of  $(3.0 \pm 0.3)$  mm. The lead, of hardness number 3.5 to 4.5 on the Vickers scale and not more than 25 mm thick, shall cover an area greater than that covered by the specimen. A fresh surface of lead shall be used for each impact. The bar shall strike the specimen so as to cause maximum damage;
- (c) Bending test: The test shall apply only to long, slender sources with both a minimum length of 10 cm and a length to minimum width ratio of not less than 10. The specimen shall be rigidly clamped in a horizontal position so that one half of its length protrudes from the face of the clamp. The orientation of the specimen shall be such that the specimen will suffer maximum damage when its free end is struck by the flat face of a steel bar. The bar shall strike the specimen so as to cause an impact equivalent to that resulting from a free vertical drop of 1.4 kg through 1 m. The lower part of the bar shall be 25 mm in diameter with the edges rounded off to a radius of  $(3.0 \pm 0.3)$  mm;
- (d) Heat test: The specimen shall be heated in air to a temperature of 800 °C and held at that temperature for a period of 10 minutes and shall then be allowed to cool.

2.2.7.2.3.3.6 Specimens that comprise or simulate radioactive material enclosed in a sealed capsule may be excepted from:

- (a) The tests prescribed in 2.2.7.2.3.3.5 (a) and (b) provided the mass of the special form radioactive material:
  - (i) is less than 200 g and they are alternatively subjected to the Class 4 impact test prescribed in ISO 2919:1999 "Radiation protection - Sealed radioactive sources - General requirements and classification"; or
  - (ii) is less than 500 g and they are alternatively subjected to the Class 5 impact test prescribed in ISO 2919:1999 "Radiation protection - Sealed radioactive sources - General requirements and classification"; and
- (b) The test prescribed in 2.2.7.2.3.3.5 (d) provided they are alternatively subjected to the Class 6 temperature test specified in ISO 2919:1999 "Radiation protection - Sealed radioactive sources - General requirements and classification".

2.2.7.2.3.3.7 For specimens which comprise or simulate indispersible solid material, a leaching assessment shall be performed as follows:

- (a) The specimen shall be immersed for 7 days in water at ambient temperature. The volume of water to be used in the test shall be sufficient to ensure that at the end of the 7 day test period the free volume of the unabsorbed and unreacted water remaining shall be at least 10% of the volume of the solid test sample itself. The water shall have an initial pH of 6-8 and a maximum conductivity of 1 mS/m at 20 °C;
- (b) The water with specimen shall then be heated to a temperature of  $(50 \pm 5)$  °C and maintained at this temperature for 4 hours;



- (c) The activity of the water shall then be determined;
- (d) The specimen shall then be kept for at least 7 days in still air at not less than 30 °C and relative humidity not less than 90%;
- (e) The specimen shall then be immersed in water of the same specification as in (a) above and the water with the specimen heated to  $(50 \pm 5)$  °C and maintained at this temperature for 4 hours;
- (f) The activity of the water shall then be determined.

2.2.7.2.3.3.8 For specimens which comprise or simulate radioactive material enclosed in a sealed capsule, either a leaching assessment or a volumetric leakage assessment shall be performed as follows:

- (a) The leaching assessment shall consist of the following steps:
  - (i) the specimen shall be immersed in water at ambient temperature. The water shall have an initial pH of 6-8 with a maximum conductivity of 1 mS/m at 20 °C;
  - (ii) the water and specimen shall be heated to a temperature of  $(50 \pm 5)$  °C and maintained at this temperature for 4 hours;
  - (iii) the activity of the water shall then be determined;
  - (iv) the specimen shall then be kept for at least 7 days in still air at not less than 30 °C and relative humidity of not less than 90%;
  - (v) the process in (i), (ii) and (iii) shall be repeated;
- (b) The alternative volumetric leakage assessment shall comprise any of the tests prescribed in ISO 9978:1992 "Radiation Protection - Sealed radioactive sources - Leakage test methods", which are acceptable to the competent authority.

2.2.7.2.3.4 Low dispersible radioactive material

2.2.7.2.3.4.1 The design for low dispersible radioactive material shall require multilateral approval. Low dispersible radioactive material shall be such that the total amount of this radioactive material in a package shall meet the following requirements:

- (a) The radiation level at 3 m from the unshielded radioactive material does not exceed 10 mSv/h;
- (b) If subjected to the tests specified in 6.4.20.3 and 6.4.20.4, the airborne release in gaseous and particulate forms of up to 100 µm aerodynamic equivalent diameter would not exceed 100 A2. A separate specimen may be used for each test; and
- (c) If subjected to the test specified in 2.2.7.2.3.1.4 the activity in the water would not exceed 100 A2. In the application of this test, the damaging effects of the tests specified in (b) above shall be taken into account.

2.2.7.2.3.4.2 Low dispersible radioactive material shall be tested as follows:

A specimen that comprises or simulates low dispersible radioactive material shall be subjected to the enhanced thermal test specified in 6.4.20.3 and the impact test specified in 6.4.20.4. A different specimen may be used for each of the tests. Following each test, the specimen shall be subjected to the leach test specified in 2.2.7.2.3.1.4. After each test it shall be determined if the applicable requirements of 2.2.7.2.3.4.1 have been met.

2.2.7.2.3.4.3 Demonstration of compliance with the performance standards in 2.2.7.2.3.4.1 and 2.2.7.2.3.4.2 shall be in accordance with 6.4.12.1 and 6.4.12.2.

2.2.7.2.3.5 Fissile material

Packages containing fissile radionuclides shall be classified under the relevant entry of table 2.2.7.2.1.1 for fissile material unless one of the conditions (a) to (d) of this paragraph is met. Only one type of exception is allowed per consignment.

(a) A mass limit per consignment such that:

$$\frac{\text{mass of uranium-235 (g)}}{X} + \frac{\text{mass of other fissile material (g)}}{Y} < 1$$

where X and Y are the mass limits defined in Table 2.2.7.2.3.5, provided that the smallest external dimension of each package is not less than 10 cm and that either:

- (i) each individual package contains not more than 15 g of fissile material; for unpackaged material, this quantity limitation shall apply to the consignment being carried in or on the vehicle; or
- (ii) the fissile material is a homogeneous hydrogenous solution or mixture where the ratio of fissile nuclides to hydrogen is less than 5% by mass; or
- (iii) there are not more than 5 g of fissile material in any 10 litre volume of material.

Neither beryllium nor deuterium shall be present in quantities exceeding 1% of the applicable consignment mass limits provided in Table 2.2.7.2.3.5, except for deuterium in natural concentration in hydrogen.

- (b) Uranium enriched in uranium-235 to a maximum of 1% by mass, and with a total plutonium and uranium-233 content not exceeding 1% of the mass of uranium-235, provided that the fissile material is distributed essentially homogeneously throughout the material. In addition, if uranium-235 is present in metallic, oxide or carbide forms, it shall not form a lattice arrangement;
- (c) Liquid solutions of uranyl nitrate enriched in uranium-235 to a maximum of 2% by mass, with a total plutonium and uranium-233 content not exceeding 0.002% of the mass of uranium, and with a minimum nitrogen to uranium atomic ratio (N/U) of 2;
- (d) Packages containing, individually, a total plutonium mass not more than 1 kg, of which not more than 20% by mass may consist of plutonium-239, plutonium-241 or any combination of those radionuclides.

**Table 2.2.7.2.3.5: Consignment mass limits for exceptions from the requirements for packages containing fissile material**

| <b>Fissile material</b>    | <b>Fissile material mass (g) mixed with substances having an average hydrogen density less than or equal to water</b> | <b>Fissile material mass (g) mixed with substances having an average hydrogen density greater than water</b> |
|----------------------------|---|--|
| Uranium-235 (X)            | 400   | 290  |
| Other fissile material (Y) | 250   | 180  |

**2.2.7.2.4 Classification of packages or unpacked material**

The quantity of radioactive material in a package shall not exceed the relevant limits for the package type as specified below.

**2.2.7.2.4.1 Classification as excepted package****2.2.7.2.4.1.1 Packages may be classified as excepted packages if:**

- (a) They are empty packagings having contained radioactive material;
- (b) They contain instruments or articles in limited quantities;
- (c) They contain articles manufactured of natural uranium, depleted uranium or natural thorium; or
- (d) They contain radioactive material in limited quantities.

**2.2.7.2.4.1.2 A package containing radioactive material may be classified as an excepted package provided that the radiation level at any point on its external surface does not exceed 5 µSv/h.****Table 2.2.7.2.4.1.2: Activity limits for excepted packages**

| <b>Physical state of contents</b> | <b>Instruments or articles</b>  |                                    | <b>Materials<br/>Package limits <sup>a</sup></b> |
|-----------------------------------|---------------------------------|------------------------------------|--|
|                                   | <b>Item limits <sup>a</sup></b> | <b>Package limits <sup>a</sup></b> |  |
| (1)                               | (2)                             | (3)                                | (4)  |
| <b>Solids</b>                     |                                 |                                    |  |
| special form                      | $10^{-2} A_1$                   | $A_1$                              | $10^{-3} A_1$                                    |
| other form                        | $10^{-2} A_2$                   | $A_2$                              | $10^{-3} A_2$                                    |
| <b>Liquids</b>                    | $10^{-3} A_2$                   | $10^{-1} A_2$                      | $10^{-4} A_2$                                    |
| <b>Gases</b>                      |                                 |                                    |  |
| tritium                           | $2 \times 10^{-2} A_2$          | $2 \times 10^{-1} A_2$             | $2 \times 10^{-2} A_2$                           |
| special form                      | $10^{-3} A_1$                   | $10^{-2} A_1$                      | $10^{-3} A_1$                                    |
| other forms                       | $10^{-3} A_2$                   | $10^{-2} A_2$                      | $10^{-3} A_2$                                    |

<sup>a</sup> For mixtures of radionuclides, see 2.2.7.2.2.4 to 2.2.7.2.2.6.

**2.2.7.2.4.1.3 Radioactive material which is enclosed in or is included as a component part of an instrument or other manufactured article may be classified under UN No. 2911 RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - INSTRUMENTS or ARTICLES provided that:**

- (a) The radiation level at 10 cm from any point on the external surface of any unpackaged instrument or article is not greater than 0.1 mSv/h; and

- (b) Each instrument or manufactured article bears the marking "RADIOACTIVE" except:
  - (i) radioluminescent time-pieces or devices;
  - (ii) consumer products that either have received regulatory approval according to 1.7.1.4 (d) or do not individually exceed the activity limit for an exempt consignment in Table 2.2.7.2.2.1 (column 5), provided such products are carried in a package that bears the marking "RADIOACTIVE" on an internal surface in such a manner that warning of the presence of radioactive material is visible on opening the package; and
- (c) The active material is completely enclosed by non-active components (a device performing the sole function of containing radioactive material shall not be considered to be an instrument or manufactured article); and
- (d) The limits specified in columns 2 and 3 of Table 2.2.7.2.4.1.2 are met for each individual item and each package, respectively.

2.2.7.2.4.1.4 Radioactive material with an activity not exceeding the limit specified in column 4 of Table 2.2.7.2.4.1.2, may be classified under UN No. 2910 RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL provided that:

- (a) The package retains its radioactive contents under routine conditions of carriage; and
- (b) The package bears the marking "RADIOACTIVE" on an internal surface in such a manner that a warning of the presence of radioactive material is visible on opening the package.

2.2.7.2.4.1.5 An empty packaging which had previously contained radioactive material with an activity not exceeding the limit specified in column 4 of Table 2.2.7.2.4.1.2 may be classified under UN No. 2908 RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - EMPTY PACKAGING, provided that:

- (a) It is in a well-maintained condition and securely closed;
- (b) The outer surface of any uranium or thorium in its structure is covered with an inactive sheath made of metal or some other substantial material;
- (c) The level of internal non-fixed contamination, when averaged over any 300 cm<sup>2</sup>, does not exceed:
  - (i) 400 Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters; and
  - (ii) 40 Bq/cm<sup>2</sup> for all other alpha emitters; and
- (d) Any labels which may have been displayed on it in conformity with 5.2.2.1.11.1 are no longer visible.

2.2.7.2.4.1.6 Articles manufactured of natural uranium, depleted uranium or natural thorium and articles in which the sole radioactive material is unirradiated natural uranium, unirradiated depleted uranium or unirradiated natural thorium may be classified under UN No. 2909 RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or NATURAL THORIUM, provided that the outer surface of the uranium or thorium is enclosed in an inactive sheath made of metal or some other substantial material.

#### 2.2.7.2.4.2 Classification as Low specific activity (LSA) material

Radioactive material may only be classified as LSA material if the conditions of 2.2.7.2.3.1 and 4.1.9.2 are met.

#### 2.2.7.2.4.3 Classification as Surface contaminated object (SCO)

Radioactive material may be classified as SCO if the conditions of 2.2.7.2.3.2 and 4.1.9.2 are met.

#### 2.2.7.2.4.4 Classification as Type A package

Packages containing radioactive material may be classified as Type A packages provided that the following conditions are met:

Type A packages shall not contain activities greater than the following:

- (a) For special form radioactive material - A<sub>1</sub>; or
- (b) For all other radioactive material - A<sub>2</sub>.

For mixtures of radionuclides whose identities and respective activities are known, the following condition shall apply to the radioactive contents of a Type A package:

$$\sum_i \frac{B(i)}{A_1(i)} + \sum_j \frac{C(j)}{A_2(j)} \leq 1$$

where B(i) is the activity of radionuclide i as special form radioactive material;

A<sub>1</sub>(i) is the A<sub>1</sub> value for radionuclide i;

C(j) is the activity of radionuclide j as other than special form radioactive material; and

A<sub>2</sub>(j) is the A<sub>2</sub> value for radionuclide j.

#### 2.2.7.2.4.5 Classification of Uranium hexafluoride

Uranium hexafluoride shall only be assigned to UN Nos. 2977 RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE, or 2978 RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, non-fissile or fissile-excepted.

##### 2.2.7.2.4.5.1 Packages containing uranium hexafluoride shall not contain:

- (a) A mass of uranium hexafluoride different from that authorized for the package design;
- (b) A mass of uranium hexafluoride greater than a value that would lead to an ullage smaller than 5% at the maximum temperature of the package as specified for the plant systems where the package shall be used; or
- (c) Uranium hexafluoride other than in solid form or at an internal pressure above atmospheric pressure when presented for carriage.

#### 2.2.7.2.4.6 Classification as Type B(U), Type B(M) or Type C packages

2.2.7.2.4.6.1 Packages not otherwise classified in 2.2.7.2.4 (2.2.7.2.4.1 to 2.2.7.2.4.5) shall be classified in accordance with the competent authority approval certificate for the package issued by the country of origin of design.

2.2.7.2.4.6.2 A package may only be classified as a Type B(U) if it does not contain:

- (a) Activities greater than those authorized for the package design;
- (b) Radionuclides different from those authorized for the package design; or
- (c) Contents in a form, or a physical or chemical state different from those authorized for the package design;

as specified in the certificate of approval.

2.2.7.2.4.6.3 A package may only be classified as a Type B(M) if it does not contain:

- (a) Activities greater than those authorized for the package design;
- (b) Radionuclides different from those authorized for the package design; or
- (c) Contents in a form, or a physical or chemical state different from those authorized for the package design;

as specified in the certificate of approval.

2.2.7.2.4.6.4 A package may only be classified as a Type C if it does not contain:

- (a) Activities greater than those authorized for the package design;
- (b) Radionuclides different from those authorized for the package design; or
- (c) Contents in a form, or physical or chemical state different from those authorized for the package design;

as specified in the certificate of approval.

2.2.7.2.5 *Special arrangements*

Radioactive material shall be classified as transported under special arrangement when it is intended to be carried in accordance with 1.7.4.

**2.2.8            Class 8            Corrosive substances****2.2.8.1            Criteria**

2.2.8.1.1            The heading of Class 8 covers substances and articles containing substances of this class which by chemical action attack epithelial tissue - of skin or mucous membranes - with which they are in contact, or which in the event of leakage are capable of damaging or destroying other goods, or means of transport. The heading of this class also covers other substances which form a corrosive liquid only in the presence of water, or which produce corrosive vapour or mist in the presence of natural moisture of the air.

2.2.8.1.2            Substances and articles of Class 8 are subdivided as follows:

C1-C10            Corrosive substances without subsidiary risk:

C1-C4            Acid substances:  
C1    Inorganic, liquid;  
C2    Inorganic, solid;  
C3    Organic, liquid;  
C4    Organic, solid;

C5-C8            Basic substances:  
C5    Inorganic, liquid;  
C6    Inorganic, solid;  
C7    Organic, liquid;  
C8    Organic, solid;

C9-C10            Other corrosive substances:  
C9    Liquid;  
C10   Solid;

C11            Articles;

CF            Corrosive substances, flammable:  
CF1   Liquid;  
CF2   Solid;

CS            Corrosive substances, self-heating:  
CS1   Liquid;  
CS2   Solid;

CW            Corrosive substances which, in contact with water, emit flammable gases:  
CW1   Liquid;  
CW2   Solid;

CO            Corrosive substances, oxidizing:  
CO1   Liquid;  
CO2   Solid;

CT            Corrosive substances, toxic:  
CT1   Liquid;  
CT2   Solid;

CFT            Corrosive substances, flammable, liquid, toxic;

COT            Corrosive substances, oxidizing, toxic.

*Classification and assignment of packing groups*

- 2.2.8.1.3 Substances of Class 8 shall be classified in three packing groups according to the degree of danger they present for carriage, as follows:

Packing group I: highly corrosive substances  
Packing group II: corrosive substances  
Packing group III: slightly corrosive substances.

- 2.2.8.1.4 Substances and articles classified in Class 8 are listed in Table A of Chapter 3.2. Allocation of substances to packing groups I, II and III has been made on the basis of experience taking into account such additional factors as inhalation risk (see 2.2.8.1.5) and reactivity with water (including the formation of dangerous decomposition products).

- 2.2.8.1.5 A substance or preparation meeting the criteria of Class 8 having an inhalation toxicity of dusts and mists ( $LC_{50}$ ) in the range of packing group I, but toxicity through oral ingestion or dermal contact only in the range of packing group III or less, shall be allocated to Class 8.

- 2.2.8.1.6 Substances, including mixtures, not mentioned by name in Table A of Chapter 3.2 can be assigned to the relevant entry of sub-section 2.2.8.3, and to the relevant packing group on the basis of the length of time of contact necessary to produce full thickness destruction of human skin in accordance with the criteria of (a) to (c) below.

Liquids, and solids which may become liquid during carriage, which are judged not to cause full thickness destruction of human skin shall still be considered for their potential to cause corrosion to certain metal surfaces. In assigning the packing group, account shall be taken of human experience in instances of accidental exposure. In the absence of human experience, the grouping shall be based on data obtained from experiments in accordance with OECD Guideline 404<sup>7</sup>.

- (a) Packing group I is assigned to substances that cause full thickness destruction of intact skin tissue within an observation period up to 60 minutes starting after the exposure time of 3 minutes or less;
- (b) Packing group II is assigned to substances that cause full thickness destruction of intact skin tissue within an observation period up to 14 days starting after the exposure time of more than 3 minutes but not more than 60 minutes;
- (c) Packing group III is assigned to substances that:
  - cause full thickness destruction of intact skin tissue within an observation period up to 14 days starting after the exposure time of more than 60 minutes but not more than 4 hours; or
  - are judged not to cause full thickness destruction of intact skin tissue, but which exhibit a corrosion rate on either steel or aluminium surfaces exceeding 6.25 mm a year at a test temperature of 55 °C when tested on both materials. For the purposes of testing steel, type S235JR+CR (1.0037 resp. St 37-2), S275J2G3+CR (1.0144 resp. St 44-3), ISO 3574, Unified Numbering System (UNS) G10200 or SAE 1020, and for testing aluminium, non-clad, types 7075-T6 or AZ5GU-T6 shall be used. An acceptable test is prescribed in the Manual of Tests and Criteria, Part III, Section 37.

**NOTE:** Where an initial test on either steel or aluminium indicates the substance being tested is corrosive the follow up test on the other metal is not required.

<sup>7</sup> OECD guidelines for Testing of Chemicals, No. 404 "Acute Dermal Irritation/Corrosion" (1992).



- 2.2.8.1.7 If substances of Class 8, as a result of admixtures, come into categories of risk different from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures or solutions shall be assigned to the entries to which they belong, on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes), see also 2.1.3.

- 2.2.8.1.8 On the basis of the criteria set out in paragraph 2.2.8.1.6, it may also be determined whether the nature of a solution or mixture mentioned by name or containing a substance mentioned by name is such that the solution or mixture is not subject to the provisions for this class.

- 2.2.8.1.9 Substances, solutions and mixtures, which

- do not meet the criteria of Directives 67/548/EEC<sup>3</sup> or 1999/45/EC<sup>4</sup> as amended and therefore are not classified as corrosive according to these directives, as amended; and
- do not exhibit a corrosive effect on steel or aluminium;

may be considered as substances not belonging to Class 8.

**NOTE:** UN No. 1910 calcium oxide and UN No. 2812 sodium aluminate, listed in the UN Model Regulations, are not subject to the provisions of ADR.

## **2.2.8.2 Substances not accepted for carriage**

- 2.2.8.2.1 The chemically unstable substances of Class 8 shall not be accepted for carriage unless the necessary steps have been taken to prevent their dangerous decomposition or polymerization during carriage. To this end it shall in particular be ensured that receptacles and tanks do not contain any substance liable to promote these reactions.

- 2.2.8.2.2 The following substances shall not be accepted for carriage:

- UN No. 1798 NITROHYDROCHLORIC ACID;
- chemically unstable mixtures of spent sulphuric acid;
- chemically unstable mixtures of nitrating acid or mixtures of residual sulphuric and nitric acids, not denitrated;
- perchloric acid aqueous solution with more than 72% pure acid, by mass, or mixtures of perchloric acid with any liquid other than water.

<sup>3</sup> Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (Official Journal of the European Communities No. L 196 of 16.08.1967, page 1).

<sup>4</sup> Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 on the approximation of laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations (Official Journal of the European Communities No. L 200 of 30 July 1999, pages 1 to 68).

### 2.2.8.3 *List of collective entries*

#### Corrosive substances without subsidiary risk

|                            |           |                        |   |
|----------------------------|-----------|------------------------|---|
| Acid                       | inorganic | liquid C1              | 2584 ALKYLSULPHONIC ACIDS, LIQUID with more than 5% free sulphuric acid or<br>2584 ARYLSULPHONIC ACIDS, LIQUID with more than 5% free sulphuric acid<br>2693 BISULPHITES, AQUEOUS SOLUTION, N.O.S.<br>2837 BISULPHATES, AQUEOUS SOLUTION<br>3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  |
|                            |           | solid C2               | 1740 HYDROGENDIFLUORIDES, SOLID, N.O.S.<br>2583 ALKYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid or<br>2583 ARYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid<br>3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  |
|                            | organic   | liquid C3              | 2586 ALKYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid or<br>2586 ARYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid<br>2987 CHLOROSILANES, CORROSIVE, N.O.S.<br>3145 ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)<br>3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S                    |
|                            |           | solid C4               | 2430 ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)<br>2585 ALKYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid or<br>2585 ARYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid<br>3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.  |
| Basic                      | inorganic | liquid C5              | 1719 CAUSTIC ALKALI LIQUID, N.O.S.<br>2797 BATTERY FLUID, ALKALI<br>3266 CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.   |
|                            |           | solid C6               | 3262 CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.  |
| C5-C8                      | organic   | liquid C7              | 2735 AMINES, LIQUID, CORROSIVE, N.O.S. or<br>2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S.<br>3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.  |
|                            |           | solid C8               | 3259 AMINES, SOLID, CORROSIVE, N.O.S., or<br>3259 POLYAMINES, SOLID, CORROSIVE, N.O.S.<br>3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.  |
| Other corrosive substances |           | liquid C9              | 1903 DISINFECTANT, LIQUID, CORROSIVE, N.O.S<br>2801 DYE, LIQUID, CORROSIVE, N.O.S. or<br>2801 DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.<br>3066 PAINT (including paint, enamel, stain, shellac, varnish, polish, liquid filler and lacquer base) or<br>3066 PAINT RELATED MATERIAL (including paint thinning or reducing compound)<br>1760 CORROSIVE LIQUID, N.O.S. |
| C9-C10                     |           | solid <sup>a</sup> C10 | 3147 DYE, SOLID, CORROSIVE, N.O.S. or<br>3147 DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.<br>3244 SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S.<br>1759 CORROSIVE SOLID, N.O.S.   |
| Articles                   |           | C11                    | 2794 BATTERIES, WET, FILLED WITH ACID, electric storage<br>2795 BATTERIES, WET, FILLED WITH ALKALI, electric storage<br>2800 BATTERIES, WET, NON-SPILLABLE, electric storage<br>3028 BATTERIES, DRY, CONTAINING POTASSIUM HYDROXIDE SOLID, electric storage   |

(cont'd on next page)

(cont'd on next page)

<sup>a</sup> Mixtures of solids which are not subject to the provisions of ADR and of corrosive liquids may be carried under UN No. 3244 without being subject to the classification criteria of Class 8, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging, container or transport unit is closed. Each packaging shall correspond to a design type which has passed the leakproofness test for Packing group II level.

**Corrosive substances with subsidiary risk(s)**

|                                 |                        |  |                                       |                                 |  |
|---------------------------------|------------------------|--|---------------------------------------|---------------------------------|--|
| (cont'd)                        | Flammable <sup>b</sup> | liquid   | CF1                                   | 3470                            | PAINT, CORROSIVE, FLAMMABLE (including paint, enamel, stain, shellac, varnish, polish, liquid filler and lacquer base) or  |
|                                 |                        |  |                                       | 3470                            | PAINT RELATED MATERIAL, CORROSIVE, FLAMMABLE (including paint thinning or reducing compound)   |
|                                 |                        |  |                                       | 2734                            | AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or  |
|                                 |                        |  |                                       | 2734                            | POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.   |
|                                 |                        |  |                                       | 2986                            | CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.  |
|                                 | CF                     | solid  | CF2                                   | 2920                            | CORROSIVE LIQUID, FLAMMABLE, N.O.S.  |
|                                 |                        |  |                                       | 2921                            | CORROSIVE SOLID, FLAMMABLE, N.O.S.   |
|                                 | Self-heating           | liquid   | CS1                                   | 3301                            | CORROSIVE LIQUID, SELF-HEATING, N.O.S.   |
|                                 |                        |  |                                       | CS                              | solid  |
|                                 | Water-reactive         | liquid <sup>b</sup>  | CW1                                   | 3094                            |  |
| CW                              |                        |  |                                       | solid                           | CW2  |
|                                 | Oxidizing              | liquid   | CO1                                   |                                 |  |
| CO                              |                        |  |                                       | solid                           | CO2  |
|                                 | Toxic <sup>d</sup>     | liquid <sup>c</sup>  | CT1                                   |                                 |  |
| 2922                            |                        |  |                                       | CORROSIVE LIQUID, TOXIC, N.O.S. |  |
| CT                              | solid <sup>c</sup>     | CT2  | 2923                                  | CORROSIVE SOLID, TOXIC, N.O.S.  |  |
|                                 |                        |  | Flammable, liquid, toxic <sup>d</sup> | CFT                             | No collective entry with this classification code available; if need be, classification under a collective entry with a classification code to be determined according to table of precedence of hazard in 2.1.3.10. |
| Oxidizing, toxic <sup>d,e</sup> | COT                    | No collective entry with this classification code available; if need be, classification under a collective entry with a classification code to be determined according to table of precedence of hazard in 2.1.3.10. |                                       |                                 |  |

<sup>b</sup> Chlorosilanes which, in contact with water or moist air, emit flammable gases, are substances of Class 4.3.

<sup>c</sup> Chloroformates having predominantly toxic properties are substances of Class 6.1.

<sup>d</sup> Corrosive substances which are highly toxic by inhalation, as defined in 2.2.61.1.4 to 2.2.61.1.9 are substances of Class 6.1.

<sup>e</sup> UN No. 2505 AMMONIUM FLUORIDE, UN No. 1812 POTASSIUM FLUORIDE, SOLID, UN No. 1690 SODIUM FLUORIDE, SOLID, UN No. 2674 SODIUM FLUOROSILICATE, UN No. 2856 FLUOROSILICATES, N.O.S., UN No. 3415 SODIUM FLUORIDE SOLUTION and UN No. 3422 POTASSIUM FLUORIDE SOLUTION are substances of Class 6.1.

**2.2.9 Class 9 Miscellaneous dangerous substances and articles****2.2.9.1 Criteria**

2.2.9.1.1 The heading of Class 9 covers substances and articles which, during carriage, present a danger not covered by the heading of other classes.

2.2.9.1.2 The substances and articles of Class 9 are subdivided as follows:

- M1 Substances which, on inhalation as fine dust, may endanger health;
- M2 Substances and apparatus which, in the event of fire, may form dioxins;
- M3 Substances evolving flammable vapour;
- M4 Lithium batteries;
- M5 Life-saving appliances;
- M6-M8 Environmentally hazardous substances:
  - M6 Pollutant to the aquatic environment, liquid;
  - M7 Pollutant to the aquatic environment, solid;
  - M8 Genetically modified microorganisms and organisms;
- M9-M10 Elevated temperature substances:
  - M9 Liquid;
  - M10 Solid;
- M11 Other substances presenting a danger during carriage, but not meeting the definitions of another class.

*Definitions and classification*

2.2.9.1.3 Substances and articles classified in Class 9 are listed in Table A of Chapter 3.2. The assignment of substances and articles not mentioned by name in Table A of Chapter 3.2 to the relevant entry of that Table or of sub-section 2.2.9.3 shall be done in accordance with 2.2.9.1.4 to 2.2.9.1.14 below.

*Substances which, on inhalation as fine dust, may endanger health*

2.2.9.1.4 Substances which, on inhalation as fine dust, may endanger health include asbestos and mixtures containing asbestos.

*Substances and apparatus which, in the event of fire, may form dioxins*

2.2.9.1.5 Substances and apparatus which, in the event of fire, may form dioxins include polychlorinated biphenyls (PCBs) and terphenyls (PCTs) and polyhalogenated biphenyls and terphenyls and mixtures containing these substances, as well as apparatus such as transformers, condensers and apparatus containing those substances or mixtures.

**NOTE:** Mixtures with a PCB or PCT content of not more than 50 mg/kg are not subject to the provisions of ADR.

*Substances evolving flammable vapour*

- 2.2.9.1.6 Substances evolving flammable vapour include polymers containing flammable liquids with a flash-point not exceeding 55 °C.

*Lithium batteries*

- 2.2.9.1.7 The term "lithium battery" covers all cells and batteries containing lithium in any form. They may be assigned to Class 9 if they meet the requirements of special provision 230 of Chapter 3.3. They are not subject to the provisions of ADR if they meet the requirements of special provision 188 of Chapter 3.3. They shall be classified in accordance with the procedures of Section 38.3 of the Manual of Tests and Criteria.

*Life-saving appliances*

- 2.2.9.1.8 Life-saving appliances include life-saving appliances and motor vehicle components which meet the descriptions of special provisions 235 or 296 of Chapter 3.3.

*Environmentally hazardous substances*

- 2.2.9.1.9 *(Deleted)*

*Pollutants to the aquatic environment*

- 2.2.9.1.10 *Environmentally hazardous substances (aquatic environment)*

- 2.2.9.1.10.1 General definitions

- 2.2.9.1.10.1.1 Environmentally hazardous substances include, inter alia, liquid or solid substances pollutant to the aquatic environment and solutions and mixtures of such substances (such as preparations and wastes).

For the purposes of 2.2.9.1.10, "substance" means chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

- 2.2.9.1.10.1.2 The aquatic environment may be considered in terms of the aquatic organisms that live in the water, and the aquatic ecosystem of which they are part <sup>8</sup>. The basis, therefore, of the identification of hazard is the aquatic toxicity of the substance or mixture, although this may be modified by further information on the degradation and bioaccumulation behaviour.
- 2.2.9.1.10.1.3 While the following classification procedure is intended to apply to all substances and mixtures, it is recognised that in some cases, e.g. metals or poorly soluble inorganic compounds, special guidance will be necessary <sup>9</sup>.

- 2.2.9.1.10.1.4 The following definitions apply for acronyms or terms used in this section:

- BCF: Bioconcentration Factor;
- BOD: Biochemical Oxygen Demand;

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<sup>8</sup> This does not address aquatic pollutants for which there may be a need to consider effects beyond the aquatic environment such as the impacts on human health etc.

<sup>9</sup> This can be found in Annex 10 of the GHS.

- COD: Chemical Oxygen Demand;
- GLP: Good Laboratory Practices;
- EC<sub>50</sub>: the effective concentration of substance that causes 50% of the maximum response;
- ErC<sub>50</sub>: EC<sub>50</sub> in terms of reduction of growth;
- K<sub>ow</sub>: octanol/water partition coefficient;
- LC<sub>50</sub> (50% lethal concentration): the concentration of a substance in water which causes the death of 50% (one half) in a group of test animals;
- L(E)C<sub>50</sub>: LC<sub>50</sub> or EC<sub>50</sub>;
- NOEC: No Observed Effect Concentration;
- OECD Test Guidelines: Test guidelines published by the Organization for Economic Cooperation and Development (OECD).

#### 2.2.9.1.10.2 Definitions and data requirements

##### 2.2.9.1.10.2.1 The basic elements for classification of environmentally hazardous substances (aquatic environment) are:

- Acute aquatic toxicity;
- Potential for or actual bioaccumulation;
- Degradation (biotic or abiotic) for organic chemicals; and
- Chronic aquatic toxicity.

##### 2.2.9.1.10.2.2 While data from internationally harmonised test methods are preferred, in practice, data from national methods may also be used where they are considered as equivalent. In general, it has been agreed that freshwater and marine species toxicity data can be considered as equivalent data and are preferably to be derived using OECD Test Guidelines or equivalent according to the principles of Good Laboratory Practices (GLP). Where such data are not available, classification shall be based on the best available data.

##### 2.2.9.1.10.2.3 Acute aquatic toxicity shall normally be determined using a fish 96 hour LC<sub>50</sub> (OECD Test Guideline 203 or equivalent), a crustacea species 48 hour EC<sub>50</sub> (OECD Test Guideline 202 or equivalent) and/or an algal species 72 or 96 hour EC<sub>50</sub> (OECD Test Guideline 201 or equivalent). These species are considered as surrogate for all aquatic organisms and data on other species such as Lemna may also be considered if the test methodology is suitable.

##### 2.2.9.1.10.2.4 Bioaccumulation means net result of uptake, transformation and elimination of a substance in an organism due to all routes of exposure (i.e. air, water, sediment/soil and food).

The potential for bioaccumulation shall normally be determined by using the octanol/water partition coefficient, usually reported as a log K<sub>ow</sub> determined according to OECD Test Guideline 107 or 117. While this represents a potential to bioaccumulate, an experimentally determined Bioconcentration Factor (BCF) provides a better measure and shall be used in preference when available. A BCF shall be determined according to OECD Test Guideline 305.

##### 2.2.9.1.10.2.5 Environmental degradation may be biotic or abiotic (e.g. hydrolysis) and the criteria used reflect this fact. Ready biodegradation is most easily defined using the OECD biodegradability tests (OECD Test Guideline 301 (A - F)). A pass level in these tests may be considered as indicative of rapid degradation in most environments. These are freshwater tests and thus the use of the results from OECD Test Guideline 306, which is more suitable for marine environments, has also been included. Where such data are not available, a BOD(5 days)/COD ratio $\geq 0.5$ is considered as indicative of rapid degradation.

Abiotic degradation such as hydrolysis, primary degradation, both abiotic and biotic, degradation in non-aquatic media and proven rapid degradation in the environment may all be considered in defining rapid degradability<sup>10</sup>.

Substances are considered rapidly degradable in the environment if the following criteria are met:

- (a) In 28-day ready biodegradation studies, the following levels of degradation are achieved:
  - (i) Tests based on dissolved organic carbon: 70%;
  - (ii) Tests based on oxygen depletion or carbon dioxide generation: 60% of theoretical maxima;

These levels of biodegradation shall be achieved within 10 days of the start of degradation which point is taken as the time when 10% of the substance has been degraded; or

- (b) In those cases where only BOD and COD data are available, when the ratio of BOD5/COD is  $\geq 0.5$ ; or
- (c) If other convincing scientific evidence is available to demonstrate that the substance or mixture can be degraded (biotically and/or abiotically) in the aquatic environment to a level above 70% within a 28 day period.

2.2.9.1.10.2.6 Chronic toxicity data are less available than acute data and the range of testing procedures less standardised. Data generated according to the OECD Test Guidelines 210 (Fish Early Life Stage) or 211 (Daphnia Reproduction) and 201 (Algal Growth Inhibition) may be accepted. Other validated and internationally accepted tests may also be used. The "No Observed Effect Concentrations" (NOECs) or other equivalent L(E)Cx shall be used.

2.2.9.1.10.3 Substance classification categories and criteria

Substances shall be classified as "environmentally hazardous substances (aquatic environment)", if they satisfy the criteria for Acute 1, Chronic 1 or Chronic 2, according to the following tables:

#### Acute toxicity

##### **Category: Acute 1**

Acute toxicity:

|  |                      |
|--|----------------------|
| 96 hr LC <sub>50</sub> (for fish)                                | $\leq 1$ mg/l and/or |
| 48 hr EC <sub>50</sub> (for crustacea)                           | $\leq 1$ mg/l and/or |
| 72 or 96hr ErC <sub>50</sub> (for algae or other aquatic plants) | $\leq 1$ mg/l        |

<sup>10</sup> Special guidance on data interpretation is provided in Chapter 4.1 and Annex 9 of the GHS.

**Category: Chronic 1**

|  |                 |
|--|-----------------|
| 96 hr LC <sub>50</sub> (for fish)                                | ≤ 1 mg/l and/or |
| 48 hr EC <sub>50</sub> (for crustacea)                           | ≤ 1 mg/l and/or |
| 72 or 96hr ErC <sub>50</sub> (for algae or other aquatic plants) | ≤ 1 mg/l        |

and the substance is not rapidly degradable and/or the  $\log K_{ow} \geq 4$  (unless the experimentally determined BCF  $< 500$ )

|  |                        |
|--|------------------------|
| 96 hr LC <sub>50</sub> (for fish)                                | >1 to ≤ 10 mg/l and/or |
| 48 hr EC <sub>50</sub> (for crustacea)                           | >1 to ≤ 10 mg/l and/or |
| 72 or 96hr ErC <sub>50</sub> (for algae or other aquatic plants) | >1 to ≤ 10 mg/l        |

and the substance is not rapidly degradable and/or the  $\log K_{ow} \geq 4$  (unless the experimentally determined BCF  $< 500$ ), unless the chronic toxicity NOECs are  $> 1$  mg/l

The classification flowchart below outlines the process to be followed:

```
graph TD
    Start([Start]) --> D1{L(E)C50* ≤ 1 mg/l}
    D1 -- Yes --> D2{NOEC > 1 mg/l}
    D1 -- No --> D2
    D2 -- Yes --> End1([End])
    D2 -- No or unknown --> D3{L(E)C50* ≤ 10 mg/l}
    D3 -- No --> End1
    D3 -- Yes --> D4{Rapidly degradable}
    D4 -- No --> D5{Bioaccumulation}
    D4 -- Yes --> End1
    D5 -- Yes --> End1
    D5 -- No --> End1
    D4 -- No --> End2([End])
    D5 -- No --> End2
    End1 --> Box1[Environmentally hazardous substance  
Acute 1]
    End1 --> Box2[Environmentally hazardous substance  
Chronic 1]
    End2 --> Box3[Environmentally hazardous substance  
Chronic 2]
    End2 --> Box4[Not environmentally hazardous substance]
```

The flowchart classifies hazardous substances based on the following criteria:

- Decision 1:**  $L(E)C_{50}^* \leq 1 \text{ mg/l}$ 
  - Yes:** Proceed to Decision 2.
  - No:** Proceed to Decision 2.
- Decision 2:**  $NOEC > 1 \text{ mg/l}$ 
  - Yes:** Proceed to End 1.
  - No or unknown:** Proceed to Decision 3.
- Decision 3:**  $L(E)C_{50}^* \leq 10 \text{ mg/l}$ 
  - No:** Proceed to End 1.
  - Yes:** Proceed to Decision 4.
- Decision 4:** Rapidly degradable
  - No:** Proceed to Decision 5.
  - Yes:** Proceed to End 1.
- Decision 5:** Bioaccumulation
  - Yes:** Proceed to End 1.
  - No:** Proceed to End 2.

**End 1:** Environmentally hazardous substance (Acute 1 or Chronic 1)

**End 2:** Environmentally hazardous substance (Chronic 2) or Not environmentally hazardous substance

\* Lowest value of 96-hour  $LC_{50}$ , 48-hour  $EC_{50}$  or 72-hour or 96-hour  $ErC_{50}$ , as appropriate.



#### 2.2.9.1.10.4 Mixtures classification categories and criteria

2.2.9.1.10.4.1 The classification system for mixtures covers the classification categories which are used for substances meaning acute category 1 and chronic categories 1 and 2. In order to make use of all available data for purposes of classifying the aquatic environmental hazards of the mixture, the following assumption is made and is applied where appropriate:

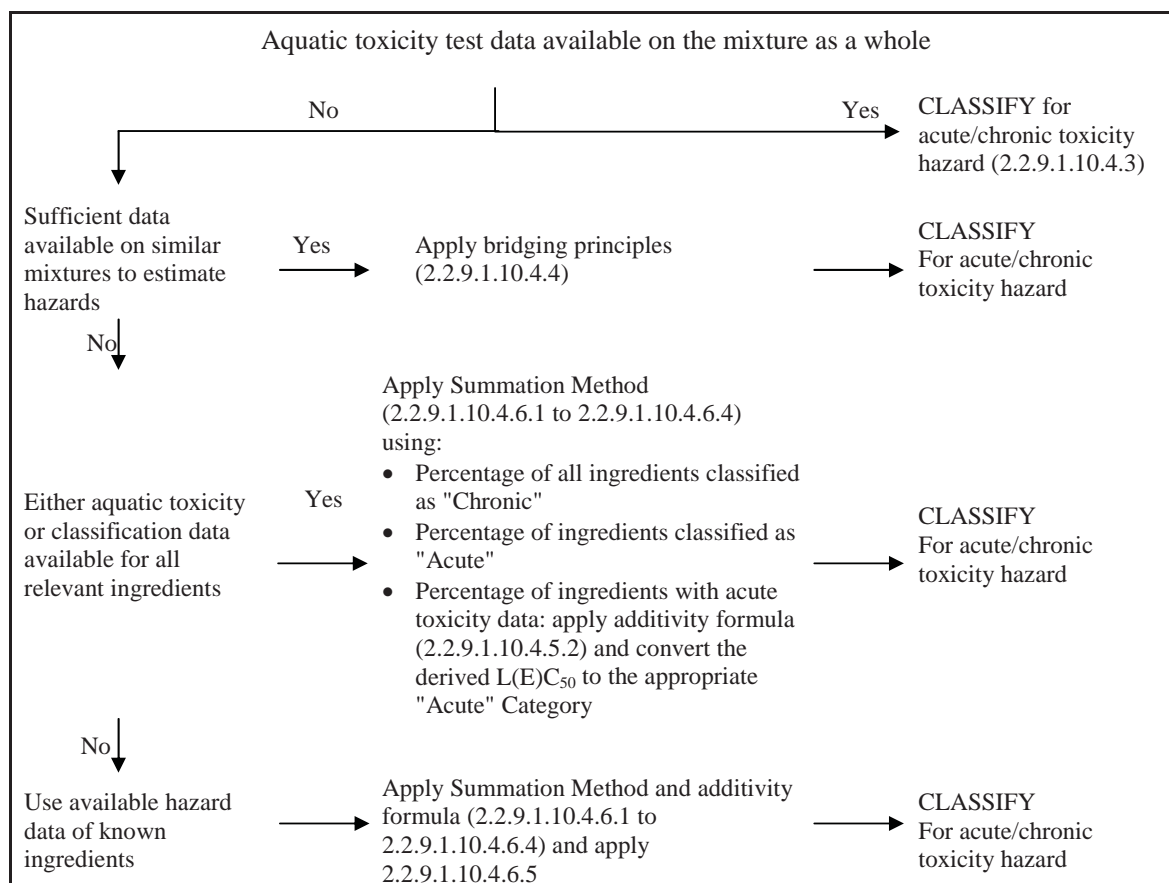
The "relevant ingredients" of a mixture are those which are present in a concentration of 1% (by mass) or greater, unless there is a presumption (e.g. in the case of highly toxic ingredients) that an ingredient present at less than 1% can still be relevant for classifying the mixture for aquatic environmental hazards.

2.2.9.1.10.4.2 The approach for classification of aquatic environmental hazards is tiered, and is dependent upon the type of information available for the mixture itself and for its ingredients. Elements of the tiered approach include:

- (a) Classification based on tested mixtures;
- (b) Classification based on bridging principles;
- (c) The use of "summation of classified ingredients" and/or an "additivity formula".

Figure 2.2.9.1.10.4.2 below outlines the process to be followed.

**Figure 2.2.9.1.10.4.2: Tiered approach to classification of mixtures for acute and chronic aquatic environmental hazards**



#### 2.2.9.1.10.4.3 Classification of mixtures when data are available for the complete mixture

2.2.9.1.10.4.3.1 When the mixture as a whole has been tested to determine its aquatic toxicity, it shall be classified according to the criteria that have been agreed for substances, but only for acute toxicity. The classification is based on the data for fish, crustacea and algae/plants. Classification of mixtures by using  $LC_{50}$  or  $EC_{50}$  data for the mixture as a whole is not possible for chronic categories since both toxicity data and environmental fate data are needed, and there are no degradability and bioaccumulation data for mixtures as a whole. It is not possible to apply the criteria for chronic classification because the data from degradability and bio-accumulation tests of mixtures cannot be interpreted; they are meaningful only for single substances.

2.2.9.1.10.4.3.2 When there are acute toxicity test data ( $LC_{50}$  or  $EC_{50}$ ) available for the mixture as a whole, these data as well as information with respect to the classification of ingredients for chronic toxicity shall be used to complete the classification for tested mixtures as follows. When chronic (long term) toxicity data (NOEC) are also available, they shall be used as well.

- (a)  $L(E)C_{50}$  ( $LC_{50}$  or  $EC_{50}$ ) of the tested mixture  $\leq 1$  mg/l and NOEC of the tested mixture  $\leq 1.0$  mg/l or unknown:
  - classify mixture as category acute 1;
  - apply summation of classified ingredients approach (see 2.2.9.1.10.4.6.3 and 2.2.9.1.10.4.6.4) for chronic classification (chronic 1, 2, or no need of chronic classification);
- (b)  $L(E)C_{50}$  of the tested mixture  $\leq 1$  mg/l and NOEC of the tested mixture  $> 1.0$  mg/l:
  - classify mixture as category acute 1;
  - apply summation of classified ingredients approach (see 2.2.9.1.10.4.6.3 and 2.2.9.1.10.4.6.4) for classification as category chronic 1. If the mixture is not classified as category chronic 1, then there is no need for chronic classification;
- (c)  $L(E)C_{50}$  of the tested mixture  $> 1$  mg/l, or above the water solubility, and NOEC of the tested mixture  $\leq 1.0$  mg/l or unknown:
  - no need to classify for acute toxicity;
  - apply summation of classified ingredients approach (see 2.2.9.1.10.4.6.3 and 2.2.9.1.10.4.6.4) for chronic classification or no need for chronic classification;
- (d)  $L(E)C_{50}$  of the tested mixture  $> 1$  mg/l, or above the water solubility, and NOEC of the tested mixture  $> 1.0$  mg/l:
  - No need to classify for acute or chronic toxicity.

#### 2.2.9.1.10.4.4 Bridging principles

2.2.9.1.10.4.4.1 Where the mixture itself has not been tested to determine its aquatic environmental hazard, but there are sufficient data on the individual ingredients and similar tested mixtures to adequately characterise the hazards of the mixture, these data shall be used in accordance with the following agreed bridging rules. This ensures that the classification process uses the available data to the greatest extent possible in characterising the hazards of the mixture without the necessity for additional testing in animals.

## 2.2.9.1.10.4.4.2 Dilution

2.2.9.1.10.4.4.2.1 If a mixture is formed by diluting another classified mixture or a substance with a diluent which has an equivalent or lower aquatic hazard classification than the least toxic original ingredient and which is not expected to affect the aquatic hazards of other ingredients, then the mixture shall be classified as equivalent to the original mixture or substance.

2.2.9.1.10.4.4.2.2 If a mixture is formed by diluting another classified mixture or a substance with water or other totally non-toxic material, the toxicity of the mixture shall be calculated from the original mixture or substance.

## 2.2.9.1.10.4.4.3 Batching

The aquatic hazard classification of one production batch of a complex mixture shall be assumed to be substantially equivalent to that of another production batch of the same commercial product and produced by or under the control of the same manufacturer, unless there is reason to believe there is significant variation such that the aquatic hazard classification of the batch has changed. If the latter occurs, new classification is necessary.

## 2.2.9.1.10.4.4.4 Concentration of mixtures which are classified with the most severe classification categories (chronic 1 and acute 1)

If a mixture is classified as chronic 1 and/or acute 1, and ingredients of the mixture which are classified as chronic 1 and/or acute 1 are further concentrated, the more concentrated mixture shall be classified with the same classification category as the original mixture without additional testing.

## 2.2.9.1.10.4.4.5 Interpolation within one toxicity category

If mixtures A and B are in the same classification category and mixture C is made in which the toxicologically active ingredients have concentrations intermediate to those in mixtures A and B, then mixture C shall be in the same category as A and B. Note that the identity of the ingredients is the same in all three mixtures.

## 2.2.9.1.10.4.4.6 Substantially similar mixtures

Given the following:

(a) two mixtures:

(i) A + B;

(ii) C + B;

(b) the concentration of ingredient B is the same in both mixtures;

(c) the concentration of ingredient A in mixture (i) equals that of ingredient C in mixture (ii);

(d) classification for A and C are available and are the same, i.e. they are in the same hazard category and are not expected to affect the aquatic toxicity of B,

then there shall be no need to test mixture (ii) if mixture (i) is already characterised by testing and both mixtures are classified in the same category.

2.2.9.1.10.4.5 Classification of mixtures when data are available for all ingredients or only for some ingredients of the mixture

2.2.9.1.10.4.5.1 The classification of a mixture shall be based on summation of the concentrations of its classified ingredients. The percentage of ingredients classified as "Acute" or "Chronic" will feed straight into the summation method. Details of the summation method are described in 2.2.9.1.10.4.6.1 to 2.2.9.1.10.4.6.4.

2.2.9.1.10.4.5.2 Mixtures may be made of a combination of both ingredients that are classified (as Acute 1 and/or Chronic 1, 2) and those for which adequate test data are available. When adequate toxicity data are available for more than one ingredient in the mixture, the combined toxicity of those ingredients shall be calculated using the following additivity formula, and the calculated toxicity shall be used to assign that portion of the mixture an acute toxicity hazard which is then subsequently used in applying the summation method.

$$\frac{\sum C_i}{L(E)C_{50m}} = \sum_n \frac{C_i}{L(E)C_{50i}}$$

where:

$C_i$  = concentration of ingredient i (mass percentage);  
 $L(E)C_{50i}$  = (mg/l)  $LC_{50}$  or  $EC_{50}$  for ingredient i;  
 $n$  = number of ingredients, and i is running from 1 to n;  
 $L(E)C_{50m}$  =  $L(E)C_{50}$  of the part of the mixture with test data.

2.2.9.1.10.4.5.3 When applying the additivity formula for part of the mixture, it is preferable to calculate the toxicity of this part of the mixture using for each substance toxicity values that relate to the same species (i.e. fish, daphnia or algae) and then to use the highest toxicity (lowest value) obtained (i.e. use the most sensitive of the three species). However, when toxicity data for each ingredient are not available in the same species, the toxicity value of each ingredient shall be selected in the same manner that toxicity values are selected for the classification of substances, i.e. the higher toxicity (from the most sensitive test organism) is used. The calculated acute toxicity shall then be used to classify this part of the mixture as Acute 1 using the same criteria described for substances.

2.2.9.1.10.4.5.4 If a mixture is classified in more than one way, the method yielding the more conservative result shall be used.

2.2.9.1.10.4.6 Summation method

2.2.9.1.10.4.6.1 Classification procedure

In general a more severe classification for mixtures overrides a less severe classification, e.g. a classification with chronic 1 overrides a classification with chronic 2. As a consequence the classification procedure is already completed if the results of the classification is chronic 1. A more severe classification than chronic 1 is not possible; therefore, it is not necessary to pursue the classification procedure further.

2.2.9.1.10.4.6.2 Classification for the acute category 1

2.2.9.1.10.4.6.2.1 All ingredients classified as acute 1 shall be considered. If the sum of these ingredients is greater than or equal to 25% the whole mixture shall be classified as category acute 1. If the result of the calculation is a classification of the mixture as category acute 1, the classification process is completed.

2.2.9.1.10.4.6.2.2 The classification of mixtures for acute hazards based on this summation of classified ingredients, is summarised in Table 2.2.9.1.10.4.6.2.2 below.

**Table 2.2.9.1.10.4.6.2.2 : Classification of a mixture for acute hazards, based on summation of classified ingredients**

| Sum of ingredients classified as: | Mixture is classified as: |
|-----------------------------------|---------------------------|
| Acute 1 $\times M^a \geq 25\%$    | Acute 1                   |

<sup>a</sup> For explanation of the M factor, see 2.2.9.1.10.4.6.4.

2.2.9.1.10.4.6.3 Classification for the chronic categories 1, 2

2.2.9.1.10.4.6.3.1 First, all ingredients classified as chronic 1 are considered. If the sum of these ingredients is greater than or equal to 25% the mixture shall be classified as category chronic 1. If the result of the calculation is a classification of the mixture as category chronic 1 the classification procedure is completed.

2.2.9.1.10.4.6.3.2 In cases where the mixture is not classified as chronic 1, classification of the mixture as chronic 2 is considered. A mixture shall be classified as chronic 2 if 10 times the sum of all ingredients classified as chronic 1 plus the sum of all ingredients classified as chronic 2 is greater than or equal to 25%. If the result of the calculation is classification of the mixture as chronic 2, the classification process is completed.

2.2.9.1.10.4.6.3.3 The classification of mixtures for chronic hazards, based on this summation of classified ingredients, is summarised in Table 2.2.9.1.10.4.6.3.3 below.

**Table 2.2.9.1.10.4.6.3.3: Classification of a mixture for chronic hazards, based on summation of classified ingredients**

| Sum of ingredients classified as:                                    | Mixture is classified as: |
|--|---------------------------|
| Chronic 1 $\times M^a \geq 25\%$                                     | Chronic 1                 |
| $(M \times 10 \times \text{Chronic 1}) + \text{Chronic 2} \geq 25\%$ | Chronic 2                 |

<sup>a</sup> For explanation of the M factor, see 2.2.9.1.10.4.6.4.

2.2.9.1.10.4.6.4 Mixtures with highly toxic ingredients

Category acute 1 ingredients with toxicities well below 1 mg/l may influence the toxicity of the mixture and are given increased weight in applying the summation method. When a mixture contains ingredients classified as acute or chronic 1, the tiered approach described in 2.2.9.1.10.4.6.2 and 2.2.9.1.10.4.6.3 shall be applied using a weighted sum by multiplying the concentrations of acute 1 ingredients by a factor, instead of merely adding up the percentages. This means that the concentration of "Acute 1" in the left column of Table 2.2.9.1.10.4.6.2.2 and the concentration of "Chronic 1" in the left column of Table 2.2.9.1.10.4.6.3.3 are multiplied by the appropriate multiplying factor. The multiplying factors to be applied to these ingredients are defined using the toxicity value, as summarised in Table 2.2.9.1.10.4.6.4 below. Therefore, in order to classify a mixture containing acute 1 and/or chronic 1 ingredients, the classifier needs to be informed of the value of the M factor in order to apply the summation method. Alternatively, the additivity formula (see 2.2.9.1.10.4.5.2) may be used when toxicity data are available for all highly toxic ingredients in the mixture and there is convincing evidence that all other ingredients, including those for which specific acute toxicity data are not available, are of low or no toxicity and do not significantly contribute to the environmental hazard of the mixture.

**Table 2.2.9.1.10.4.6.4 : Multiplying factors for highly toxic ingredients of mixtures**

| L(E)C <sub>50</sub> value          | Multiplying factor (M) |
|------------------------------------|------------------------|
| $0.1 < L(E)C_{50} \leq 1$          | 1                      |
| $0.01 < L(E)C_{50} \leq 0.1$       | 10                     |
| $0.001 < L(E)C_{50} \leq 0.01$     | 100                    |
| $0.0001 < L(E)C_{50} \leq 0.001$   | 1000                   |
| $0.00001 < L(E)C_{50} \leq 0.0001$ | 10000                  |
| (continue in factor 10 intervals)  |                        |

#### 2.2.9.1.10.4.6.5 Classification of mixtures with ingredients without any useable information

In the event that no useable information on acute and/or chronic aquatic hazard is available for one or more relevant ingredients, it is concluded that the mixture cannot be attributed (a) definitive hazard category(ies). In this situation the mixture shall be classified based on the known ingredients only with the additional statement that: "x percent of the mixture consists of ingredient(s) of unknown hazard to the aquatic environment.

#### 2.2.9.1.10.5 Substances or mixtures dangerous to the aquatic environment not otherwise classified under ADR

##### 2.2.9.1.10.5.1 Substances or mixtures dangerous to the aquatic environment not otherwise classified under ADR shall be designated:

UN No. 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. or  
UN No. 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

They shall be assigned to packing group III.

##### 2.2.9.1.10.5.2 Notwithstanding the provisions of 2.2.9.1.10,

- Substances which cannot be assigned to entries other than UN Nos. 3077 and 3082 in Class 9 or to other entries in classes 1 to 8, but which are identified in Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances<sup>11</sup>, as amended, as substances to which letter N "Environmentally hazardous" (R50; R50/53; R51/53) has been allocated; and
- Solutions and mixtures (such as preparations and wastes) of substances to which letter N "Environmentally hazardous" (R50; R50/53; R51/53) has been allocated in Directive 67/548/EEC, as amended, and which, according to Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations<sup>12</sup>, as amended, are also allocated letter N "Environmentally hazardous" (R50; R50/53; R51/53), and which cannot be assigned to entries other than UN Nos. 3077 and 3082 in Class 9 or to other entries in classes 1 to 8;

shall be assigned to UN Nos. 3077 or 3082 of Class 9 as appropriate.

<sup>11</sup> Official Journal of the European Communities No.196, of 16 August 1967, pp. 1 – 5.

<sup>12</sup> Official Journal of the European Communities No. L 200, of 30 July 1999, pp. 1 – 68.

*Genetically modified microorganisms or organisms*

- 2.2.9.1.11 Genetically modified microorganisms (GMMOs) and genetically modified organisms (GMOs) are microorganisms and organisms in which genetic material has been purposely altered through genetic engineering in a way that does not occur naturally. They are assigned to Class 9 (UN No. 3245) if they do not meet the definition of infectious substances, but are capable of altering animals, plants or microbiological substances in a way not normally the result of natural reproduction.

**NOTE 1:** GMMOs and GMOs which are infectious are substances of Class 6.2, UN Nos. 2814, 2900 or 3373.

**NOTE 2:** GMMOs or GMOs are not subject to the provisions of ADR when authorized for use by the competent authorities of the countries of origin, transit and destination<sup>13</sup>.

**NOTE 3:** Live animals shall not be used to carry genetically modified microorganisms classified in Class 9 unless the substance can be carried no other way.

- 2.2.9.1.12 (Deleted)

*Elevated temperature substances*

- 2.2.9.1.13 Elevated temperature substances include substances which are carried or handed over for carriage in the liquid state at or above 100 °C and, in the case of those with a flash-point, below their flash-point. They also include solids which are carried or handed over for carriage at or above 240 °C.

**NOTE:** Elevated temperature substances may be assigned to Class 9 only if they do not meet the criteria of any other class.

*Other substances presenting a danger during carriage but not meeting the definitions of another class.*

- 2.2.9.1.14 The following other miscellaneous substances not meeting the definitions of another class are assigned to Class 9:

Solid ammonia compounds having a flash-point below 60 °C;  
Low hazard dithionites;  
Highly volatile liquids;  
Substances emitting noxious fumes;  
Substances containing allergens;  
Chemical kits and first aid kits;

**NOTE:** UN No. 1845 carbon dioxide, solid (dry ice), UN No. 2071 ammonium nitrate fertilizers, UN No. 2216 fish meal (fish scrap), stabilized, UN No. 2807 magnetized material, UN No. 3166 engine, internal combustion or vehicle, flammable gas powered or vehicle, flammable liquid powered, UN No. 3171 battery-powered vehicle or 3171 battery-powered equipment (wet battery), UN No. 3334 aviation regulated liquid, n.o.s., UN No. 3335 aviation regulated solid, n.o.s. and UN No. 3363 dangerous goods in machinery or dangerous goods in apparatus listed in the UN Model Regulations, are not subject to the provisions of ADR.

<sup>13</sup> See in particular Part C of Directive 2001/18/EC of the European Parliament and of the Council on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC (Official Journal of the European Communities, No. L 106, of 17 April 2001, pp. 8-14), which sets out the authorization procedures for the European Community.



*Assignment of the packing groups*

- 2.2.9.1.15      When indicated in column (4) of Table A of Chapter 3.2, substances and articles of Class 9 are assigned to one of the following packing groups according to their degree of danger:

Packing group II:      substances presenting medium danger;  
Packing group III:     substances presenting low danger.

**2.2.9.2**      *Substances and articles not accepted for carriage*

The following substances and articles shall not be accepted for carriage:

- Lithium batteries which do not meet the relevant conditions of special provisions 188, 230 or 636 of Chapter 3.3;
- Uncleaned empty containment vessels for apparatus such as transformers, condensers and hydraulic apparatus containing substances assigned to UN Nos. 2315, 3151, 3152 or 3432.



### 2.2.9.3 *List of collective entries*

|  |     |  |
|--|-----|--|
| Substances which, on inhalation as fine dust, may endanger health  | M1  | 2212 BLUE ASBESTOS (crocidolite) or<br>2212 BROWN ASBESTOS (amosite, mysorite)<br>2590 WHITE ASBESTOS (chrysotile, actinolite, anthophyllite, tremolite)   |
| Substances and apparatus which, in the event of fire, may form dioxins   | M2  | 2315 POLYCHLORINATED BIPHENYLS, LIQUID<br>3432 POLYCHLORINATED BIPHENYLS, SOLID<br>3151 POLYHALOGENATED BIPHENYLS, LIQUID or<br>3151 POLYHALOGENATED TERPHENYLS, LIQUID<br>3152 POLYHALOGENATED BIPHENYLS, SOLID or<br>3152 POLYHALOGENATED TERPHENYLS, SOLID  |
| Substances evolving flammable vapour   | M3  | 2211 POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour<br>3314 PLASTICS MOULDING COMPOUND in dough, sheet or extruded rope form evolving flammable vapour   |
| Lithium batteries  | M4  | 3090 LITHIUM METAL BATTERIES (including lithium alloy batteries)<br>3091 LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT (including lithium alloy batteries) or<br>3091 LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT (including lithium alloy batteries)<br>3480 LITHIUM ION BATTERIES (including lithium ion polymer batteries)<br>3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT (including lithium ion polymer batteries) or<br>3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries) |
| Live-saving appliances   | M5  | 2990 LIFE-SAVING APPLIANCES, SELF-INFLATING<br>3072 LIFE-SAVING APPLIANCES NOT SELF-INFLATING containing dangerous goods as equipment<br>3268 AIR BAG INFLATORS or<br>3268 AIR BAG MODULES or<br>3268 SEAT-BELT PRETENSIONERS  |
| Environmentally hazardous substances   | M6  | 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.   |
|  | M7  | 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  |
| Elevated temperature substances  | M8  | 3245 GENETICALLY MODIFIED MICROORGANISMS or<br>3245 GENETICALLY MODIFIED ORGANISMS   |
|  | M9  | 3257 ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 °C and below its flash-point (including molten metal, molten salts, etc.)  |
|  | M10 | 3258 ELEVATED TEMPERATURE SOLID, N.O.S., at or above 240 °C  |
| Other substances or articles presenting a danger during carriage, but not meeting the definitions of another class | M11 | No collective entry available. Only substances listed in Table A of Chapter 3.2 are subject to the provisions for Class 9 under this classification code, as follows:<br>1841 ACETALDEHYDE AMMONIA<br>1931 ZINC DITHIONITE (ZINC HYDROSULPHITE)<br>1941 DIBROMODIFLUOROMETHANE<br>1990 BENZALDEHYDE<br>2969 CASTOR BEANS, or<br>2969 CASTOR MEAL, or<br>2969 CASTOR POMACE, or<br>2969 CASTOR FLAKE<br>3316 CHEMICAL KIT, or<br>3316 FIRST AID KIT<br>3359 FUMIGATED UNIT  |

## CHAPTER 2.3

### TEST METHODS

#### 2.3.0 General

Unless otherwise provided for in Chapter 2.2 or in this Chapter, the test methods to be used for the classification of dangerous goods are those described in the Manual of Tests and Criteria.

#### 2.3.1 Exudation test for blasting explosives of Type A

2.3.1.1 Blasting explosives of type A (UN No. 0081) shall, if they contain more than 40% liquid nitric ester, in addition to the testing specified in the Manual of Tests and Criteria, satisfy the following exudation test.

2.3.1.2 The apparatus for testing blasting explosive for exudation (figs. 1 to 3) consists of a hollow bronze cylinder. This cylinder, which is closed at one end by a plate of the same metal, has an internal diameter of 15.7 mm and a depth of 40 mm. It is pierced by 20 holes 0.5 mm in diameter (four sets of five holes) on the circumference. A bronze piston, cylindrically fashioned over a length of 48 mm and having a total length of 52 mm, slides into the vertically placed cylinder. The piston, whose diameter is 15.6 mm, is loaded with a mass of 220 g so that a pressure of 120 kPa (1.20 bar) is exerted on the base of the cylinder.

2.3.1.3 A small plug of blasting explosive weighing 5 to 8 g, 30 mm long and 15 mm in diameter, is wrapped in very fine gauze and placed in the cylinder; the piston and its loading mass are then placed on it so that the blasting explosive is subjected to a pressure of 120 kPa (1.20 bar). The time taken for the appearance of the first signs of oily droplets (nitroglycerine) at the outer orifices of the cylinder holes is noted.

2.3.1.4 The blasting explosive is considered satisfactory if the time elapsing before the appearance of the liquid exudations is more than five minutes, the test having been carried out at a temperature of 15 °C to 25 °C.

## Test of blasting explosive for exudation

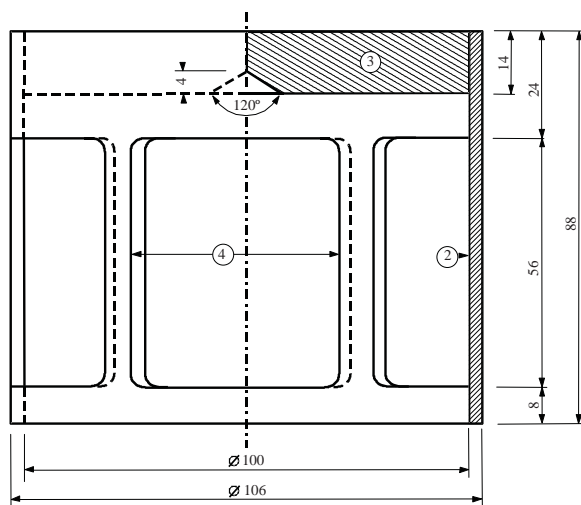


Fig. 1: Bell-form charge, mass 2220 g, capable of being suspended from a bronze piston

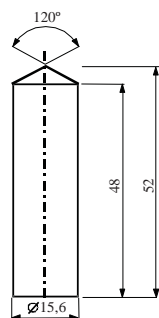


Fig. 2: Cylindrical bronze piston, dimensions in mm

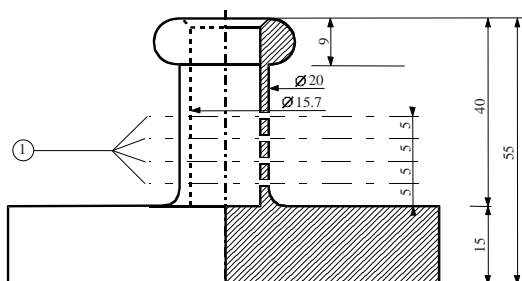


Fig. 3: Hollow bronze cylinder, closed at one end; Plan and cut dimensions in mm

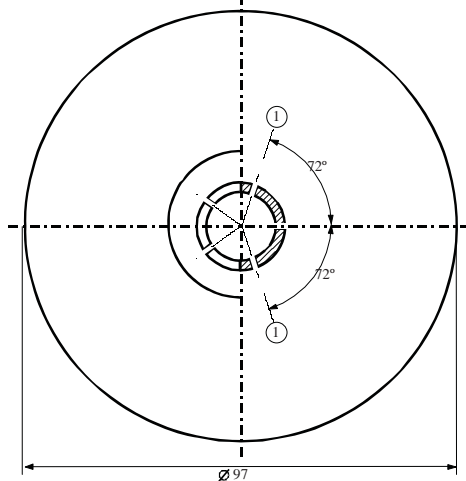


Fig. 1 to 3

- (1) 4 series of 5 holes at 0.5 N
- (2) copper
- (3) iron plate with centre cone at the inferior face
- (4) 4 openings, approximately 46x56, set at even intervals on the periphery

**2.3.2 Tests relating to nitrated cellulose mixtures of Class 4.1**

- 2.3.2.1 Nitrocellulose heated for half an hour at 132 °C shall not give off visible yellowish-brown nitrous fumes (nitrous gases). The ignition temperature shall be above 180 °C. See 2.3.2.3 to 2.3.2.8, 2.3.2.9 (a) and 2.3.2.10 below.
- 2.3.2.2 3 g of plasticized nitrocellulose, heated for one hour at 132 °C, shall not give off visible yellowish-brown nitrous fumes (nitrous gases). The ignition temperature shall be above 170 °C. See 2.3.2.3 to 2.3.2.8, 2.3.2.9 (b) and 2.3.2.10 below.
- 2.3.2.3 The test procedures set out below are to be applied when differences of opinion arise as to the acceptability of substances for carriage by road.
- 2.3.2.4 If other methods or test procedures are used to verify the conditions of stability prescribed above in this section, those methods shall lead to the same findings as could be reached by the methods specified below.
- 2.3.2.5 In carrying out the stability tests by heating described below, the temperature of the oven containing the sample under test shall not deviate by more than 2 °C from the prescribed temperature; the prescribed duration of a 30-minute or 60-minute test shall be observed to within two minutes. The oven shall be such that the required temperature is restored not more than five minutes after insertion of the sample.
- 2.3.2.6 Before undergoing the tests in 2.3.2.9 and 2.3.2.10, the samples shall be dried for not less than 15 hours at the ambient temperature in a vacuum desiccator containing fused and granulated calcium chloride, the sample substance being spread in a thin layer; for this purpose, substances which are neither in powder form nor fibrous shall be ground, or grated, or cut into small pieces. The pressure in the desiccator shall be brought below 6.5 kPa (0.065 bar).
- 2.3.2.7 Before being dried as prescribed in 2.3.2.6 above, substances conforming to 2.3.2.2 shall undergo preliminary drying in a well-ventilated oven, with its temperature set at 70 °C, until the loss of mass per quarter-hour is less than 0.3% of the original mass.
- 2.3.2.8 Weakly nitrated nitrocellulose conforming to 2.3.2.1 shall first undergo preliminary drying as prescribed in 2.3.2.7 above; drying shall then be completed by keeping the nitrocellulose for at least 15 hours over concentrated sulphuric acid in a desiccator.

**2.3.2.9 Test of chemical stability under heat**

(a) *Test of the substance listed in paragraph 2.3.2.1 above.*

(i) In each of two glass test tubes having the following dimensions:

|                   |        |
|-------------------|--------|
| length            | 350 mm |
| internal diameter | 16 mm  |
| thickness of wall | 1.5 mm |

is placed 1 g of substance dried over calcium chloride (if necessary the drying shall be carried out after reducing the substance to pieces weighing not more than 0.05 g each).

Both test tubes, completely covered with loose-fitting closures, are then so placed in an oven that at least four-fifths of their length is visible, and are kept at a constant temperature of 132 °C for 30 minutes. It is observed whether nitrous gases in the form of yellowish-brown fumes clearly visible against a white background are given off during this time;

(ii) In the absence of such fumes the substance is deemed to be stable;

---

(b) *Test of plasticized nitrocellulose (see 2.3.2.2)*

- (i) 3 g of plasticized nitrocellulose are placed in glass test tubes, similar to those referred to in (a), which are then placed in an oven kept at a constant temperature of 132 °C;
- (ii) The test tubes containing the plasticized nitrocellulose are kept in the oven for one hour. During this time no yellowish-brown nitrous fumes (nitrous gases) shall be visible. Observation and appraisal as in (a).

**2.3.2.10** *Ignition temperature (see 2.3.2.1 and 2.3.2.2)*

- (a) The ignition temperature is determined by heating 0.2 g of substance enclosed in a glass test tube immersed in a Wood's alloy bath. The test tube is placed in the bath when the latter has reached 100 °C. The temperature of the bath is then progressively increased by 5 °C per minute;
- (b) The test tubes must have the following dimensions:

|                   |        |
|-------------------|--------|
| length            | 125 mm |
| internal diameter | 15 mm  |
| thickness of wall | 0.5 mm |

and shall be immersed to a depth of 20 mm;
- (c) The test shall be repeated three times, the temperature at which ignition of the substance occurs, i.e., slow or rapid combustion, deflagration or detonation, being noted each time;
- (d) The lowest temperature recorded in the three tests is the ignition temperature.

**2.3.3** **Tests relating to flammable liquids of Classes 3, 6.1 and 8**

**2.3.3.1** *Test for determining flash-point*

2.3.3.1.1 The flash-point shall be determined by means of one of the following types of apparatus:

- (a) Abel;
- (b) Abel-Pensky;
- (c) Tag;
- (d) Pensky-Martens;
- (e) Apparatus in accordance with ISO 3679: 1983 or ISO 3680: 1983.

2.3.3.1.2 To determine the flash-point of paints, gums and similar viscous products containing solvents, only apparatus and test methods suitable for determining the flash-point for viscous liquids shall be used, in accordance with the following standards:

- (a) International Standard ISO 3679: 1983;
- (b) International Standard ISO 3680: 1983;
- (c) International Standard ISO 1523: 1983;
- (d) German Standard DIN 53213: 1978, Part 1.

- 2.3.3.1.3 The test procedure shall be either according to an equilibrium method or according to a non-equilibrium method.
- 2.3.3.1.4 For the procedure according to an equilibrium method, see:
- (a) International Standard ISO 1516: 1981;
  - (b) International Standard ISO 3680: 1983;
  - (c) International Standard ISO 1523: 1983;
  - (d) International Standard ISO 3679: 1983.
- 2.3.3.1.5 The procedure according to a non-equilibrium method shall be:
- (a) for the Abel apparatus, see:
    - (i) British Standard BS 2000 Part 170: 1995;
    - (ii) French Standard NF MO7-011: 1988;
    - (iii) French Standard NF T66-009: 1969;
  - (b) for the Abel-Pensky apparatus, see:
    - (i) German Standard DIN 51755, Part 1: 1974 (for temperatures from 5 °C to 65 °C);
    - (ii) German Standard DIN 51755, Part 2: 1978 (for temperatures below 5 °C);
    - (iii) French Standard NF MO7-036: 1984;
  - (c) for the Tag apparatus, see American Standard ASTM D 56: 1993;
  - (d) for the Pensky-Martens apparatus, see:
    - (i) International Standard ISO 2719: 1988;
    - (ii) European Standard EN 22719 in each of its national versions (e.g. BS 2000, part 404/EN 22719): 1994;
    - (iii) American Standard ASTM D 93: 1994;
    - (iv) Institute of Petroleum Standard IP 34: 1988.
- 2.3.3.1.6 The test methods listed in 2.3.3.1.4 and 2.3.3.1.5 shall only be used for flash-point ranges which are specified in the individual methods. The possibility of chemical reactions between the substance and the sample holder shall be considered when selecting the method to be used. The apparatus shall, as far as is consistent with safety, be placed in a draught-free position. For safety, a method utilizing a small sample size, around 2 ml, shall be used for organic peroxides and self-reactive substances (also known as "energetic" substances), or for toxic substances.
- 2.3.3.1.7 When the flash-point, determined by a non-equilibrium method in accordance with 2.3.3.1.5 is found to be  $23 \pm 2$  °C or  $60 \pm 2$  °C, it shall be confirmed for each temperature range by an equilibrium method in accordance with 2.3.3.1.4.
- 2.3.3.1.8 In the event of a dispute as to the classification of a flammable liquid, the classification proposed by the consignor shall be accepted if a check-test of the flash-point, yields a result

not differing by more than 2 °C from the limits (23 °C and 60 °C respectively) stated in 2.2.3.1. If the difference is more than 2 °C, a second check-test shall be carried out, and the lowest figure of the flash-points obtained in either check-test shall be adopted.

#### **2.3.3.2      *Test for determining peroxide content***

To determine the peroxide content of a liquid, the procedure is as follows:

A quantity  $p$  (about 5 g, weighed to the nearest 0.01 g) of the liquid to be titrated is placed in an Erlenmeyer flask; 20 cm<sup>3</sup> of acetic anhydride and about 1 g of powdered solid potassium iodide are added; the flask is shaken and, after 10 minutes, heated for 3 minutes to about 60 °C. When it has been left to cool for 5 minutes, 25 cm<sup>3</sup> of water are added. After this, it is left standing for half an hour, then the liberated iodine is titrated with a decinormal solution of sodium thiosulphate, no indicator being added; complete discoloration indicates the end of the reaction. If  $n$  is the number of cm<sup>3</sup> of thiosulphate solution required, the percentage of peroxide (calculated as H<sub>2</sub>O<sub>2</sub>) present in the sample is obtained by the formula:

$$\frac{17n}{100p}$$

#### **2.3.4      *Test for determining fluidity***

To determine the fluidity of liquid, viscous or pasty substances and mixtures, the following test method shall be used.

##### **2.3.4.1      *Test apparatus***

Commercial penetrometer conforming to ISO 2137:1985, with a guide rod of 47.5 g ± 0.05 g; sieve disc of duralumin with conical bores and a mass of 102.5 g ± 0.05 g (see Figure 1); penetration vessel with an inside diameter of 72 mm to 80 mm for reception of the sample.

##### **2.3.4.2      *Test procedure***

The sample is poured into the penetration vessel not less than half an hour before the measurement. The vessel is then hermetically closed and left standing until the measurement. The sample in the hermetically closed penetration vessel is heated to 35 °C ± 0.5 °C and is placed on the penetrometer table immediately prior to measurement (not more than two minutes). The point S of the sieve disc is then brought into contact with the surface of the liquid and the rate of penetration is measured.

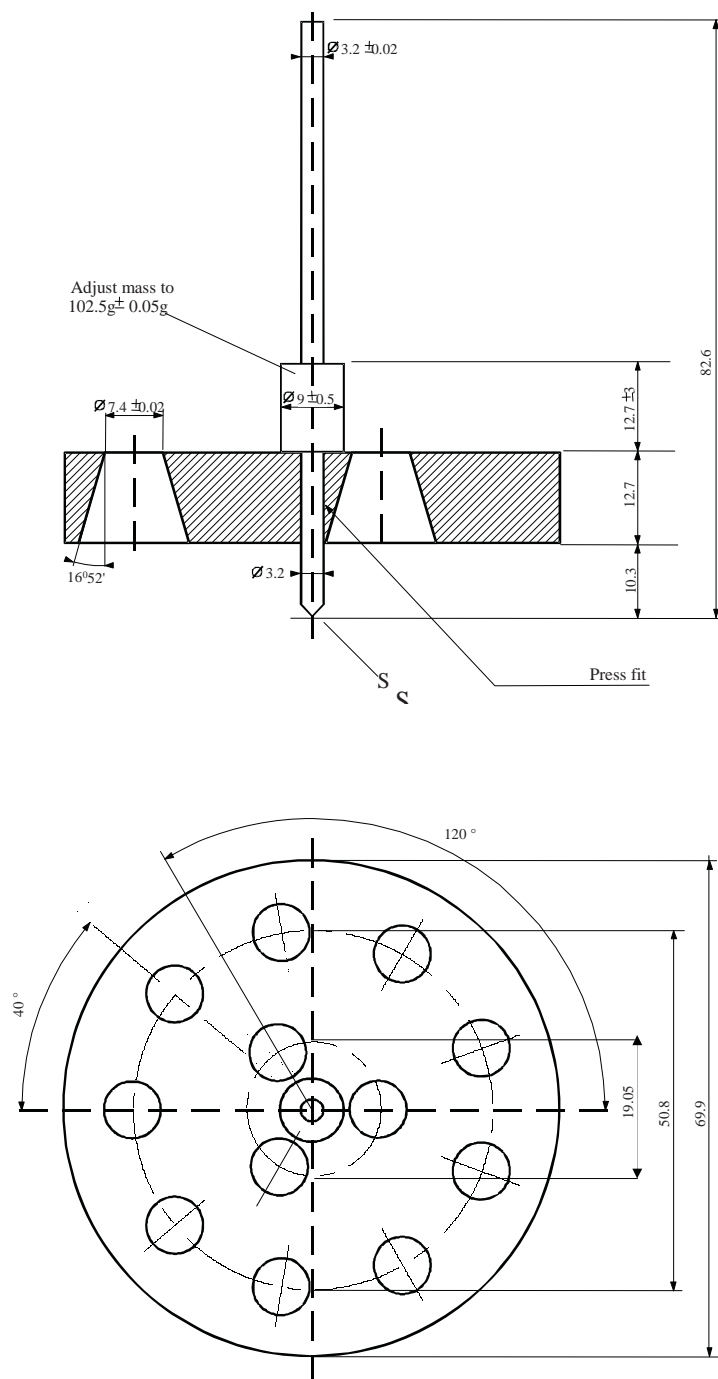
##### **2.3.4.3      *Evaluation of test results***

A substance is pasty if, after the centre S has been brought into contact with the surface of the sample, the penetration indicated by the dial gauge:

- (a) after a loading time of 5 s ± 0.1 s, is less than 15.0 mm ± 0.3 mm; or
- (b) after a loading time of 5 s ± 0.1 s, is greater than 15.0 mm ± 0.3 mm, but the additional penetration after another 55 s ± 0.5 s is less than 5.0 mm ± 0.5 mm.

*NOTE: In the case of samples having a flow point, it is often impossible to produce a steady level surface in the penetration vessel and, hence, to establish satisfactory initial measuring conditions for the contact of the point S. Furthermore, with some samples, the impact of the sieve disc can cause an elastic deformation of the surface and, in the first few seconds, simulate a deeper penetration. In all these cases, it may be appropriate to make the evaluation in paragraph (b) above.*

Figure 1 – Penetrometer



Tolerances not specified are  $\pm 0.1$  mm.



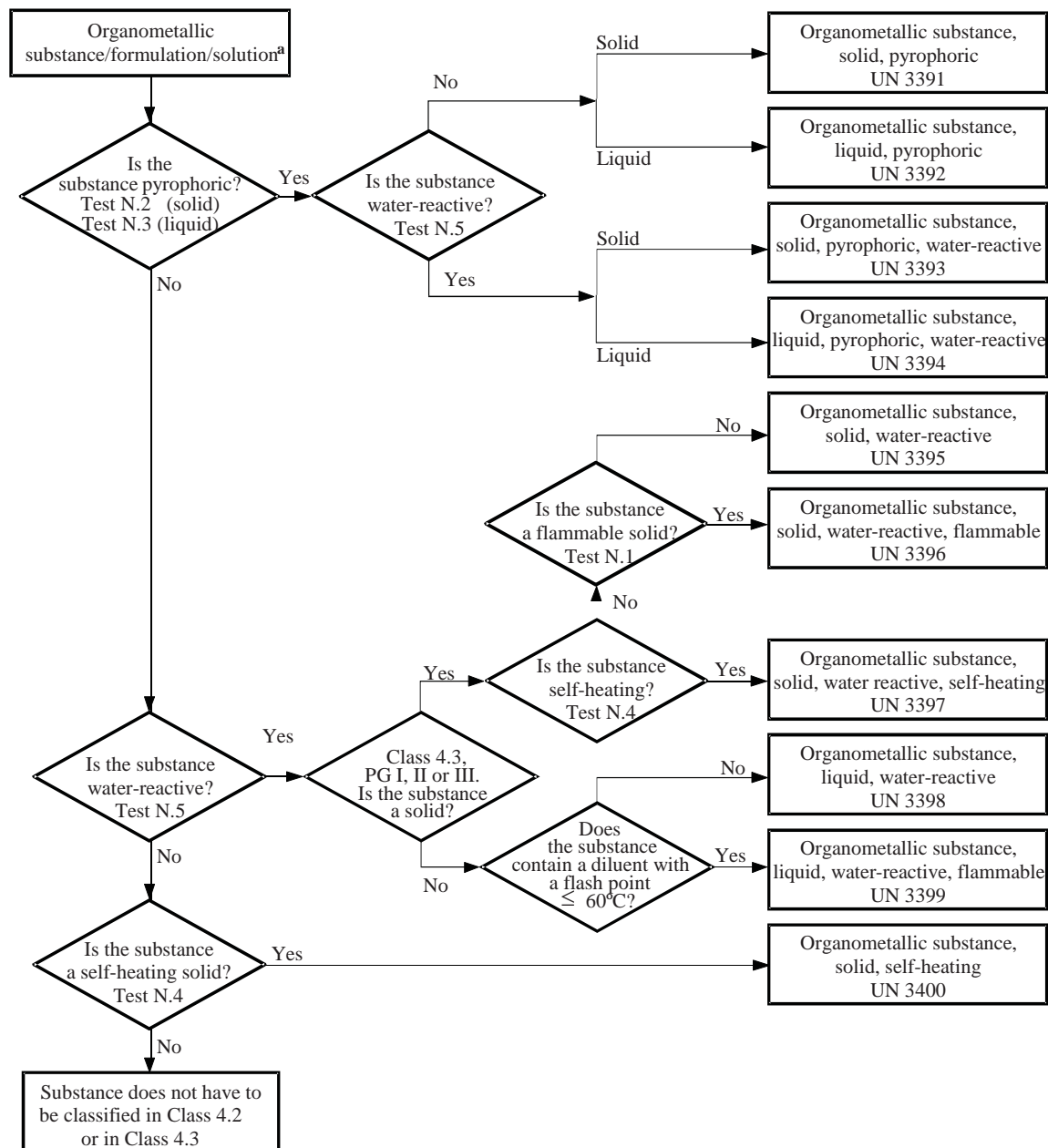
**2.3.5            Classification of organometallic substances in Classes 4.2 and 4.3**

Depending on their properties as determined in accordance with tests N.1 to N.5 of the Manual of Tests and Criteria, Part III, section 33, organometallic substances may be classified in Class 4.2 or 4.3, as appropriate, in accordance with the flowchart scheme given in Figure 2.3.5.

**NOTE 1:**    *Depending on their other properties and on the precedence of hazard table (see 2.1.3.10), organometallic substances may have to be classified in other classes as appropriate.*

**NOTE 2:**    *Flammable solutions with organometallic compounds in concentrations which are not liable to spontaneous combustion or, in contact with water, do not emit flammable gases in dangerous quantities, are substances of Class 3.*

**Figure 2.3.5: Flowchart scheme for the classification of organometallic substances in Classes 4.2 and 4.3<sup>b</sup>**



<sup>a</sup> If applicable and testing is relevant, taking into account reactivity properties, class 6.1 and 8 properties should be considered according to the precedence of hazard table of 2.1.3.10.

<sup>b</sup> Test methods N.1 to N.5 can be found in the Manual of Tests and Criteria, Part III, Section 33.

## **PART 3**

### **Dangerous goods list, special provisions and exemptions related to limited and excepted quantities**

## CHAPTER 3.1

### GENERAL

#### 3.1.1 Introduction

In addition to the provisions referred to or given in the tables of this Part, the general requirements of each Part, Chapter and/or Section are to be observed. These general requirements are not given in the tables. When a general requirement is contradictory to a special provision, the special provision prevails.

#### 3.1.2 Proper shipping name

*NOTE: For proper shipping names used for the carriage of samples, see 2.1.4.1.*

3.1.2.1 The proper shipping name is that portion of the entry most accurately describing the goods in Table A in Chapter 3.2, which is shown in upper case characters (plus any numbers, Greek letters, "sec", "tert", and the letters "m", "n", "o", "p", which form an integral part of the name). An alternative proper shipping name may be shown in brackets following the main proper shipping name [e.g., ETHANOL (ETHYL ALCOHOL)]. Portions of an entry appearing in lower case need not be considered as part of the proper shipping name.

3.1.2.2 When conjunctions such as "and" or "or" are in lower case or when segments of the name are punctuated by commas, the entire name of the entry need not necessarily be shown in the transport document or package markings. This is the case particularly when a combination of several distinct entries are listed under a single UN Number. Examples illustrating the selection of the proper shipping name for such entries are:

- (a) UN 1057 LIGHTERS or LIGHTER REFILLS - The proper shipping name is the most appropriate of the following possible combinations:

LIGHTERS  
LIGHTER REFILLS;

- (b) UN 2793 FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS in a form liable to self-heating. The proper shipping name is the most appropriate of the following combinations:

FERROUS METAL BORINGS  
FERROUS METAL SHAVINGS  
FERROUS METAL TURNINGS  
FERROUS METAL CUTTINGS.

3.1.2.3 Proper shipping names may be used in the singular or plural as appropriate. In addition, when qualifying words are used as part of the proper shipping name, their sequence on documentation or package markings is optional. For instance, "DIMETHYLAMINE AQUEOUS SOLUTION" may alternatively be shown "AQUEOUS SOLUTION OF DIMETHYLAMINE". Commercial or military names for goods of Class 1 which contain the proper shipping name supplemented by additional descriptive text may be used.

- 3.1.2.4 Many substances have an entry for both the liquid and solid state (see definitions for liquid and solid in 1.2.1), or for the solid and solution. These are allocated separate UN numbers which are not necessarily adjacent to each other<sup>1</sup>.
- 3.1.2.5 Unless it is already included in capital letters in the name indicated in Table A in Chapter 3.2, the qualifying word "MOLTEN" shall be added as part of the proper shipping name when a substance, which is a solid in accordance with the definition in 1.2.1, is offered for carriage in the molten state (e.g. ALKYLPHENOL, SOLID, N.O.S., MOLTEN).
- 3.1.2.6 Except for self-reactive substances and organic peroxides and unless it is already included in capital letters in the name indicated in Column (2) of Table A of Chapter 3.2, the word "STABILIZED" shall be added as part of the proper shipping name of a substance which without stabilization would be forbidden from carriage in accordance with paragraphs 2.2.X.2 due to it being liable to dangerously react under conditions normally encountered in carriage (e.g.: "TOXIC LIQUID, ORGANIC, N.O.S., STABILIZED").

When temperature control is used to stabilize such substances to prevent the development of any dangerous excess pressure, then:

- (a) For liquids: where the SADT is less than or equal to 50 °C, the provisions of 2.2.41.1.17, the special provision V8 of Chapter 7.2, the special provision S4 of Chapter 8.5 and the requirements of Chapter 9.6 shall apply; for carriage in IBCs and tanks, all the provisions applicable to UN No. 3239 apply (see in particular 4.1.7.2, packing instruction IBC520 et 4.2.1.13);
- (b) For gases: the conditions of carriage shall be approved by the competent authority.
- 3.1.2.7 Hydrates may be carried under the proper shipping name for the anhydrous substance.

**3.1.2.8 *Generic or "not otherwise specified" (N.O.S.) names***

- 3.1.2.8.1 Generic and "not otherwise specified" proper shipping names that are assigned to special provision 274 in Column (6) of Table A in Chapter 3.2 shall be supplemented with the technical name of the goods unless a national law or international convention prohibits its disclosure if it is a controlled substance. For explosives of Class 1, the dangerous goods description may be supplemented by additional descriptive text to indicate commercial or military names. Technical names shall be entered in brackets immediately following the proper shipping name. An appropriate modifier, such as "contains" or "containing" or other qualifying words such as "mixture", "solution", etc. and the percentage of the technical constituent may also be used. For example: "UN 1993 FLAMMABLE LIQUID, N.O.S. (CONTAINS XYLENE AND BENZENE), 3, II".
- 3.1.2.8.1.1 The technical name shall be a recognized chemical name, if relevant a biological name, or other name currently used in scientific and technical handbooks, journals and texts. Trade names shall not be used for this purpose. In the case of pesticides, only ISO common name(s), other name(s) in the World Health Organization (WHO) Recommended Classification of Pesticides by Hazard and Guidelines to Classification, or the name(s) of the active substance(s) may be used.

<sup>1</sup> Details are provided in the alphabetical index (Table B of Chapter 3.2), e.g.:

|                      |     |       |
|----------------------|-----|-------|
| NITROXYLENES, LIQUID | 6.1 | 1665; |
| NITROXYLENES, SOLID  | 6.1 | 3447. |

- 3.1.2.8.1.2 When a mixture of dangerous goods is described by one of the "N.O.S." or "generic" entries to which special provision 274 has been allocated in Column (6) of Table A in Chapter 3.2, not more than the two constituents which most predominantly contribute to the hazard or hazards of a mixture need to be shown, excluding controlled substances when their disclosure is prohibited by national law or international convention. If a package containing a mixture is labelled with any subsidiary risk label, one of the two technical names shown in parentheses shall be the name of the constituent which compels the use of the subsidiary risk label.

**NOTE:** See 5.4.1.2.2.

- 3.1.2.8.1.3 Examples illustrating the selection of the proper shipping name supplemented with the technical name of goods for such N.O.S. entries are:

UN 2902 PESTICIDE, LIQUID, TOXIC, N.O.S. (drazoxolon);  
UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-  
REACTIVE (trimethylgallium).

### 3.1.2.9 *Mixtures and solutions containing one dangerous substance*

When mixtures and solutions have to be regarded as the dangerous substance mentioned by name in accordance with the classification requirements of 2.1.3.3, the qualifying word "SOLUTION" or "MIXTURE", as appropriate, shall be added as part of the proper shipping name, e.g. "ACETONE SOLUTION". In addition, the concentration of the solution or mixture may also be indicated, e.g. "ACETONE 75% SOLUTION".

## CHAPTER 3.2

### DANGEROUS GOODS LIST

#### 3.2.1 Table A: Dangerous Goods List

##### *Explanations*

As a rule, each row of Table A of this Chapter deals with the substance(s) or article(s) covered by a specific UN number. However, when substances or articles belonging to the same UN number have different chemical properties, physical properties and/or carriage conditions, several consecutive rows may be used for that UN number.

Each column of Table A is dedicated to a specific subject as indicated in the explanatory notes below. The intersection of columns and rows (cell) contains information concerning the subject treated in that column, for the substance(s) or article(s) of that row:

- The first four cells identify the substance(s) or article(s) belonging to that row (additional information in that respect may be given by the special provisions referred to in Column (6);
- The following cells give the applicable special provisions, either in the form of complete information or in coded form. The codes cross-refer to detailed information that is to be found in the Part, Chapter, Section and/or Sub-section indicated in the explanatory notes below. An empty cell means either that there is no special provision and that only the general requirements apply, or that the carriage restriction indicated in the explanatory notes is in force.

The applicable general requirements are not referred to in the corresponding cells. The explanatory notes below indicate for every column the Part(s), Chapter(s), Section(s) and/or Sub-section(s) where these are to be found.

##### *Explanatory notes for each column:*

Column (1) "UN No."

Contains the UN number:

- of the dangerous substance or article if the substance or article has been assigned its own specific UN number; or
- of the generic or n.o.s. entry to which the dangerous substances or articles not mentioned by name shall be assigned in accordance with the criteria ("decision trees") of Part 2.

Column (2) "Name and description"

Contains, in upper case characters, the name of the substance or article, if the substance or article has been assigned its own specific UN number, or of the generic or n.o.s. entry to which it has been assigned in accordance with the criteria ("decision trees") of Part 2. This name shall be used as the proper shipping name or, when applicable, as part of the proper shipping name (see 3.1.2 for further details on the proper shipping name).

A descriptive text in lower case characters is added after the proper shipping name to clarify the scope of the entry if the classification and/or carriage conditions of the substance or article may be different under certain conditions.

Column (3a) "Class"

Contains the number of the class, whose heading covers the dangerous substance or article. This class number is assigned in accordance with the procedures and criteria of Part 2.

Column (3b) "Classification code"

Contains the classification code of the dangerous substance or article.

- For dangerous substances or articles of Class 1, the code consists of a division number and compatibility group letter, which are assigned in accordance with the procedures and criteria of 2.2.1.1.4;
- For dangerous substances or articles of Class 2, the code consists of a number and hazardous property group, which are explained in 2.2.2.1.2 and 2.2.2.1.3;
- For dangerous substances or articles of Classes 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 8 and 9, the codes are explained in 2.2.x.1.2<sup>1</sup>;
- Dangerous substances or articles of Class 7 do not have a classification code.

Column (4) "Packing group"

Contains the packing group number(s) (I, II or III) assigned to the dangerous substance. These packing group numbers are assigned on the basis of the procedures and criteria of Part 2. Certain articles and substances are not assigned to packing groups.

Column (5) "Labels"

Contains the model number of the labels/placards (see 5.2.2.2 and 5.3.1.7) that have to be affixed to packages, containers, tank-containers, portable tanks, MEGCs and vehicles. However, for substances or articles of Class 7, 7X means label model No.7A, 7B or 7C as appropriate according to the category (see 5.1.5.3.4 and 5.2.2.1.11.1) or placard No. 7D (see 5.3.1.1.3 and 5.3.1.7.2).

The general provisions on labelling/placarding (e.g. number of labels, their location) are to be found in 5.2.2.1 for packages, and in 5.3.1, for containers, tank-containers, MEGCs, portable tanks and vehicles.

**NOTE:** Special provisions, indicated in Column (6), may change the above labelling provisions.

<sup>1</sup>  $x$  = the class number of the dangerous substance or article, without dividing point if applicable.



|             |   |
|-------------|---|
| Column (6)  | "Special provisions"  |
|             | Contains the numeric codes of special provisions that have to be met. These provisions concern a wide array of subjects, mainly connected with the contents of Columns (1) to (5) (e.g. carriage prohibitions, exemptions from requirements, explanations concerning the classification of certain forms of the dangerous goods concerned and additional labelling or marking provisions), and are listed in Chapter 3.3 in numerical order. If Column (6) is empty, no special provisions apply to the contents of Columns (1) to (5) for the dangerous goods concerned.   |
| Column (7a) | "Limited Quantities"  |
|             | Contains an alphanumeric code with the following meaning: <ul style="list-style-type: none"><li>- "LQ0" signifies that no exemption from the provisions of ADR exists for the dangerous goods packed in limited quantities;</li><li>- All the other alphanumeric codes starting with the letters "LQ" signify that the provisions of ADR are not applicable if the conditions indicated in Chapter 3.4 are fulfilled.</li></ul>   |
| Column (7b) | "Excepted Quantities"   |
|             | Contains an alphanumeric code with the following meaning: <ul style="list-style-type: none"><li>- "E0" signifies that no exemption from the provisions of ADR exists for the dangerous goods packed in excepted quantities;</li><li>- All the other alphanumeric codes starting with the letter "E" signify that the provisions of ADR are not applicable if the conditions indicated in Chapter 3.5 are fulfilled.</li></ul>   |
| Column (8)  | "Packing instructions"  |
|             | Contains the alphanumeric codes of the applicable packing instructions: <ul style="list-style-type: none"><li>- Alphanumeric codes starting with the letter "P", which refers to packing instructions for packagings and receptacles (except IBCs and large packagings), or "R", which refers to packing instructions for light gauge metal packagings. These are listed in 4.1.4.1 in numerical order, and specify the packagings and receptacles that are authorized. They also indicate which of the general packing provisions of 4.1.1, 4.1.2 and 4.1.3, and which of the special packing provisions of 4.1.5, 4.1.6, 4.1.7, 4.1.8 and 4.1.9 have to be met. If Column (8) does not contain a code starting with the letters "P" or "R", the dangerous goods concerned may not be carried in packagings;</li><li>- Alphanumeric codes starting with the letters "IBC" refer to packing instructions for IBCs. These are listed in 4.1.4.2 in numerical order, and specify the IBCs that are authorized. They also indicate which of the general packing provisions of 4.1.1, 4.1.2 and 4.1.3, and which of the special packing provisions of 4.1.5, 4.1.6, 4.1.7, 4.1.8 and 4.1.9 have to be met. If Column (8) does not contain a code starting with the letters "IBC", the dangerous goods concerned may not be carried in IBCs;</li></ul> |

- Alphanumeric codes starting with the letters "LP" refer to packing instructions for large packagings. These are listed in 4.1.4.3 in numerical order, and specify the large packagings that are authorized. They also indicate which of the general packing provisions of 4.1.1, 4.1.2 and 4.1.3, and which of the special packing provisions of 4.1.5, 4.1.6, 4.1.7, 4.1.8 and 4.1.9 have to be met. If Column (8) does not contain a code starting with the letters "LP", the dangerous goods concerned cannot be carried in large packagings;

**NOTE:** *Special packing provisions, indicated in Column (9a), may change the above packing instructions.*

Column (9a) "Special packing provisions"

Contains the alphanumeric codes of the applicable special packing provisions:

- Alphanumeric codes starting with the letters "PP" or "RR" refer to special packing provisions for packagings and receptacles (except IBCs and large packagings) that have additionally to be met. These are to be found in 4.1.4.1, at the end of the relevant packing instruction (with the letter "P" or "R") referred to in Column (8). If Column (9a) does not contain a code starting with the letters "PP" or "RR", none of the special packing provisions listed at the end of the relevant packing instruction apply;
- Alphanumeric codes starting with the letter "B" or the letters "BB" refer to special packing provisions for IBCs that have additionally to be met. These are to be found in 4.1.4.2, at the end of the relevant packing instruction (with the letters "IBC") referred to in Column (8). If Column (9a) does not contain a code starting with the letter "B" or the letters "BB", none of the special packing provisions listed at the end of the relevant packing instruction apply;
- Alphanumeric codes starting with the letter "L" refer to special packing provisions for large packagings that have additionally to be met. These are to be found in 4.1.4.3, at the end of the relevant packing instruction (with the letters "LP") referred to in Column (8). If Column (9a) does not contain a code starting with the letter "L", none of the special packing provisions listed at the end of the relevant packing instruction apply.

Column (9b) "Mixed packing provisions"

Contains the alphanumeric codes starting with the letters "MP" of the applicable mixed packing provisions. These are listed in 4.1.10 in numerical order. If Column (9b) does not contain a code starting with the letters "MP", only the general requirements apply (see 4.1.1.5 and 4.1.1.6).

Column (10) "Portable tank and bulk container instructions"

Contains an alphanumeric code assigned to a portable tank instruction, in accordance with 4.2.5.2.1 to 4.2.5.2.4 and 4.2.5.2.6. This portable tank instruction corresponds to the least stringent provisions that are acceptable for the carriage of the substance in portable tanks. The codes identifying

the other portable tank instructions that are also permitted for the carriage of the substance are to be found in 4.2.5.2.5. If no code is given, carriage in portable tanks is not permitted unless a competent authority approval is granted as detailed in 6.7.1.3.

The general requirements for the design, construction, equipment, type approval, testing and marking of portable tanks are to be found in Chapter 6.7. The general requirements for the use (e.g. filling) are to be found in 4.2.1 to 4.2.4.

The indication of a "(M)" means that the substance may be carried in UN MEGCs.

**NOTE:** *Special provisions, indicated in Column (11), may change the above requirements.*

May also contain alphanumeric codes starting with the letters "BK" referring to types of bulk containers described in Chapter 6.11 which may be used for the carriage of bulk goods in accordance with 7.3.1.1 (a) and 7.3.2.

Column (11) "Portable tank and bulk container special provisions"

Contains the alphanumeric codes of the portable tank special provisions that have additionally to be met. These codes, starting with the letters "TP" refer to special provisions for the construction or use of these portable tanks. They are to be found in 4.2.5.3.

**NOTE:** *If technically relevant, these special provisions are not only applicable to the portable tanks specified in column (10), but also to the portable tanks that may be used according to the table in 4.2.5.2.5.*

Column (12) "Tank codes for ADR tanks"

Contains an alphanumeric code describing a tank type, in accordance with 4.3.3.1.1 (for gases of Class 2) or 4.3.4.1.1 (for substances of Classes 3 to 9). This tank type corresponds to the least stringent tank provisions that are acceptable for the carriage of the relevant substance in ADR tanks. The codes describing the other permitted tank types are to be found in 4.3.3.1.2 (for gases of Class 2) or 4.3.4.1.2 (for substances of Classes 3 to 9). If no code is given, carriage in ADR tanks is not permitted.

If in this column a tank code for solids (S) and for liquids (L) is indicated, this means that this substance may be offered for carriage in tanks in the solid or the liquid (molten) state. In general this provision is applicable to substances having melting points from 20 °C to 180 °C.

If for a solid, only a tank code for liquids (L) is indicated in this column, this means that this substance is only offered for carriage in tanks in the liquid (molten) state.

The general requirements for the construction, equipment, type approval, testing and marking that are not indicated in the tank code are to be found in 6.8.1, 6.8.2, 6.8.3 and 6.8.5. The general requirements for the use (e.g. maximum degree of filling, minimum test pressure) are to be found in 4.3.1 to 4.3.4.

The indication of a "(M)" after the tank code means that the substance can also be carried in battery-vehicles or MEGCs.

The indication of a (+) after the tank code means that the alternative use of the tanks is permitted only where this is specified in the certificate of type approval.

For fibre-reinforced plastic tanks, see 4.4.1 and Chapter 6.9; for vacuum operated waste tanks, see 4.5.1 and Chapter 6.10.

**NOTE:** *Special provisions, indicated in Column (13), may change the above requirements.*

Column (13)

"Special provisions for ADR tanks"

Contains the alphanumeric codes of the special provisions for ADR tanks that have additionally to be met:

- Alphanumeric codes starting with the letters "TU" refer to special provisions for the use of these tanks. These are to be found in 4.3.5;
- Alphanumeric codes starting with the letters "TC" refer to special provisions for the construction of these tanks. These are to be found in 6.8.4 (a);
- Alphanumeric codes starting with the letters "TE" refer to special provisions concerning the items of equipment of these tanks. These are to be found in 6.8.4 (b);
- Alphanumeric codes starting with the letters "TA" refer to special provisions for the type approval of these tanks. These are to be found in 6.8.4 (c);
- Alphanumeric codes starting with the letters "TT" refer to special provisions for the testing of these tanks. These are to be found in 6.8.4 (d);
- Alphanumeric codes starting with the letters "TM" refer to special provisions for the marking of these tanks. These are to be found in 6.8.4 (e).

**NOTE:** *If technically relevant, these special provisions are not only applicable to the tanks specified in column (12), but also to the tanks that may be used according to the hierarchies in 4.3.3.1.2 and 4.3.4.1.2.*

|             |  |
|-------------|--|
| Column (14) | "Vehicle for tank carriage"<br><br>Contains a code designating the vehicle (including the drawing vehicle of trailers or semi-trailers) (see 9.1.1) to be used for the carriage of the substance in tank in accordance with 7.4.2. The requirements concerning the construction and approval of vehicles are to be found in Chapters 9.1, 9.2 and 9.7.   |
| Column (15) | "Transport category / (Tunnel restriction code)"<br><br>Contains at the top of the cell a figure indicating the transport category to which the substance or article is assigned for the purposes of exemption related to quantities carried per transport unit (see 1.1.3.6).<br><br>Contains at the bottom of the cell, between brackets, the tunnel restriction code that refers to the applicable restriction for the passage of vehicles carrying the substance or article through road tunnels. These are to be found in Chapter 8.6. When no tunnel restriction code has been assigned, this is indicated by the mention '(—)'. |
| Column (16) | "Special provisions for carriage - Packages"<br>Contains the alphanumeric code(s), starting with letter "V", of the applicable special provisions (if any) for carriage in packages. These are listed in 7.2.4. General provisions concerning the carriage in packages are to be found in Chapters 7.1 and 7.2.<br><br><i>NOTE: In addition, special provisions indicated in Column (18), concerning loading, unloading and handling, shall be observed.</i>   |
| Column (17) | "Special provisions for carriage - Bulk"<br><br>Contains the alphanumeric code(s), starting with letters "VV", of the applicable special provisions for carriage in bulk. These are listed in 7.3.3. If no code is given, carriage in bulk is not permitted. General Provisions concerning the carriage in bulk are to be found in Chapters 7.1 and 7.3.<br><br><i>NOTE: In addition, special provisions indicated in Column (18), concerning loading, unloading and handling, shall be observed.</i>  |
| Column (18) | "Special provisions for carriage - Loading and unloading"<br><br>Contains the alphanumeric code(s), starting with letters "CV", of the applicable special provisions for loading, unloading and handling. These are listed in 7.5.11. If no code is given, only the general provisions apply (see 7.5.1 to 7.5.10).  |
| Column (19) | "Special provisions for carriage - Operation"<br><br>Contains the alphanumeric code(s), starting with letter "S", of the applicable special provisions for operation which are listed in Chapter 8.5. These provisions shall be applied in addition to the requirements of Chapters 8.1 to 8.4 but in the event of conflict with the requirements of Chapters 8.1 to 8.4, the special provisions shall take precedence.  |

Column (20)

"Hazard identification number"

Contains a two or three figure number (preceded in certain cases by the letter "X") for substances and articles of classes 2 to 9, and for substances and articles of Class 1, the classification code (see column (3b)). In the cases described in 5.3.2.1, this number shall appear in the upper half of the orange-coloured marking. The meaning of the hazard identification numbers is explained in 5.3.2.3.

**TABLE A****DANGEROUS GOODS LIST**

| UN No. | Name and description  | Class | Classification code | Packing group       | Labels          | Special provisions | Limited and excepted quantities |         | Packaging                     |                            |                          | Portable tanks and bulk containers |                    |
|--------|---|-------|---------------------|---------------------|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |   |       |                     |                     |                 |                    |                                 |         | Packing instructions          | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3             | 5.2.2           | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                         | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)   | (3a)  | (3b)                | (4)                 | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                       | (9b)                     | (10)                               | (11)               |
| 0004   | AMMONIUM PICRATE dry or wetted with less than 10% water, by mass  | 1     | 1.1D                |                     | 1               |                    | LQ0                             | E0      | P112(a)<br>P112(b)<br>P112(c) | PP26                       | MP20                     |                                    |                    |
| 0005   | CARTRIDGES FOR WEAPONS with bursting charge   | 1     | 1.1F                |                     | 1               |                    | LQ0                             | E0      | P130                          |                            | MP23                     |                                    |                    |
| 0006   | CARTRIDGES FOR WEAPONS with bursting charge   | 1     | 1.1E                |                     | 1               |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                 | MP21                     |                                    |                    |
| 0007   | CARTRIDGES FOR WEAPONS with bursting charge   | 1     | 1.2F                |                     | 1               |                    | LQ0                             | E0      | P130                          |                            | MP23                     |                                    |                    |
| 0009   | AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge                             | 1     | 1.2G                |                     | 1               |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                 | MP23                     |                                    |                    |
| 0010   | AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge                             | 1     | 1.3G                |                     | 1               |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                 | MP23                     |                                    |                    |
| 0012   | CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS  | 1     | 1.4S                |                     | 1.4             |                    | LQ0                             | E0      | P130                          |                            | MP23<br>MP24             |                                    |                    |
| 0014   | CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK  | 1     | 1.4S                |                     | 1.4             |                    | LQ0                             | E0      | P130                          |                            | MP23<br>MP24             |                                    |                    |
| 0015   | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge                                  | 1     | 1.2G                |                     | 1               |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                 | MP23                     |                                    |                    |
| 0015   | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances | 1     | 1.2G                |                     | 1<br>+8         |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                 | MP23                     |                                    |                    |
| 0016   | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge                                  | 1     | 1.3G                |                     | 1               |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                 | MP23                     |                                    |                    |
| 0016   | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances | 1     | 1.3G                |                     | 1<br>+8         |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                 | MP23                     |                                    |                    |
| 0018   | AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge                                    | 1     | 1.2G                |                     | 1<br>+6.1<br>+8 |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                 | MP23                     |                                    |                    |
| 0019   | AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge                                    | 1     | 1.3G                |                     | 1<br>+6.1<br>+8 |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                 | MP23                     |                                    |                    |
| 0020   | AMMUNITION, TOXIC with burster, expelling charge or propelling charge   | 1     | 1.2K                | CARRIAGE PROHIBITED |                 |                    |                                 |         |                               |                            |                          |                                    |                    |
| 0021   | AMMUNITION, TOXIC with burster, expelling charge or propelling charge   | 1     | 1.3K                | CARRIAGE PROHIBITED |                 |                    |                                 |         |                               |                            |                          |                                    |                    |
| 0027   | BLACK POWDER (GUNPOWDER), granular or as a meal   | 1     | 1.1D                |                     | 1               |                    | LQ0                             | E0      | P113                          | PP50                       | MP20<br>MP24             |                                    |                    |
| 0028   | BLACK POWDER (GUNPOWDER), COMPRESSED or BLACK POWDER (GUNPOWDER), IN PELLETS                                      | 1     | 1.1D                |                     | 1               |                    | LQ0                             | E0      | P113                          | PP51                       | MP20<br>MP24             |                                    |                    |
| 0029   | DETONATORS, NON-ELECTRIC for blasting   | 1     | 1.1B                |                     | 1               |                    | LQ0                             | E0      | P131                          | PP68                       | MP23                     |                                    |                    |
| 0030   | DETONATORS, ELECTRIC for blasting   | 1     | 1.1B                |                     | 1               |                    | LQ0                             | E0      | P131                          |                            | MP23                     |                                    |                    |



| ADR tank            |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|---------------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code           | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3                 | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)                | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
|                     |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0004   | AMMONIUM PICRATE dry or wetted with less than 10% water, by mass  |
|                     |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0005   | CARTRIDGES FOR WEAPONS with bursting charge   |
|                     |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0006   | CARTRIDGES FOR WEAPONS with bursting charge   |
|                     |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0007   | CARTRIDGES FOR WEAPONS with bursting charge   |
|                     |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0009   | AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge                             |
|                     |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0010   | AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge                             |
|                     |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0012   | CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS  |
|                     |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0014   | CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK  |
|                     |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0015   | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge                                  |
|                     |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0015   | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances |
|                     |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0016   | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge                                  |
|                     |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0016   | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances |
|                     |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3<br>CV28       | S1        |                           | 0018   | AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge                                    |
|                     |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3<br>CV28       | S1        |                           | 0019   | AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge                                    |
| CARRIAGE PROHIBITED |                    |                           |  |                                 |       |                                 |           |                           | 0020   | AMMUNITION, TOXIC with burster, expelling charge or propelling charge   |
| CARRIAGE PROHIBITED |                    |                           |  |                                 |       |                                 |           |                           | 0021   | AMMUNITION, TOXIC with burster, expelling charge or propelling charge   |
|                     |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0027   | BLACK POWDER (GUNPOWDER), granular or as a meal   |
|                     |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0028   | BLACK POWDER (GUNPOWDER), COMPRESSED or BLACK POWDER (GUNPOWDER), IN PELLETS                                      |
|                     |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0029   | DETONATORS, NON-ELECTRIC for blasting   |
|                     |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0030   | DETONATORS, ELECTRIC for blasting   |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging            |                            |                          | Portable tanks and bulk containers |                    |
|--------|---|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|----------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |   |       |                     |               |        |                    |                                 |         | Packing instructions | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2  | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                  | (9a)                       | (9b)                     | (10)                               | (11)               |
| 0033   | BOMBS with bursting charge  | 1     | 1.1F                |               | 1      |                    | LQ0                             | E0      | P130                 |                            | MP23                     |                                    |                    |
| 0034   | BOMBS with bursting charge  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP21                     |                                    |                    |
| 0035   | BOMBS with bursting charge  | 1     | 1.2D                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP21                     |                                    |                    |
| 0037   | BOMBS, PHOTO-FLASH  | 1     | 1.1F                |               | 1      |                    | LQ0                             | E0      | P130                 |                            | MP23                     |                                    |                    |
| 0038   | BOMBS, PHOTO-FLASH  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP21                     |                                    |                    |
| 0039   | BOMBS, PHOTO-FLASH  | 1     | 1.2G                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP23                     |                                    |                    |
| 0042   | BOOSTERS without detonator  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P132(a)<br>P132(b)   |                            | MP21                     |                                    |                    |
| 0043   | BURSTERS, explosive   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P133                 | PP69                       | MP21                     |                                    |                    |
| 0044   | PRIMERS, CAP TYPE   | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P133                 |                            | MP23<br>MP24             |                                    |                    |
| 0048   | CHARGES, DEMOLITION   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP21                     |                                    |                    |
| 0049   | CARTRIDGES, FLASH   | 1     | 1.1G                |               | 1      |                    | LQ0                             | E0      | P135                 |                            | MP23                     |                                    |                    |
| 0050   | CARTRIDGES, FLASH   | 1     | 1.3G                |               | 1      |                    | LQ0                             | E0      | P135                 |                            | MP23                     |                                    |                    |
| 0054   | CARTRIDGES, SIGNAL  | 1     | 1.3G                |               | 1      |                    | LQ0                             | E0      | P135                 |                            | MP23<br>MP24             |                                    |                    |
| 0055   | CASES, CARTRIDGE, EMPTY, WITH PRIMER  | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P136                 |                            | MP23                     |                                    |                    |
| 0056   | CHARGES, DEPTH  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP21                     |                                    |                    |
| 0059   | CHARGES, SHAPED without detonator   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P137                 | PP70                       | MP21                     |                                    |                    |
| 0060   | CHARGES, SUPPLEMENTARY, EXPLOSIVE   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P132(a)<br>P132(b)   |                            | MP21                     |                                    |                    |
| 0065   | CORD, DETONATING, flexible  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P139                 | PP71 PP72                  | MP21                     |                                    |                    |
| 0066   | CORD, IGNITER   | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0      | P140                 |                            | MP23                     |                                    |                    |
| 0070   | CUTTERS, CABLE, EXPLOSIVE   | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P134<br>LP102        |                            | MP23                     |                                    |                    |
| 0072   | CYCLOTTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX), WETTED with not less than 15% water, by mass | 1     | 1.1D                |               | 1      | 266                | LQ0                             | E0      | P112(a)              | PP45                       | MP20                     |                                    |                    |
| 0073   | DETONATORS FOR AMMUNITION   | 1     | 1.1B                |               | 1      |                    | LQ0                             | E0      | P133                 |                            | MP23                     |                                    |                    |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0033   | BOMBS with bursting charge   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0034   | BOMBS with bursting charge   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0035   | BOMBS with bursting charge   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0037   | BOMBS, PHOTO-FLASH   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0038   | BOMBS, PHOTO-FLASH   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0039   | BOMBS, PHOTO-FLASH   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0042   | BOOSTERS without detonator   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0043   | BURSTERS, explosive  |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0044   | PRIMERS, CAP TYPE  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0048   | CHARGES, DEMOLITION  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0049   | CARTRIDGES, FLASH  |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0050   | CARTRIDGES, FLASH  |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0054   | CARTRIDGES, SIGNAL   |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0055   | CASES, CARTRIDGE, EMPTY, WITH PRIMER   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0056   | CHARGES, DEPTH   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0059   | CHARGES, SHAPED without detonator  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0060   | CHARGES, SUPPLEMENTARY, EXPLOSIVE  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0065   | CORD, DETONATING, flexible   |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0066   | CORD, IGNITER  |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0070   | CUTTERS, CABLE, EXPLOSIVE  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0072   | CYCLOTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX), WETTED with not less than 15% water, by mass |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0073   | DETONATORS FOR AMMUNITION  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 0074   | DIAZODINITROPHENOL, WETTED with not less than 40% water, or mixture of alcohol and water, by mass                   | 1     | 1.1A                |               | 1         | 266                | LQ0                             | E0      | P110(b)                       | PP42                             | MP20                            |                                    |                            |
| 0075   | DIETHYLENEGLYCOL DINITRATE, DESENSITIZED with not less than 25% non-volatile, water-insoluble phlegmatizer, by mass | 1     | 1.1D                |               | 1         | 266                | LQ0                             | E0      | P115                          | PP53 PP54<br>PP57 PP58           | MP20                            |                                    |                            |
| 0076   | DINITROPHENOL, dry or wetted with less than 15% water, by mass  | 1     | 1.1D                |               | 1<br>+6.1 |                    | LQ0                             | E0      | P112(a)<br>P112(b)<br>P112(c) | PP26                             | MP20                            |                                    |                            |
| 0077   | DINITROPHENOLATES, alkali metals, dry or wetted with less than 15% water, by mass                                   | 1     | 1.3C                |               | 1<br>+6.1 |                    | LQ0                             | E0      | P114(a)<br>P114(b)            | PP26                             | MP20                            |                                    |                            |
| 0078   | DINITRORESORCINOL, dry or wetted with less than 15% water, by mass  | 1     | 1.1D                |               | 1         |                    | LQ0                             | E0      | P112(a)<br>P112(b)<br>P112(c) | PP26                             | MP20                            |                                    |                            |
| 0079   | HEXANITRODIPHENYL-AMINE (DIPICRYLAMINE; HEXYL)  | 1     | 1.1D                |               | 1         |                    | LQ0                             | E0      | P112(b)<br>P112(c)            |                                  | MP20                            |                                    |                            |
| 0081   | EXPLOSIVE, BLASTING, TYPE A   | 1     | 1.1D                |               | 1         | 616<br>617         | LQ0                             | E0      | P116                          | PP63 PP66                        | MP20                            |                                    |                            |
| 0082   | EXPLOSIVE, BLASTING, TYPE B   | 1     | 1.1D                |               | 1         | 617                | LQ0                             | E0      | P116<br><br>IBC100            | PP61<br>PP62<br>PP65<br>B9       | MP20                            |                                    |                            |
| 0083   | EXPLOSIVE, BLASTING, TYPE C   | 1     | 1.1D                |               | 1         | 267<br>617         | LQ0                             | E0      | P116                          |                                  | MP20                            |                                    |                            |
| 0084   | EXPLOSIVE, BLASTING, TYPE D   | 1     | 1.1D                |               | 1         | 617                | LQ0                             | E0      | P116                          |                                  | MP20                            |                                    |                            |
| 0092   | FLARES, SURFACE   | 1     | 1.3G                |               | 1         |                    | LQ0                             | E0      | P135                          |                                  | MP23                            |                                    |                            |
| 0093   | FLARES, AERIAL  | 1     | 1.3G                |               | 1         |                    | LQ0                             | E0      | P135                          |                                  | MP23                            |                                    |                            |
| 0094   | FLASH POWDER  | 1     | 1.1G                |               | 1         |                    | LQ0                             | E0      | P113                          | PP49                             | MP20                            |                                    |                            |
| 0099   | FRACTURING DEVICES, EXPLOSIVE without detonator, for oil wells  | 1     | 1.1D                |               | 1         |                    | LQ0                             | E0      | P134<br>LP102                 |                                  | MP21                            |                                    |                            |
| 0101   | FUSE, NON-DETONATING  | 1     | 1.3G                |               | 1         |                    | LQ0                             | E0      | P140                          | PP74 PP75                        | MP23                            |                                    |                            |
| 0102   | CORD (FUSE), DETONATING, metal clad   | 1     | 1.2D                |               | 1         |                    | LQ0                             | E0      | P139                          | PP71                             | MP21                            |                                    |                            |
| 0103   | FUSE, IGNITER, tubular, metal clad  | 1     | 1.4G                |               | 1.4       |                    | LQ0                             | E0      | P140                          |                                  | MP23                            |                                    |                            |
| 0104   | CORD (FUSE), DETONATING, MILD EFFECT, metal clad  | 1     | 1.4D                |               | 1.4       |                    | LQ0                             | E0      | P139                          | PP71                             | MP21                            |                                    |                            |
| 0105   | FUSE, SAFETY  | 1     | 1.4S                |               | 1.4       |                    | LQ0                             | E0      | P140                          | PP73                             | MP23                            |                                    |                            |
| 0106   | FUZES, DETONATING   | 1     | 1.1B                |               | 1         |                    | LQ0                             | E0      | P141                          |                                  | MP23                            |                                    |                            |
| 0107   | FUZES, DETONATING   | 1     | 1.2B                |               | 1         |                    | LQ0                             | E0      | P141                          |                                  | MP23                            |                                    |                            |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0074   | DIAZODINITROPHENOL, WETTED with not less than 40% water, or mixture of alcohol and water, by mass                   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0075   | DIETHYLENEGLYCOL DINITRATE, DESENSITIZED with not less than 25% non-volatile, water-insoluble phlegmatizer, by mass |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3<br>CV28       | S1        |                           | 0076   | DINITROPHENOL, dry or wetted with less than 15% water, by mass  |
|           |                    |                           | 1 (C5000D)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3<br>CV28       | S1        |                           | 0077   | DINITROPHENOLATES, alkali metals, dry or wetted with less than 15% water, by mass                                   |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0078   | DINITRORESORCINOL, dry or wetted with less than 15% water, by mass  |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0079   | HEXANITRODIPHENYL-AMINE (DIPICRYLAMINE; HEXYL)  |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0081   | EXPLOSIVE, BLASTING, TYPE A   |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0082   | EXPLOSIVE, BLASTING, TYPE B   |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0083   | EXPLOSIVE, BLASTING, TYPE C   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0084   | EXPLOSIVE, BLASTING, TYPE D   |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0092   | FLARES, SURFACE   |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0093   | FLARES, AERIAL  |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0094   | FLASH POWDER  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0099   | FRACTURING DEVICES, EXPLOSIVE without detonator, for oil wells  |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0101   | FUSE, NON-DETONATING  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0102   | CORD (FUSE), DETONATING, metal clad   |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0103   | FUSE, IGNITER, tubular, metal clad  |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0104   | CORD (FUSE), DETONATING, MILD EFFECT, metal clad  |
|           |                    |                           | 4 (E)  |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0105   | FUSE, SAFETY  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0106   | FUZES, DETONATING   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0107   | FUZES, DETONATING   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 0110   | GRENADES, PRACTICE, hand or rifle  | 1     | 1.4S                |               | 1.4       |                    | LQ0                             | E0      | P141                          |                                  | MP23                            |                                    |                            |
| 0113   | GUANYLNITROSAMINO-GUANYLIDENE HYDRAZINE, WETTED with not less than 30% water, by mass  | 1     | 1.1A                |               | 1         | 266                | LQ0                             | E0      | P110(b)                       | PP42                             | MP20                            |                                    |                            |
| 0114   | GUANYLNITROSAMINO-GUANYLTETRAZENE (TETRAZENE), WETTED with not less than 30% water, or mixture of alcohol and water, by mass | 1     | 1.1A                |               | 1         | 266                | LQ0                             | E0      | P110(b)                       | PP42                             | MP20                            |                                    |                            |
| 0118   | HEXOLITE (HEXOTOL), dry or wetted with less than 15% water, by mass  | 1     | 1.1D                |               | 1         |                    | LQ0                             | E0      | P112(a)<br>P112(b)<br>P112(c) |                                  | MP20                            |                                    |                            |
| 0121   | IGNITERS   | 1     | 1.1G                |               | 1         |                    | LQ0                             | E0      | P142                          |                                  | MP23                            |                                    |                            |
| 0124   | JET PERFORATING GUNS, CHARGED, oil well, without detonator   | 1     | 1.1D                |               | 1         |                    | LQ0                             | E0      | P101                          |                                  | MP21                            |                                    |                            |
| 0129   | LEAD AZIDE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass                                    | 1     | 1.1A                |               | 1         | 266                | LQ0                             | E0      | P110(b)                       | PP42                             | MP20                            |                                    |                            |
| 0130   | LEAD STYPHNATE (LEAD TRINITRORESORCINATE), WETTED with not less than 20% water, or mixture of alcohol and water, by mass     | 1     | 1.1A                |               | 1         | 266                | LQ0                             | E0      | P110(b)                       | PP42                             | MP20                            |                                    |                            |
| 0131   | LIGHTERS, FUSE   | 1     | 1.4S                |               | 1.4       |                    | LQ0                             | E0      | P142                          |                                  | MP23                            |                                    |                            |
| 0132   | DEFLAGRATING METAL SALTS OF AROMATIC NITRODERIVATIVES, N.O.S.  | 1     | 1.3C                |               | 1         | 274                | LQ0                             | E0      | P114(a)<br>P114(b)            | PP26                             | MP2                             |                                    |                            |
| 0133   | MANNITOL HEXANITRATE (NITROMANNITE), WETTED with not less than 40% water, or mixture of alcohol and water, by mass           | 1     | 1.1D                |               | 1         | 266                | LQ0                             | E0      | P112(a)                       |                                  | MP20                            |                                    |                            |
| 0135   | MERCURY FULMINATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass                             | 1     | 1.1A                |               | 1         | 266                | LQ0                             | E0      | P110(b)                       | PP42                             | MP20                            |                                    |                            |
| 0136   | MINES with bursting charge   | 1     | 1.1F                |               | 1         |                    | LQ0                             | E0      | P130                          |                                  | MP23                            |                                    |                            |
| 0137   | MINES with bursting charge   | 1     | 1.1D                |               | 1         |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                       | MP21                            |                                    |                            |
| 0138   | MINES with bursting charge   | 1     | 1.2D                |               | 1         |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                       | MP21                            |                                    |                            |
| 0143   | NITROGLYCERIN, DESENSITIZED with not less than 40% non-volatile water-insoluble phlegmatizer, by mass                        | 1     | 1.1D                |               | 1<br>+6.1 | 266<br>271         | LQ0                             | E0      | P115                          | PP53 PP54<br>PP57 PP58           | MP20                            |                                    |                            |
| 0144   | NITROGLYCERIN SOLUTION IN ALCOHOL with more than 1% but not more than 10% nitroglycerin                                      | 1     | 1.1D                |               | 1         | 500                | LQ0                             | E0      | P115                          | PP45 PP55<br>PP56 PP59<br>PP60   | MP20                            |                                    |                            |
| 0146   | NITROSTARCH, dry or wetted with less than 20% water, by mass   | 1     | 1.1D                |               | 1         |                    | LQ0                             | E0      | P112(a)<br>P112(b)<br>P112(c) |                                  | MP20                            |                                    |                            |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 4 (E)  |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0110   | GRENADES, PRACTICE, hand or rifle  |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0113   | GUANYLNITROSAMINO-GUANYLIDENE HYDRAZINE, WETTED with not less than 30% water, by mass  |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0114   | GUANYLNITROSAMINO-GUANYLTETRAZENE (TETRAZENE), WETTED with not less than 30% water, or mixture of alcohol and water, by mass |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0118   | HEXOLITE (HEXOTOL), dry or wetted with less than 15% water, by mass  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0121   | IGNITERS   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0124   | JET PERFORATING GUNS, CHARGED, oil well, without detonator   |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0129   | LEAD AZIDE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass                                    |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0130   | LEAD STYPHNATE (LEAD TRINITRORESORCINATE), WETTED with not less than 20% water, or mixture of alcohol and water, by mass     |
|           |                    |                           | 4 (E)  |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0131   | LIGHTERS, FUSE   |
|           |                    |                           | 1 (C5000D)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0132   | DEFLAGRATING METAL SALTS OF AROMATIC NITRODERIVATIVES, N.O.S.  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0133   | MANNITOL HEXANITRATE (NITROMANNITE), WETTED with not less than 40% water, or mixture of alcohol and water, by mass           |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0135   | MERCURY FULMINATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass                             |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0136   | MINES with bursting charge   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0137   | MINES with bursting charge   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0138   | MINES with bursting charge   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3<br>CV28       | S1        |                           | 0143   | NITROGLYCERIN, DESENSITIZED with not less than 40% non-volatile water-insoluble phlegmatizer, by mass                        |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0144   | NITROGLYCERIN SOLUTION IN ALCOHOL with more than 1% but not more than 10% nitroglycerin                                      |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0146   | NITROSTARCH, dry or wetted with less than 20% water, by mass   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |        |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 0147   | NITRO UREA   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(b)                       |                                  | MP20                            |                                    |                            |
| 0150   | PENTAERYTHRITATE<br>TETRANITRATE<br>(PENTAERYTHRITOL<br>TETRANITRATE; PETN),<br>WETTED with not less than<br>25% water, by mass, or<br>DESENSITIZED with not less<br>than 15% phlegmatizer, by<br>mass | 1     | 1.1D                |               | 1      | 266                | LQ0                             | E0      | P112(a)<br>P112(b)            |                                  | MP20                            |                                    |                            |
| 0151   | PENTOLITE, dry or wetted<br>with less than 15% water, by<br>mass   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(a)<br>P112(b)<br>P112(c) |                                  | MP20                            |                                    |                            |
| 0153   | TRINITROANILINE<br>(PICRAMIDE)   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(b)<br>P112(c)            |                                  | MP20                            |                                    |                            |
| 0154   | TRINITROPHENOL (PICRIC<br>ACID), dry or wetted with less<br>than 30% water, by mass  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(a)<br>P112(b)<br>P112(c) | PP26                             | MP20                            |                                    |                            |
| 0155   | TRINITROCHLORO-<br>BENZENE (PICRYL<br>CHLORIDE)  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(b)<br>P112(c)            |                                  | MP20                            |                                    |                            |
| 0159   | POWDER CAKE (POWDER<br>PASTE), WETTED with not<br>less than 25% water, by mass   | 1     | 1.3C                |               | 1      | 266                | LQ0                             | E0      | P111                          | PP43                             | MP20                            |                                    |                            |
| 0160   | POWDER, SMOKELESS  | 1     | 1.1C                |               | 1      |                    | LQ0                             | E0      | P114(b)                       | PP50 PP52                        | MP20<br>MP24                    |                                    |                            |
| 0161   | POWDER, SMOKELESS  | 1     | 1.3C                |               | 1      |                    | LQ0                             | E0      | P114(b)                       | PP50 PP52                        | MP20<br>MP24                    |                                    |                            |
| 0167   | PROJECTILES with bursting<br>charge  | 1     | 1.1F                |               | 1      |                    | LQ0                             | E0      | P130                          |                                  | MP23                            |                                    |                            |
| 0168   | PROJECTILES with bursting<br>charge  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                       | MP21                            |                                    |                            |
| 0169   | PROJECTILES with bursting<br>charge  | 1     | 1.2D                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                       | MP21                            |                                    |                            |
| 0171   | AMMUNITION,<br>ILLUMINATING with or<br>without burster, expelling<br>charge or propelling charge   | 1     | 1.2G                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                       | MP23                            |                                    |                            |
| 0173   | RELEASE DEVICES,<br>EXPLOSIVE  | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P134<br>LP102                 |                                  | MP23                            |                                    |                            |
| 0174   | RIVETS, EXPLOSIVE  | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P134<br>LP102                 |                                  | MP23                            |                                    |                            |
| 0180   | ROCKETS with bursting charge   | 1     | 1.1F                |               | 1      |                    | LQ0                             | E0      | P130                          |                                  | MP23                            |                                    |                            |
| 0181   | ROCKETS with bursting charge   | 1     | 1.1E                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                       | MP21                            |                                    |                            |
| 0182   | ROCKETS with bursting charge   | 1     | 1.2E                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                       | MP21                            |                                    |                            |
| 0183   | ROCKETS with inert head  | 1     | 1.3C                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                       | MP22                            |                                    |                            |
| 0186   | ROCKET MOTORS  | 1     | 1.3C                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101                 | PP67<br>L1                       | MP22<br>MP24                    |                                    |                            |
| 0190   | SAMPLES, EXPLOSIVE, other<br>than initiating explosive   | 1     |                     |               |        | 16<br>274          | LQ0                             | E0      | P101                          |                                  | MP2                             |                                    |                            |



| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0147   | NITRO UREA   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0150   | PENTAERYTHRITATE<br>TETRANITRATE<br>(PENTAERYTHRITOL<br>TETRANITRATE; PETN),<br>WETTED with not less than<br>25% water, by mass, or<br>DESENSITIZED with not less<br>than 15% phlegmatizer, by<br>mass |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0151   | PENTOLITE, dry or wetted<br>with less than 15% water, by<br>mass   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0153   | TRINITROANILINE<br>(PICRAMIDE)   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0154   | TRINITROPHENOL (PICRIC<br>ACID), dry or wetted with less<br>than 30% water, by mass  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0155   | TRINITROCHLORO-<br>BENZENE (PICRYL<br>CHLORIDE)  |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0159   | POWDER CAKE (POWDER<br>PASTE), WETTED with not<br>less than 25% water, by mass   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0160   | POWDER, SMOKELESS  |
|           |                    |                           | 1<br>(C5000D)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0161   | POWDER, SMOKELESS  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0167   | PROJECTILES with bursting<br>charge  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0168   | PROJECTILES with bursting<br>charge  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0169   | PROJECTILES with bursting<br>charge  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0171   | AMMUNITION,<br>ILLUMINATING with or<br>without burster, expelling<br>charge or propelling charge   |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0173   | RELEASE DEVICES,<br>EXPLOSIVE  |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0174   | RIVETS, EXPLOSIVE  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0180   | ROCKETS with bursting charge   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0181   | ROCKETS with bursting charge   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0182   | ROCKETS with bursting charge   |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0183   | ROCKETS with inert head  |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0186   | ROCKET MOTORS  |
|           |                    |                           | 0<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0190   | SAMPLES, EXPLOSIVE, other<br>than initiating explosive   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |      | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |        |                    |                                 |      | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b) | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 0191   | SIGNAL DEVICES, HAND   | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0   | P135                          |                                  | MP23<br>MP24                    |                                    |                            |
| 0192   | SIGNALS, RAILWAY TRACK, EXPLOSIVE  | 1     | 1.1G                |               | 1      |                    | LQ0                             | E0   | P135                          |                                  | MP23                            |                                    |                            |
| 0193   | SIGNALS, RAILWAY TRACK, EXPLOSIVE  | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0   | P135                          |                                  | MP23                            |                                    |                            |
| 0194   | SIGNALS, DISTRESS, ship  | 1     | 1.1G                |               | 1      |                    | LQ0                             | E0   | P135                          |                                  | MP23<br>MP24                    |                                    |                            |
| 0195   | SIGNALS, DISTRESS, ship  | 1     | 1.3G                |               | 1      |                    | LQ0                             | E0   | P135                          |                                  | MP23<br>MP24                    |                                    |                            |
| 0196   | SIGNALS, SMOKE   | 1     | 1.1G                |               | 1      |                    | LQ0                             | E0   | P135                          |                                  | MP23                            |                                    |                            |
| 0197   | SIGNALS, SMOKE   | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0   | P135                          |                                  | MP23<br>MP24                    |                                    |                            |
| 0204   | SOUNDING DEVICES, EXPLOSIVE  | 1     | 1.2F                |               | 1      |                    | LQ0                             | E0   | P134<br>LP102                 |                                  | MP23                            |                                    |                            |
| 0207   | TETRANITROANILINE  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)            |                                  | MP20                            |                                    |                            |
| 0208   | TRINITROPHENYLMETHYLNITRAMINE (TETRYL)   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)            |                                  | MP20                            |                                    |                            |
| 0209   | TRINITROTOLUENE (TNT), dry or wetted with less than 30% water, by mass   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)            | PP46                             | MP20                            |                                    |                            |
| 0212   | TRACERS FOR AMMUNITION   | 1     | 1.3G                |               | 1      |                    | LQ0                             | E0   | P133                          | PP69                             | MP23                            |                                    |                            |
| 0213   | TRINITROANISOLE  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)            |                                  | MP20                            |                                    |                            |
| 0214   | TRINITROBENZENE, dry or wetted with less than 30% water, by mass   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(a)<br>P112(b)<br>P112(c) |                                  | MP20                            |                                    |                            |
| 0215   | TRINITROBENZOIC ACID, dry or wetted with less than 30% water, by mass  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(a)<br>P112(b)<br>P112(c) |                                  | MP20                            |                                    |                            |
| 0216   | TRINITRO-m-CRESOL  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)            | PP26                             | MP20                            |                                    |                            |
| 0217   | TRINITRONAPHTHALENE  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)            |                                  | MP20                            |                                    |                            |
| 0218   | TRINITROPHENETOLE  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)            |                                  | MP20                            |                                    |                            |
| 0219   | TRINITRORESORCINOL (STYPHNIC ACID), dry or wetted with less than 20% water, or mixture of alcohol and water, by mass   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(a)<br>P112(b)<br>P112(c) | PP26                             | MP20                            |                                    |                            |
| 0220   | UREA NITRATE, dry or wetted with less than 20% water, by mass  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(a)<br>P112(b)<br>P112(c) |                                  | MP20                            |                                    |                            |
| 0221   | WARHEADS, TORPEDO with bursting charge   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P130<br>LP101                 | PP67<br>L1                       | MP21                            |                                    |                            |
| 0222   | AMMONIUM NITRATE with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)            | PP47                             | MP20                            |                                    |                            |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0191   | SIGNAL DEVICES, HAND   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0192   | SIGNALS, RAILWAY TRACK, EXPLOSIVE  |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0193   | SIGNALS, RAILWAY TRACK, EXPLOSIVE  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0194   | SIGNALS, DISTRESS, ship  |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0195   | SIGNALS, DISTRESS, ship  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0196   | SIGNALS, SMOKE   |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0197   | SIGNALS, SMOKE   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0204   | SOUNDING DEVICES, EXPLOSIVE  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0207   | TETRANITROANILINE  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0208   | TRINITROPHENYLMETHYL-NITRAMINE (TETRYL)  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0209   | TRINITROTOLUENE (TNT), dry or wetted with less than 30% water, by mass   |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0212   | TRACERS FOR AMMUNITION   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0213   | TRINITROANISOLE  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0214   | TRINITROBENZENE, dry or wetted with less than 30% water, by mass   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0215   | TRINITROBENZOIC ACID, dry or wetted with less than 30% water, by mass  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0216   | TRINITRO-m-CRESOL  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0217   | TRINITRONAPHTHALENE  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0218   | TRINITROPHENETOLE  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0219   | TRINITRORESORCINOL (STYPHNIC ACID), dry or wetted with less than 20% water, or mixture of alcohol and water, by mass   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0220   | UREA NITRATE, dry or wetted with less than 20% water, by mass  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0221   | WARHEADS, TORPEDO with bursting charge   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0222   | AMMONIUM NITRATE with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 0224   | BARIUM AZIDE, dry or wetted with less than 50% water, by mass                                   | 1     | 1.1A                |               | 1<br>+6.1 |                    | LQ0                             | E0      | P110(b)                    | PP42                             | MP20                            |                                    |                            |
| 0225   | BOOSTERS WITH DETONATOR   | 1     | 1.1B                |               | 1         |                    | LQ0                             | E0      | P133                       | PP69                             | MP23                            |                                    |                            |
| 0226   | CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN), WETTED with not less than 15% water, by mass | 1     | 1.1D                |               | 1         | 266                | LQ0                             | E0      | P112(a)                    | PP45                             | MP20                            |                                    |                            |
| 0234   | SODIUM DINITRO-o-CRESOLATE, dry or wetted with less than 15% water, by mass                     | 1     | 1.3C                |               | 1         |                    | LQ0                             | E0      | P114(a)<br>P114(b)         | PP26                             | MP20                            |                                    |                            |
| 0235   | SODIUM PICRAMATE, dry or wetted with less than 20% water, by mass                               | 1     | 1.3C                |               | 1         |                    | LQ0                             | E0      | P114(a)<br>P114(b)         | PP26                             | MP20                            |                                    |                            |
| 0236   | ZIRCONIUM PICRAMATE, dry or wetted with less than 20% water, by mass                            | 1     | 1.3C                |               | 1         |                    | LQ0                             | E0      | P114(a)<br>P114(b)         | PP26                             | MP20                            |                                    |                            |
| 0237   | CHARGES, SHAPED, FLEXIBLE, LINEAR   | 1     | 1.4D                |               | 1.4       |                    | LQ0                             | E0      | P138                       |                                  | MP21                            |                                    |                            |
| 0238   | ROCKETS, LINE-THROWING  | 1     | 1.2G                |               | 1         |                    | LQ0                             | E0      | P130                       |                                  | MP23<br>MP24                    |                                    |                            |
| 0240   | ROCKETS, LINE-THROWING  | 1     | 1.3G                |               | 1         |                    | LQ0                             | E0      | P130                       |                                  | MP23<br>MP24                    |                                    |                            |
| 0241   | EXPLOSIVE, BLASTING, TYPE E   | 1     | 1.1D                |               | 1         | 617                | LQ0                             | E0      | P116<br>IBC100             | PP61<br>PP62<br>PP65<br>B10      | MP20                            |                                    |                            |
| 0242   | CHARGES, PROPELLING, FOR CANNON   | 1     | 1.3C                |               | 1         |                    | LQ0                             | E0      | P130                       |                                  | MP22                            |                                    |                            |
| 0243   | AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge    | 1     | 1.2H                |               | 1         |                    | LQ0                             | E0      | P130<br>LP101              | PP67<br>L1                       | MP23                            |                                    |                            |
| 0244   | AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge    | 1     | 1.3H                |               | 1         |                    | LQ0                             | E0      | P130<br>LP101              | PP67<br>L1                       | MP23                            |                                    |                            |
| 0245   | AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge         | 1     | 1.2H                |               | 1         |                    | LQ0                             | E0      | P130<br>LP101              | PP67<br>L1                       | MP23                            |                                    |                            |
| 0246   | AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge         | 1     | 1.3H                |               | 1         |                    | LQ0                             | E0      | P130<br>LP101              | PP67<br>L1                       | MP23                            |                                    |                            |
| 0247   | AMMUNITION, INCENDIARY, liquid or gel, with burster, expelling charge or propelling charge      | 1     | 1.3J                |               | 1         |                    | LQ0                             | E0      | P101                       |                                  | MP23                            |                                    |                            |
| 0248   | CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge               | 1     | 1.2L                |               | 1         | 274                | LQ0                             | E0      | P144                       | PP77                             | MP1                             |                                    |                            |
| 0249   | CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge               | 1     | 1.3L                |               | 1         | 274                | LQ0                             | E0      | P144                       | PP77                             | MP1                             |                                    |                            |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
|           |                    |                           | 0 (B)  | V2<br>V3                        |       | CV1<br>CV2<br>CV3<br>CV28       | S1        |                           | 0224   | BARIUM AZIDE, dry or wetted with less than 50% water, by mass                                   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0225   | BOOSTERS WITH DETONATOR   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0226   | CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN), WETTED with not less than 15% water, by mass |
|           |                    |                           | 1 (C5000D)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0234   | SODIUM DINITRO-o-CRESOLATE, dry or wetted with less than 15% water, by mass                     |
|           |                    |                           | 1 (C5000D)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0235   | SODIUM PICRAMATE, dry or wetted with less than 20% water, by mass                               |
|           |                    |                           | 1 (C5000D)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0236   | ZIRCONIUM PICRAMATE, dry or wetted with less than 20% water, by mass                            |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0237   | CHARGES, SHAPED, FLEXIBLE, LINEAR   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0238   | ROCKETS, LINE-THROWING  |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0240   | ROCKETS, LINE-THROWING  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0241   | EXPLOSIVE, BLASTING, TYPE E   |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0242   | CHARGES, PROPELLING, FOR CANNON   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0243   | AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge    |
|           |                    |                           | 1 (C)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0244   | AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge    |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0245   | AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge         |
|           |                    |                           | 1 (C)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0246   | AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge         |
|           |                    |                           | 1 (C)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0247   | AMMUNITION, INCENDIARY, liquid or gel, with burster, expelling charge or propelling charge      |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3<br>CV4        | S1        |                           | 0248   | CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge               |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3<br>CV4        | S1        |                           | 0249   | CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge               |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |        |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 0250   | ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge                  | 1     | 1.3L                |               | 1      |                    | LQ0                             | E0      | P101                          |                                  | MP1                             |                                    |                            |
| 0254   | AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge | 1     | 1.3G                |               | 1      |                    | LQ0                             | E0      | P130 LP101                    | PP67 L1                          | MP23                            |                                    |                            |
| 0255   | DETONATORS, ELECTRIC for blasting   | 1     | 1.4B                |               | 1.4    |                    | LQ0                             | E0      | P131                          |                                  | MP23                            |                                    |                            |
| 0257   | FUZES, DETONATING   | 1     | 1.4B                |               | 1.4    |                    | LQ0                             | E0      | P141                          |                                  | MP23                            |                                    |                            |
| 0266   | OCTOLITE (OCTOL), dry or wetted with less than 15% water, by mass                       | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(a)<br>P112(b)<br>P112(c) |                                  | MP20                            |                                    |                            |
| 0267   | DETONATORS, NON-ELECTRIC for blasting   | 1     | 1.4B                |               | 1.4    |                    | LQ0                             | E0      | P131                          | PP68                             | MP23                            |                                    |                            |
| 0268   | BOOSTERS WITH DETONATOR   | 1     | 1.2B                |               | 1      |                    | LQ0                             | E0      | P133                          | PP69                             | MP23                            |                                    |                            |
| 0271   | CHARGES, PROPELLING   | 1     | 1.1C                |               | 1      |                    | LQ0                             | E0      | P143                          | PP76                             | MP22                            |                                    |                            |
| 0272   | CHARGES, PROPELLING   | 1     | 1.3C                |               | 1      |                    | LQ0                             | E0      | P143                          | PP76                             | MP22                            |                                    |                            |
| 0275   | CARTRIDGES, POWER DEVICE  | 1     | 1.3C                |               | 1      |                    | LQ0                             | E0      | P134 LP102                    |                                  | MP22                            |                                    |                            |
| 0276   | CARTRIDGES, POWER DEVICE  | 1     | 1.4C                |               | 1.4    |                    | LQ0                             | E0      | P134 LP102                    |                                  | MP22                            |                                    |                            |
| 0277   | CARTRIDGES, OIL WELL  | 1     | 1.3C                |               | 1      |                    | LQ0                             | E0      | P134 LP102                    |                                  | MP22                            |                                    |                            |
| 0278   | CARTRIDGES, OIL WELL  | 1     | 1.4C                |               | 1.4    |                    | LQ0                             | E0      | P134 LP102                    |                                  | MP22                            |                                    |                            |
| 0279   | CHARGES, PROPELLING, FOR CANNON   | 1     | 1.1C                |               | 1      |                    | LQ0                             | E0      | P130                          |                                  | MP22                            |                                    |                            |
| 0280   | ROCKET MOTORS   | 1     | 1.1C                |               | 1      |                    | LQ0                             | E0      | P130 LP101                    | PP67 L1                          | MP22                            |                                    |                            |
| 0281   | ROCKET MOTORS   | 1     | 1.2C                |               | 1      |                    | LQ0                             | E0      | P130 LP101                    | PP67 L1                          | MP22                            |                                    |                            |
| 0282   | NITROGUANIDINE (PICRITE), dry or wetted with less than 20% water, by mass               | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(a)<br>P112(b)<br>P112(c) |                                  | MP20                            |                                    |                            |
| 0283   | BOOSTERS without detonator  | 1     | 1.2D                |               | 1      |                    | LQ0                             | E0      | P132(a)<br>P132(b)            |                                  | MP21                            |                                    |                            |
| 0284   | GRENADES, hand or rifle, with bursting charge   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P141                          |                                  | MP21                            |                                    |                            |
| 0285   | GRENADES, hand or rifle, with bursting charge   | 1     | 1.2D                |               | 1      |                    | LQ0                             | E0      | P141                          |                                  | MP21                            |                                    |                            |
| 0286   | WARHEADS, ROCKET with bursting charge   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P130 LP101                    | PP67 L1                          | MP21                            |                                    |                            |
| 0287   | WARHEADS, ROCKET with bursting charge   | 1     | 1.2D                |               | 1      |                    | LQ0                             | E0      | P130 LP101                    | PP67 L1                          | MP21                            |                                    |                            |
| 0288   | CHARGES, SHAPED, FLEXIBLE, LINEAR   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P138                          |                                  | MP21                            |                                    |                            |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3<br>CV4        | S1        |                           | 0250   | ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge                  |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0254   | AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0255   | DETONATORS, ELECTRIC for blasting   |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0257   | FUZES, DETONATING   |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0266   | OCTOLITE (OCTOL), dry or wetted with less than 15% water, by mass                       |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0267   | DETONATORS, NON-ELECTRIC for blasting   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0268   | BOOSTERS WITH DETONATOR   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0271   | CHARGES, PROPELLING   |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0272   | CHARGES, PROPELLING   |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0275   | CARTRIDGES, POWER DEVICE  |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0276   | CARTRIDGES, POWER DEVICE  |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0277   | CARTRIDGES, OIL WELL  |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0278   | CARTRIDGES, OIL WELL  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0279   | CHARGES, PROPELLING, FOR CANNON   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0280   | ROCKET MOTORS   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0281   | ROCKET MOTORS   |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0282   | NITROGUANIDINE (PICRITE), dry or wetted with less than 20% water, by mass               |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0283   | BOOSTERS without detonator  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0284   | GRENADES, hand or rifle, with bursting charge   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0285   | GRENADES, hand or rifle, with bursting charge   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0286   | WARHEADS, ROCKET with bursting charge   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0287   | WARHEADS, ROCKET with bursting charge   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0288   | CHARGES, SHAPED, FLEXIBLE, LINEAR   |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging            |                            |                          | Portable tanks and bulk containers |                    |
|--------|---|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|----------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |   |       |                     |               |                   |                    |                                 |         | Packing instructions | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2             | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                  | (9a)                       | (9b)                     | (10)                               | (11)               |
| 0289   | CORD, DETONATING, flexible  | 1     | 1.4D                |               | 1.4               |                    | LQ0                             | E0      | P139                 | PP71 PP72                  | MP21                     |                                    |                    |
| 0290   | CORD (FUSE), DETONATING, metal clad   | 1     | 1.1D                |               | 1                 |                    | LQ0                             | E0      | P139                 | PP71                       | MP21                     |                                    |                    |
| 0291   | BOMBS with bursting charge  | 1     | 1.2F                |               | 1                 |                    | LQ0                             | E0      | P130                 |                            | MP23                     |                                    |                    |
| 0292   | GRENADES, hand or rifle, with bursting charge   | 1     | 1.1F                |               | 1                 |                    | LQ0                             | E0      | P141                 |                            | MP23                     |                                    |                    |
| 0293   | GRENADES, hand or rifle, with bursting charge   | 1     | 1.2F                |               | 1                 |                    | LQ0                             | E0      | P141                 |                            | MP23                     |                                    |                    |
| 0294   | MINES with bursting charge  | 1     | 1.2F                |               | 1                 |                    | LQ0                             | E0      | P130                 |                            | MP23                     |                                    |                    |
| 0295   | ROCKETS with bursting charge  | 1     | 1.2F                |               | 1                 |                    | LQ0                             | E0      | P130                 |                            | MP23                     |                                    |                    |
| 0296   | SOUNDING DEVICES, EXPLOSIVE   | 1     | 1.1F                |               | 1                 |                    | LQ0                             | E0      | P134<br>LP102        |                            | MP23                     |                                    |                    |
| 0297   | AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge                           | 1     | 1.4G                |               | 1.4               |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP23                     |                                    |                    |
| 0299   | BOMBS, PHOTO-FLASH  | 1     | 1.3G                |               | 1                 |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP23                     |                                    |                    |
| 0300   | AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge                             | 1     | 1.4G                |               | 1.4               |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP23                     |                                    |                    |
| 0301   | AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge                                    | 1     | 1.4G                |               | 1.4<br>+6.1<br>+8 |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP23                     |                                    |                    |
| 0303   | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge                                  | 1     | 1.4G                |               | 1.4               |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP23                     |                                    |                    |
| 0303   | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances | 1     | 1.4G                |               | 1.4<br>+8         |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP23                     |                                    |                    |
| 0305   | FLASH POWDER  | 1     | 1.3G                |               | 1                 |                    | LQ0                             | E0      | P113                 | PP49                       | MP20                     |                                    |                    |
| 0306   | TRACERS FOR AMMUNITION  | 1     | 1.4G                |               | 1.4               |                    | LQ0                             | E0      | P133                 | PP69                       | MP23                     |                                    |                    |
| 0312   | CARTRIDGES, SIGNAL  | 1     | 1.4G                |               | 1.4               |                    | LQ0                             | E0      | P135                 |                            | MP23<br>MP24             |                                    |                    |
| 0313   | SIGNALS, SMOKE  | 1     | 1.2G                |               | 1                 |                    | LQ0                             | E0      | P135                 |                            | MP23                     |                                    |                    |
| 0314   | IGNITERS  | 1     | 1.2G                |               | 1                 |                    | LQ0                             | E0      | P142                 |                            | MP23                     |                                    |                    |
| 0315   | IGNITERS  | 1     | 1.3G                |               | 1                 |                    | LQ0                             | E0      | P142                 |                            | MP23                     |                                    |                    |
| 0316   | FUZES, IGNITING   | 1     | 1.3G                |               | 1                 |                    | LQ0                             | E0      | P141                 |                            | MP23                     |                                    |                    |
| 0317   | FUZES, IGNITING   | 1     | 1.4G                |               | 1.4               |                    | LQ0                             | E0      | P141                 |                            | MP23                     |                                    |                    |



| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0289   | CORD, DETONATING, flexible  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0290   | CORD (FUSE), DETONATING, metal clad   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0291   | BOMBS with bursting charge  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0292   | GRENADES, hand or rifle, with bursting charge   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0293   | GRENADES, hand or rifle, with bursting charge   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0294   | MINES with bursting charge  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0295   | ROCKETS with bursting charge  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0296   | SOUNDING DEVICES, EXPLOSIVE   |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0297   | AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge                           |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0299   | BOMBS, PHOTO-FLASH  |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0300   | AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge                             |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3<br>CV28       | S1        |                           | 0301   | AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge                                    |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0303   | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge                                  |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0303   | AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances |
|           |                    |                           | 1 (C5000D)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0305   | FLASH POWDER  |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0306   | TRACERS FOR AMMUNITION  |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0312   | CARTRIDGES, SIGNAL  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0313   | SIGNALS, SMOKE  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0314   | IGNITERS  |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0315   | IGNITERS  |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0316   | FUZES, IGNITING   |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0317   | FUZES, IGNITING   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging            |                              |                          | Portable tanks and bulk containers |                     |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|----------------------|------------------------------|--------------------------|------------------------------------|---------------------|
|        |  |       |                     |               |        |                    |                                 |         | Packing instructions | Special packing provisions   | Mixed packing provisions | Instructions                       | Special provisions  |
|        | 3.1.2  | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2  | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                | 4.1.4                        | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3             |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                  | (9a)                         | (9b)                     | (10)                               | (11)                |
| 0318   | GRENADES, PRACTICE, hand or rifle                                      | 1     | 1.3G                |               | 1      |                    | LQ0                             | E0      | P141                 |                              | MP23                     |                                    |                     |
| 0319   | PRIMERS, TUBULAR   | 1     | 1.3G                |               | 1      |                    | LQ0                             | E0      | P133                 |                              | MP23                     |                                    |                     |
| 0320   | PRIMERS, TUBULAR   | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0      | P133                 |                              | MP23                     |                                    |                     |
| 0321   | CARTRIDGES FOR WEAPONS with bursting charge                            | 1     | 1.2E                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                   | MP21                     |                                    |                     |
| 0322   | ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge | 1     | 1.2L                |               | 1      |                    | LQ0                             | E0      | P101                 |                              | MP1                      |                                    |                     |
| 0323   | CARTRIDGES, POWER DEVICE   | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P134<br>LP102        |                              | MP23                     |                                    |                     |
| 0324   | PROJECTILES with bursting charge                                       | 1     | 1.2F                |               | 1      |                    | LQ0                             | E0      | P130                 |                              | MP23                     |                                    |                     |
| 0325   | IGNITERS   | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0      | P142                 |                              | MP23                     |                                    |                     |
| 0326   | CARTRIDGES FOR WEAPONS, BLANK  | 1     | 1.1C                |               | 1      |                    | LQ0                             | E0      | P130                 |                              | MP22                     |                                    |                     |
| 0327   | CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK         | 1     | 1.3C                |               | 1      |                    | LQ0                             | E0      | P130                 |                              | MP22                     |                                    |                     |
| 0328   | CARTRIDGES FOR WEAPONS, INERT PROJECTILE                               | 1     | 1.2C                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                   | MP22                     |                                    |                     |
| 0329   | TORPEDOES with bursting charge   | 1     | 1.1E                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                   | MP21                     |                                    |                     |
| 0330   | TORPEDOES with bursting charge   | 1     | 1.1F                |               | 1      |                    | LQ0                             | E0      | P130                 |                              | MP23                     |                                    |                     |
| 0331   | EXPLOSIVE, BLASTING, TYPE B (AGENT, BLASTING, TYPE B)                  | 1     | 1.5D                |               | 1.5    | 617                | LQ0                             | E0      | P116<br><br>IBC100   | PP61<br>PP62<br>PP64<br>PP65 | MP20                     | T1                                 | TP1<br>TP17<br>TP32 |
| 0332   | EXPLOSIVE, BLASTING, TYPE E (AGENT, BLASTING, TYPE E)                  | 1     | 1.5D                |               | 1.5    | 617                | LQ0                             | E0      | P116<br><br>IBC100   | PP61<br>PP62<br>PP65         | MP20                     | T1                                 | TP1<br>TP17<br>TP32 |
| 0333   | FIREWORKS  | 1     | 1.1G                |               | 1      | 645                | LQ0                             | E0      | P135                 |                              | MP23<br>MP24             |                                    |                     |
| 0334   | FIREWORKS  | 1     | 1.2G                |               | 1      | 645                | LQ0                             | E0      | P135                 |                              | MP23<br>MP24             |                                    |                     |
| 0335   | FIREWORKS  | 1     | 1.3G                |               | 1      | 645                | LQ0                             | E0      | P135                 |                              | MP23<br>MP24             |                                    |                     |
| 0336   | FIREWORKS  | 1     | 1.4G                |               | 1.4    | 645<br>651         | LQ0                             | E0      | P135                 |                              | MP23<br>MP24             |                                    |                     |
| 0337   | FIREWORKS  | 1     | 1.4S                |               | 1.4    | 645                | LQ0                             | E0      | P135                 |                              | MP23<br>MP24             |                                    |                     |
| 0338   | CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK         | 1     | 1.4C                |               | 1.4    |                    | LQ0                             | E0      | P130                 |                              | MP22                     |                                    |                     |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0318   | GRENADES, PRACTICE, hand or rifle                                      |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0319   | PRIMERS, TUBULAR   |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0320   | PRIMERS, TUBULAR   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0321   | CARTRIDGES FOR WEAPONS with bursting charge                            |
|           |                    |                           | 0<br>(B)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0322   | ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0323   | CARTRIDGES, POWER DEVICE   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0324   | PROJECTILES with bursting charge                                       |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0325   | IGNITERS   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0326   | CARTRIDGES FOR WEAPONS, BLANK  |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0327   | CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK         |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0328   | CARTRIDGES FOR WEAPONS, INERT PROJECTILE                               |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0329   | TORPEDOES with bursting charge   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0330   | TORPEDOES with bursting charge   |
|           |                    | EX/III                    | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        | 1.5D                      | 0331   | EXPLOSIVE, BLASTING, TYPE B (AGENT, BLASTING, TYPE B)                  |
|           |                    | EX/III                    | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        | 1.5D                      | 0332   | EXPLOSIVE, BLASTING, TYPE E (AGENT, BLASTING, TYPE E)                  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0333   | FIREWORKS  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0334   | FIREWORKS  |
|           |                    |                           | 1<br>(C5000D)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0335   | FIREWORKS  |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0336   | FIREWORKS  |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0337   | FIREWORKS  |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0338   | CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK         |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |        |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 0339   | CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS                           | 1     | 1.4C                |               | 1.4    |                    | LQ0                             | E0      | P130                       |                                  | MP22                            |                                    |                            |
| 0340   | NITROCELLULOSE, dry or wetted with less than 25% water (or alcohol), by mass                 | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(a)<br>P112(b)         |                                  | MP20                            |                                    |                            |
| 0341   | NITROCELLULOSE, unmodified or plasticized with less than 18% plasticizing substance, by mass | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(b)                    |                                  | MP20                            |                                    |                            |
| 0342   | NITROCELLULOSE, WETTED with not less than 25% alcohol, by mass                               | 1     | 1.3C                |               | 1      | 105                | LQ0                             | E0      | P114(a)                    | PP43                             | MP20                            |                                    |                            |
| 0343   | NITROCELLULOSE, PLASTICIZED with not less than 18% plasticizing substance, by mass           | 1     | 1.3C                |               | 1      | 105                | LQ0                             | E0      | P111                       |                                  | MP20                            |                                    |                            |
| 0344   | PROJECTILES with bursting charge   | 1     | 1.4D                |               | 1.4    |                    | LQ0                             | E0      | P130<br>LP101              | PP67<br>L1                       | MP21                            |                                    |                            |
| 0345   | PROJECTILES, inert with tracer   | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P130<br>LP101              | PP67<br>L1                       | MP23                            |                                    |                            |
| 0346   | PROJECTILES with burster or expelling charge   | 1     | 1.2D                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101              | PP67<br>L1                       | MP21                            |                                    |                            |
| 0347   | PROJECTILES with burster or expelling charge   | 1     | 1.4D                |               | 1.4    |                    | LQ0                             | E0      | P130<br>LP101              | PP67<br>L1                       | MP21                            |                                    |                            |
| 0348   | CARTRIDGES FOR WEAPONS with bursting charge  | 1     | 1.4F                |               | 1.4    |                    | LQ0                             | E0      | P130                       |                                  | MP23                            |                                    |                            |
| 0349   | ARTICLES, EXPLOSIVE, N.O.S.  | 1     | 1.4S                |               | 1.4    | 178<br>274         | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0350   | ARTICLES, EXPLOSIVE, N.O.S.  | 1     | 1.4B                |               | 1.4    | 178<br>274         | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0351   | ARTICLES, EXPLOSIVE, N.O.S.  | 1     | 1.4C                |               | 1.4    | 178<br>274         | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0352   | ARTICLES, EXPLOSIVE, N.O.S.  | 1     | 1.4D                |               | 1.4    | 178<br>274         | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0353   | ARTICLES, EXPLOSIVE, N.O.S.  | 1     | 1.4G                |               | 1.4    | 178<br>274         | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0354   | ARTICLES, EXPLOSIVE, N.O.S.  | 1     | 1.1L                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                       |                                  | MP1                             |                                    |                            |
| 0355   | ARTICLES, EXPLOSIVE, N.O.S.  | 1     | 1.2L                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                       |                                  | MP1                             |                                    |                            |
| 0356   | ARTICLES, EXPLOSIVE, N.O.S.  | 1     | 1.3L                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                       |                                  | MP1                             |                                    |                            |
| 0357   | SUBSTANCES, EXPLOSIVE, N.O.S.  | 1     | 1.1L                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                       |                                  | MP1                             |                                    |                            |
| 0358   | SUBSTANCES, EXPLOSIVE, N.O.S.  | 1     | 1.2L                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                       |                                  | MP1                             |                                    |                            |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0339   | CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS                           |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0340   | NITROCELLULOSE, dry or wetted with less than 25% water (or alcohol), by mass                 |
|           |                    |                           | 1 (B1000C)                                   | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0341   | NITROCELLULOSE, unmodified or plasticized with less than 18% plasticizing substance, by mass |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0342   | NITROCELLULOSE, WETTED with not less than 25% alcohol, by mass                               |
|           |                    |                           | 1 (C5000D)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0343   | NITROCELLULOSE, PLASTICIZED with not less than 18% plasticizing substance, by mass           |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0344   | PROJECTILES with bursting charge   |
|           |                    |                           | 4 (E)  |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0345   | PROJECTILES, inert with tracer   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0346   | PROJECTILES with burster or expelling charge   |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0347   | PROJECTILES with burster or expelling charge   |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0348   | CARTRIDGES FOR WEAPONS with bursting charge  |
|           |                    |                           | 4 (E)  |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0349   | ARTICLES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0350   | ARTICLES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0351   | ARTICLES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0352   | ARTICLES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0353   | ARTICLES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3<br>CV4        | S1        |                           | 0354   | ARTICLES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3<br>CV4        | S1        |                           | 0355   | ARTICLES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3<br>CV4        | S1        |                           | 0356   | ARTICLES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3<br>CV4        | S1        |                           | 0357   | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3<br>CV4        | S1        |                           | 0358   | SUBSTANCES, EXPLOSIVE, N.O.S.  |

| UN No. | Name and description                              | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging            |                            |                          | Portable tanks and bulk containers |                    |
|--------|---|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|----------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |   |       |                     |               |        |                    |                                 |         | Packing instructions | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2  | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                  | (9a)                       | (9b)                     | (10)                               | (11)               |
| 0359   | SUBSTANCES, EXPLOSIVE, N.O.S.                     | 1     | 1.3L                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP1                      |                                    |                    |
| 0360   | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting   | 1     | 1.1B                |               | 1      |                    | LQ0                             | E0      | P131                 |                            | MP23                     |                                    |                    |
| 0361   | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting   | 1     | 1.4B                |               | 1.4    |                    | LQ0                             | E0      | P131                 |                            | MP23                     |                                    |                    |
| 0362   | AMMUNITION, PRACTICE                              | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP23                     |                                    |                    |
| 0363   | AMMUNITION, PROOF                                 | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP23                     |                                    |                    |
| 0364   | DETONATORS FOR AMMUNITION                         | 1     | 1.2B                |               | 1      |                    | LQ0                             | E0      | P133                 |                            | MP23                     |                                    |                    |
| 0365   | DETONATORS FOR AMMUNITION                         | 1     | 1.4B                |               | 1.4    |                    | LQ0                             | E0      | P133                 |                            | MP23                     |                                    |                    |
| 0366   | DETONATORS FOR AMMUNITION                         | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P133                 |                            | MP23                     |                                    |                    |
| 0367   | FUZES, DETONATING                                 | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P141                 |                            | MP23                     |                                    |                    |
| 0368   | FUZES, IGNITING                                   | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P141                 |                            | MP23                     |                                    |                    |
| 0369   | WARHEADS, ROCKET with bursting charge             | 1     | 1.1F                |               | 1      |                    | LQ0                             | E0      | P130                 |                            | MP23                     |                                    |                    |
| 0370   | WARHEADS, ROCKET with burster or expelling charge | 1     | 1.4D                |               | 1.4    |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP21                     |                                    |                    |
| 0371   | WARHEADS, ROCKET with burster or expelling charge | 1     | 1.4F                |               | 1.4    |                    | LQ0                             | E0      | P130                 |                            | MP23                     |                                    |                    |
| 0372   | GRENADES, PRACTICE, hand or rifle                 | 1     | 1.2G                |               | 1      |                    | LQ0                             | E0      | P141                 |                            | MP23                     |                                    |                    |
| 0373   | SIGNAL DEVICES, HAND                              | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P135                 |                            | MP23<br>MP24             |                                    |                    |
| 0374   | SOUNDING DEVICES, EXPLOSIVE                       | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P134<br>LP102        |                            | MP21                     |                                    |                    |
| 0375   | SOUNDING DEVICES, EXPLOSIVE                       | 1     | 1.2D                |               | 1      |                    | LQ0                             | E0      | P134<br>LP102        |                            | MP21                     |                                    |                    |
| 0376   | PRIMERS, TUBULAR                                  | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P133                 |                            | MP23                     |                                    |                    |
| 0377   | PRIMERS, CAP TYPE                                 | 1     | 1.1B                |               | 1      |                    | LQ0                             | E0      | P133                 |                            | MP23                     |                                    |                    |
| 0378   | PRIMERS, CAP TYPE                                 | 1     | 1.4B                |               | 1.4    |                    | LQ0                             | E0      | P133                 |                            | MP23                     |                                    |                    |
| 0379   | CASES, CARTRIDGE, EMPTY, WITH PRIMER              | 1     | 1.4C                |               | 1.4    |                    | LQ0                             | E0      | P136                 |                            | MP22                     |                                    |                    |
| 0380   | ARTICLES, PYROPHORIC                              | 1     | 1.2L                |               | 1      |                    | LQ0                             | E0      | P101                 |                            | MP1                      |                                    |                    |
| 0381   | CARTRIDGES, POWER DEVICE                          | 1     | 1.2C                |               | 1      |                    | LQ0                             | E0      | P134<br>LP102        |                            | MP22                     |                                    |                    |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                              |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3<br>CV4        | S1        |                           | 0359   | SUBSTANCES, EXPLOSIVE, N.O.S.                     |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0360   | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting   |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0361   | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting   |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0362   | AMMUNITION, PRACTICE                              |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0363   | AMMUNITION, PROOF                                 |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0364   | DETONATORS FOR AMMUNITION                         |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0365   | DETONATORS FOR AMMUNITION                         |
|           |                    |                           | 4 (E)  |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0366   | DETONATORS FOR AMMUNITION                         |
|           |                    |                           | 4 (E)  |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0367   | FUZES, DETONATING                                 |
|           |                    |                           | 4 (E)  |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0368   | FUZES, IGNITING                                   |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0369   | WARHEADS, ROCKET with bursting charge             |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0370   | WARHEADS, ROCKET with burster or expelling charge |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0371   | WARHEADS, ROCKET with burster or expelling charge |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0372   | GRENADES, PRACTICE, hand or rifle                 |
|           |                    |                           | 4 (E)  |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0373   | SIGNAL DEVICES, HAND                              |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0374   | SOUNDING DEVICES, EXPLOSIVE                       |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0375   | SOUNDING DEVICES, EXPLOSIVE                       |
|           |                    |                           | 4 (E)  |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0376   | PRIMERS, TUBULAR                                  |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0377   | PRIMERS, CAP TYPE                                 |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0378   | PRIMERS, CAP TYPE                                 |
|           |                    |                           | 2 (E)  | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0379   | CASES, CARTRIDGE, EMPTY, WITH PRIMER              |
|           |                    |                           | 0 (B)  | V2                              |       | CV1<br>CV2<br>CV3<br>CV4        | S1        |                           | 0380   | ARTICLES, PYROPHORIC                              |
|           |                    |                           | 1 (B1000C)                                   | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0381   | CARTRIDGES, POWER DEVICE                          |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |      | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |        |                    |                                 |      | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b) | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 0382   | COMPONENTS, EXPLOSIVE TRAIN, N.O.S.  | 1     | 1.2B                |               | 1      | 178<br>274         | LQ0                             | E0   | P101                       |                                  | MP2                             |                                    |                            |
| 0383   | COMPONENTS, EXPLOSIVE TRAIN, N.O.S.  | 1     | 1.4B                |               | 1.4    | 178<br>274         | LQ0                             | E0   | P101                       |                                  | MP2                             |                                    |                            |
| 0384   | COMPONENTS, EXPLOSIVE TRAIN, N.O.S.  | 1     | 1.4S                |               | 1.4    | 178<br>274         | LQ0                             | E0   | P101                       |                                  | MP2                             |                                    |                            |
| 0385   | 5-NITROBENZOTRIAZOL  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)         |                                  | MP20                            |                                    |                            |
| 0386   | TRINITROBENZENE-SULPHONIC ACID   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)         | PP26                             | MP20                            |                                    |                            |
| 0387   | TRINITROFLUORENONE   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)         |                                  | MP20                            |                                    |                            |
| 0388   | TRINITROTOLUENE (TNT) AND TRINITROBENZENE MIXTURE or TRINITROTOLUENE (TNT) AND HEXANITROSTILBENE MIXTURE   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)         |                                  | MP20                            |                                    |                            |
| 0389   | TRINITROTOLUENE (TNT) MIXTURE CONTAINING TRINITROBENZENE AND HEXANITROSTILBENE   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)         |                                  | MP20                            |                                    |                            |
| 0390   | TRITONAL   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)         |                                  | MP20                            |                                    |                            |
| 0391   | CYCLOTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX) AND CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN) MIXTURE, WETTED with not less than 15% water, by mass or DESENSITIZED with not less than 10% phlegmatizer by mass | 1     | 1.1D                |               | 1      | 266                | LQ0                             | E0   | P112(a)<br>P112(b)         |                                  | MP20                            |                                    |                            |
| 0392   | HEXANITROSTILBENE  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)<br>P112(c)         |                                  | MP20                            |                                    |                            |
| 0393   | HEXOTONAL  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(b)                    |                                  | MP20                            |                                    |                            |
| 0394   | TRINITRORESORCINOL (STYPHNIC ACID), WETTED with not less than 20% water, or mixture of alcohol and water, by mass  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(a)                    | PP26                             | MP20                            |                                    |                            |
| 0395   | ROCKET MOTORS, LIQUID FUELLED  | 1     | 1.2J                |               | 1      |                    | LQ0                             | E0   | P101                       |                                  | MP23                            |                                    |                            |
| 0396   | ROCKET MOTORS, LIQUID FUELLED  | 1     | 1.3J                |               | 1      |                    | LQ0                             | E0   | P101                       |                                  | MP23                            |                                    |                            |
| 0397   | ROCKETS, LIQUID FUELLED with bursting charge   | 1     | 1.1J                |               | 1      |                    | LQ0                             | E0   | P101                       |                                  | MP23                            |                                    |                            |
| 0398   | ROCKETS, LIQUID FUELLED with bursting charge   | 1     | 1.2J                |               | 1      |                    | LQ0                             | E0   | P101                       |                                  | MP23                            |                                    |                            |
| 0399   | BOMBS WITH FLAMMABLE LIQUID with bursting charge   | 1     | 1.1J                |               | 1      |                    | LQ0                             | E0   | P101                       |                                  | MP23                            |                                    |                            |
| 0400   | BOMBS WITH FLAMMABLE LIQUID with bursting charge   | 1     | 1.2J                |               | 1      |                    | LQ0                             | E0   | P101                       |                                  | MP23                            |                                    |                            |



| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0382   | COMPONENTS, EXPLOSIVE TRAIN, N.O.S.  |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0383   | COMPONENTS, EXPLOSIVE TRAIN, N.O.S.  |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0384   | COMPONENTS, EXPLOSIVE TRAIN, N.O.S.  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0385   | 5-NITROBENZOTRIAZOL  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0386   | TRINITROBENZENE-SULPHONIC ACID   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0387   | TRINITROFLUORENONE   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0388   | TRINITROTOLUENE (TNT) AND TRINITROBENZENE MIXTURE or TRINITROTOLUENE (TNT) AND HEXANITROSTILBENE MIXTURE   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0389   | TRINITROTOLUENE (TNT) MIXTURE CONTAINING TRINITROBENZENE AND HEXANITROSTILBENE   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0390   | TRITONAL   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0391   | CYCLOTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX) AND CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN) MIXTURE, WETTED with not less than 15% water, by mass or DESENSITIZED with not less than 10% phlegmatizer by mass |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0392   | HEXANITROSTILBENE  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0393   | HEXOTONAL  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0394   | TRINITRORESORCINOL (STYPHNIC ACID), WETTED with not less than 20% water, or mixture of alcohol and water, by mass  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0395   | ROCKET MOTORS, LIQUID FUELLED  |
|           |                    |                           | 1<br>(C)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0396   | ROCKET MOTORS, LIQUID FUELLED  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0397   | ROCKETS, LIQUID FUELLED with bursting charge   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0398   | ROCKETS, LIQUID FUELLED with bursting charge   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0399   | BOMBS WITH FLAMMABLE LIQUID with bursting charge   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0400   | BOMBS WITH FLAMMABLE LIQUID with bursting charge   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |      | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |        |                    |                                 |      | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b) | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 0401   | DIPICRYL SULPHIDE, dry or wetted with less than 10% water, by mass   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P112(a)<br>P112(b)<br>P112(c) |                                  | MP20                            |                                    |                            |
| 0402   | AMMONIUM PERCHLORATE   | 1     | 1.1D                |               | 1      | 152                | LQ0                             | E0   | P112(b)<br>P112(c)            |                                  | MP20                            |                                    |                            |
| 0403   | FLARES, AERIAL   | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0   | P135                          |                                  | MP23                            |                                    |                            |
| 0404   | FLARES, AERIAL   | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0   | P135                          |                                  | MP23                            |                                    |                            |
| 0405   | CARTRIDGES, SIGNAL   | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0   | P135                          |                                  | MP23<br>MP24                    |                                    |                            |
| 0406   | DINITROSOBENZENE   | 1     | 1.3C                |               | 1      |                    | LQ0                             | E0   | P114(b)                       |                                  | MP20                            |                                    |                            |
| 0407   | TETRAZOL-1-ACETIC ACID   | 1     | 1.4C                |               | 1.4    |                    | LQ0                             | E0   | P114(b)                       |                                  | MP20                            |                                    |                            |
| 0408   | FUZES, DETONATING with protective features   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P141                          |                                  | MP21                            |                                    |                            |
| 0409   | FUZES, DETONATING with protective features   | 1     | 1.2D                |               | 1      |                    | LQ0                             | E0   | P141                          |                                  | MP21                            |                                    |                            |
| 0410   | FUZES, DETONATING with protective features   | 1     | 1.4D                |               | 1.4    |                    | LQ0                             | E0   | P141                          |                                  | MP21                            |                                    |                            |
| 0411   | PENTAERYTHRITATE<br>TETRA-NITRATE<br>(PENTAERYTHRITOL<br>TETRA-NITRATE; PETN) with not less than 7% wax, by mass | 1     | 1.1D                |               | 1      | 131                | LQ0                             | E0   | P112(b)<br>P112(c)            |                                  | MP20                            |                                    |                            |
| 0412   | CARTRIDGES FOR WEAPONS with bursting charge  | 1     | 1.4E                |               | 1.4    |                    | LQ0                             | E0   | P130<br>LP101                 | PP67<br>L1                       | MP21                            |                                    |                            |
| 0413   | CARTRIDGES FOR WEAPONS, BLANK  | 1     | 1.2C                |               | 1      |                    | LQ0                             | E0   | P130                          |                                  | MP22                            |                                    |                            |
| 0414   | CHARGES, PROPELLING, FOR CANNON  | 1     | 1.2C                |               | 1      |                    | LQ0                             | E0   | P130                          |                                  | MP22                            |                                    |                            |
| 0415   | CHARGES, PROPELLING  | 1     | 1.2C                |               | 1      |                    | LQ0                             | E0   | P143                          | PP76                             | MP22                            |                                    |                            |
| 0417   | CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS   | 1     | 1.3C                |               | 1      |                    | LQ0                             | E0   | P130                          |                                  | MP22                            |                                    |                            |
| 0418   | FLARES, SURFACE  | 1     | 1.1G                |               | 1      |                    | LQ0                             | E0   | P135                          |                                  | MP23                            |                                    |                            |
| 0419   | FLARES, SURFACE  | 1     | 1.2G                |               | 1      |                    | LQ0                             | E0   | P135                          |                                  | MP23                            |                                    |                            |
| 0420   | FLARES, AERIAL   | 1     | 1.1G                |               | 1      |                    | LQ0                             | E0   | P135                          |                                  | MP23                            |                                    |                            |
| 0421   | FLARES, AERIAL   | 1     | 1.2G                |               | 1      |                    | LQ0                             | E0   | P135                          |                                  | MP23                            |                                    |                            |
| 0424   | PROJECTILES, inert with tracer   | 1     | 1.3G                |               | 1      |                    | LQ0                             | E0   | P130<br>LP101                 | PP67<br>L1                       | MP23                            |                                    |                            |
| 0425   | PROJECTILES, inert with tracer   | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0   | P130<br>LP101                 | PP67<br>L1                       | MP23                            |                                    |                            |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0401   | DIPICRYL SULPHIDE, dry or wetted with less than 10% water, by mass                                   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0402   | AMMONIUM PERCHLORATE   |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0403   | FLARES, AERIAL   |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0404   | FLARES, AERIAL   |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0405   | CARTRIDGES, SIGNAL   |
|           |                    |                           | 1<br>(C5000D)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0406   | DINITROSOBENZENE   |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0407   | TETRAZOL-1-ACETIC ACID   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0408   | FUZES, DETONATING with protective features   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0409   | FUZES, DETONATING with protective features   |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0410   | FUZES, DETONATING with protective features   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0411   | PENTAERYTHRITOL TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN) with not less than 7% wax, by mass |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0412   | CARTRIDGES FOR WEAPONS with bursting charge  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0413   | CARTRIDGES FOR WEAPONS, BLANK  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0414   | CHARGES, PROPELLING, FOR CANNON  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0415   | CHARGES, PROPELLING  |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0417   | CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS                                   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0418   | FLARES, SURFACE  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0419   | FLARES, SURFACE  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0420   | FLARES, AERIAL   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0421   | FLARES, AERIAL   |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0424   | PROJECTILES, inert with tracer   |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0425   | PROJECTILES, inert with tracer   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |      | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |        |                    |                                 |      | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b) | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 0426   | PROJECTILES with burster or expelling charge                               | 1     | 1.2F                |               | 1      |                    | LQ0                             | E0   | P130                       |                                  | MP23                            |                                    |                            |
| 0427   | PROJECTILES with burster or expelling charge                               | 1     | 1.4F                |               | 1.4    |                    | LQ0                             | E0   | P130                       |                                  | MP23                            |                                    |                            |
| 0428   | ARTICLES, PYROTECHNIC for technical purposes                               | 1     | 1.1G                |               | 1      |                    | LQ0                             | E0   | P135                       |                                  | MP23<br>MP24                    |                                    |                            |
| 0429   | ARTICLES, PYROTECHNIC for technical purposes                               | 1     | 1.2G                |               | 1      |                    | LQ0                             | E0   | P135                       |                                  | MP23<br>MP24                    |                                    |                            |
| 0430   | ARTICLES, PYROTECHNIC for technical purposes                               | 1     | 1.3G                |               | 1      |                    | LQ0                             | E0   | P135                       |                                  | MP23<br>MP24                    |                                    |                            |
| 0431   | ARTICLES, PYROTECHNIC for technical purposes                               | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0   | P135                       |                                  | MP23<br>MP24                    |                                    |                            |
| 0432   | ARTICLES, PYROTECHNIC for technical purposes                               | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0   | P135                       |                                  | MP23<br>MP24                    |                                    |                            |
| 0433   | POWDER CAKE (POWDER PASTE), WETTED with not less than 17% alcohol, by mass | 1     | 1.1C                |               | 1      | 266                | LQ0                             | E0   | P111                       |                                  | MP20                            |                                    |                            |
| 0434   | PROJECTILES with burster or expelling charge                               | 1     | 1.2G                |               | 1      |                    | LQ0                             | E0   | P130<br>LP101              | PP67<br>L1                       | MP23                            |                                    |                            |
| 0435   | PROJECTILES with burster or expelling charge                               | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0   | P130<br>LP101              | PP67<br>L1                       | MP23                            |                                    |                            |
| 0436   | ROCKETS with expelling charge  | 1     | 1.2C                |               | 1      |                    | LQ0                             | E0   | P130<br>LP101              | PP67<br>L1                       | MP22                            |                                    |                            |
| 0437   | ROCKETS with expelling charge  | 1     | 1.3C                |               | 1      |                    | LQ0                             | E0   | P130<br>LP101              | PP67<br>L1                       | MP22                            |                                    |                            |
| 0438   | ROCKETS with expelling charge  | 1     | 1.4C                |               | 1.4    |                    | LQ0                             | E0   | P130<br>LP101              | PP67<br>L1                       | MP22                            |                                    |                            |
| 0439   | CHARGES, SHAPED, without detonator   | 1     | 1.2D                |               | 1      |                    | LQ0                             | E0   | P137                       | PP70                             | MP21                            |                                    |                            |
| 0440   | CHARGES, SHAPED, without detonator   | 1     | 1.4D                |               | 1.4    |                    | LQ0                             | E0   | P137                       | PP70                             | MP21                            |                                    |                            |
| 0441   | CHARGES, SHAPED, without detonator   | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0   | P137                       | PP70                             | MP23                            |                                    |                            |
| 0442   | CHARGES, EXPLOSIVE, COMMERCIAL without detonator                           | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0   | P137                       |                                  | MP21                            |                                    |                            |
| 0443   | CHARGES, EXPLOSIVE, COMMERCIAL without detonator                           | 1     | 1.2D                |               | 1      |                    | LQ0                             | E0   | P137                       |                                  | MP21                            |                                    |                            |
| 0444   | CHARGES, EXPLOSIVE, COMMERCIAL without detonator                           | 1     | 1.4D                |               | 1.4    |                    | LQ0                             | E0   | P137                       |                                  | MP21                            |                                    |                            |
| 0445   | CHARGES, EXPLOSIVE, COMMERCIAL without detonator                           | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0   | P137                       |                                  | MP23                            |                                    |                            |
| 0446   | CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER                                  | 1     | 1.4C                |               | 1.4    |                    | LQ0                             | E0   | P136                       |                                  | MP22                            |                                    |                            |
| 0447   | CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER                                  | 1     | 1.3C                |               | 1      |                    | LQ0                             | E0   | P136                       |                                  | MP22                            |                                    |                            |
| 0448   | 5-MERCAPTOTETRAZOL-1-ACETIC ACID   | 1     | 1.4C                |               | 1.4    |                    | LQ0                             | E0   | P114(b)                    |                                  | MP20                            |                                    |                            |
| 0449   | TORPEDOES, LIQUID FUELLED with or without bursting charge                  | 1     | 1.1J                |               | 1      |                    | LQ0                             | E0   | P101                       |                                  | MP23                            |                                    |                            |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0426   | PROJECTILES with burster or expelling charge                               |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0427   | PROJECTILES with burster or expelling charge                               |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0428   | ARTICLES, PYROTECHNIC for technical purposes                               |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0429   | ARTICLES, PYROTECHNIC for technical purposes                               |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0430   | ARTICLES, PYROTECHNIC for technical purposes                               |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0431   | ARTICLES, PYROTECHNIC for technical purposes                               |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0432   | ARTICLES, PYROTECHNIC for technical purposes                               |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0433   | POWDER CAKE (POWDER PASTE), WETTED with not less than 17% alcohol, by mass |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0434   | PROJECTILES with burster or expelling charge                               |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0435   | PROJECTILES with burster or expelling charge                               |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0436   | ROCKETS with expelling charge  |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0437   | ROCKETS with expelling charge  |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0438   | ROCKETS with expelling charge  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0439   | CHARGES, SHAPED, without detonator   |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0440   | CHARGES, SHAPED, without detonator   |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0441   | CHARGES, SHAPED, without detonator   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0442   | CHARGES, EXPLOSIVE, COMMERCIAL without detonator                           |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0443   | CHARGES, EXPLOSIVE, COMMERCIAL without detonator                           |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0444   | CHARGES, EXPLOSIVE, COMMERCIAL without detonator                           |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0445   | CHARGES, EXPLOSIVE, COMMERCIAL without detonator                           |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0446   | CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER                                  |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0447   | CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER                                  |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0448   | 5-MERCAPTOTETRAZOL-1-ACETIC ACID   |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0449   | TORPEDOES, LIQUID FUELLED with or without bursting charge                  |

| UN No. | Name and description                      | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging            |                            |                          | Portable tanks and bulk containers |                    |
|--------|---|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|----------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |   |       |                     |               |        |                    |                                 |         | Packing instructions | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2                                     | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2  | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)                                       | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                  | (9a)                       | (9b)                     | (10)                               | (11)               |
| 0450   | TORPEDOES, LIQUID FUELLED with inert head | 1     | 1.3J                |               | 1      |                    | LQ0                             | E0      | P101                 |                            | MP23                     |                                    |                    |
| 0451   | TORPEDOES with bursting charge            | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P130<br>LP101        | PP67<br>L1                 | MP21                     |                                    |                    |
| 0452   | GRENADES, PRACTICE, hand or rifle         | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0      | P141                 |                            | MP23                     |                                    |                    |
| 0453   | ROCKETS, LINE-THROWING                    | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0      | P130                 |                            | MP23                     |                                    |                    |
| 0454   | IGNITERS                                  | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P142                 |                            | MP23                     |                                    |                    |
| 0455   | DETONATORS, NON-ELECTRIC for blasting     | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P131                 | PP68                       | MP23                     |                                    |                    |
| 0456   | DETONATORS, ELECTRIC for blasting         | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P131                 |                            | MP23                     |                                    |                    |
| 0457   | CHARGES, BURSTING, PLASTICS BONDED        | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P130                 |                            | MP21                     |                                    |                    |
| 0458   | CHARGES, BURSTING, PLASTICS BONDED        | 1     | 1.2D                |               | 1      |                    | LQ0                             | E0      | P130                 |                            | MP21                     |                                    |                    |
| 0459   | CHARGES, BURSTING, PLASTICS BONDED        | 1     | 1.4D                |               | 1.4    |                    | LQ0                             | E0      | P130                 |                            | MP21                     |                                    |                    |
| 0460   | CHARGES, BURSTING, PLASTICS BONDED        | 1     | 1.4S                |               | 1.4    |                    | LQ0                             | E0      | P130                 |                            | MP23                     |                                    |                    |
| 0461   | COMPONENTS, EXPLOSIVE TRAIN, N.O.S.       | 1     | 1.1B                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |
| 0462   | ARTICLES, EXPLOSIVE, N.O.S.               | 1     | 1.1C                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |
| 0463   | ARTICLES, EXPLOSIVE, N.O.S.               | 1     | 1.1D                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |
| 0464   | ARTICLES, EXPLOSIVE, N.O.S.               | 1     | 1.1E                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |
| 0465   | ARTICLES, EXPLOSIVE, N.O.S.               | 1     | 1.1F                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |
| 0466   | ARTICLES, EXPLOSIVE, N.O.S.               | 1     | 1.2C                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |
| 0467   | ARTICLES, EXPLOSIVE, N.O.S.               | 1     | 1.2D                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |
| 0468   | ARTICLES, EXPLOSIVE, N.O.S.               | 1     | 1.2E                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |
| 0469   | ARTICLES, EXPLOSIVE, N.O.S.               | 1     | 1.2F                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |
| 0470   | ARTICLES, EXPLOSIVE, N.O.S.               | 1     | 1.3C                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |
| 0471   | ARTICLES, EXPLOSIVE, N.O.S.               | 1     | 1.4E                |               | 1.4    | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |
| 0472   | ARTICLES, EXPLOSIVE, N.O.S.               | 1     | 1.4F                |               | 1.4    | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |
| 0473   | SUBSTANCES, EXPLOSIVE, N.O.S.             | 1     | 1.1A                |               | 1      | 178<br>274         | LQ0                             | E0      | P101                 |                            | MP2                      |                                    |                    |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                      |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2                                     |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)                                       |
|           |                    |                           | 1<br>(C)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0450   | TORPEDOES, LIQUID FUELLED with inert head |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0451   | TORPEDOES with bursting charge            |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0452   | GRENADES, PRACTICE, hand or rifle         |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0453   | ROCKETS, LINE-THROWING                    |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0454   | IGNITERS                                  |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0455   | DETONATORS, NON-ELECTRIC for blasting     |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0456   | DETONATORS, ELECTRIC for blasting         |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0457   | CHARGES, BURSTING, PLASTICS BONDED        |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0458   | CHARGES, BURSTING, PLASTICS BONDED        |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0459   | CHARGES, BURSTING, PLASTICS BONDED        |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0460   | CHARGES, BURSTING, PLASTICS BONDED        |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0461   | COMPONENTS, EXPLOSIVE TRAIN, N.O.S.       |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0462   | ARTICLES, EXPLOSIVE, N.O.S.               |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0463   | ARTICLES, EXPLOSIVE, N.O.S.               |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0464   | ARTICLES, EXPLOSIVE, N.O.S.               |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0465   | ARTICLES, EXPLOSIVE, N.O.S.               |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0466   | ARTICLES, EXPLOSIVE, N.O.S.               |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0467   | ARTICLES, EXPLOSIVE, N.O.S.               |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0468   | ARTICLES, EXPLOSIVE, N.O.S.               |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0469   | ARTICLES, EXPLOSIVE, N.O.S.               |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0470   | ARTICLES, EXPLOSIVE, N.O.S.               |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0471   | ARTICLES, EXPLOSIVE, N.O.S.               |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0472   | ARTICLES, EXPLOSIVE, N.O.S.               |
|           |                    |                           | 0<br>(B)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0473   | SUBSTANCES, EXPLOSIVE, N.O.S.             |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |        |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 0474   | SUBSTANCES, EXPLOSIVE, N.O.S.  | 1     | 1.1C                |               | 1      | 178 274            | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0475   | SUBSTANCES, EXPLOSIVE, N.O.S.  | 1     | 1.1D                |               | 1      | 178 274            | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0476   | SUBSTANCES, EXPLOSIVE, N.O.S.  | 1     | 1.1G                |               | 1      | 178 274            | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0477   | SUBSTANCES, EXPLOSIVE, N.O.S.  | 1     | 1.3C                |               | 1      | 178 274            | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0478   | SUBSTANCES, EXPLOSIVE, N.O.S.  | 1     | 1.3G                |               | 1      | 178 274            | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0479   | SUBSTANCES, EXPLOSIVE, N.O.S.  | 1     | 1.4C                |               | 1.4    | 178 274            | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0480   | SUBSTANCES, EXPLOSIVE, N.O.S.  | 1     | 1.4D                |               | 1.4    | 178 274            | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0481   | SUBSTANCES, EXPLOSIVE, N.O.S.  | 1     | 1.4S                |               | 1.4    | 178 274            | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0482   | SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE (SUBSTANCES, EVI), N.O.S.        | 1     | 1.5D                |               | 1.5    | 178 274            | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0483   | CYCLOTETRAMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX), DESENSITIZED | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(b) P112(c)            |                                  | MP20                            |                                    |                            |
| 0484   | CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN), DESENSITIZED          | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(b) P112(c)            |                                  | MP20                            |                                    |                            |
| 0485   | SUBSTANCES, EXPLOSIVE, N.O.S.  | 1     | 1.4G                |               | 1.4    | 178 274            | LQ0                             | E0      | P101                       |                                  | MP2                             |                                    |                            |
| 0486   | ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES, EEI)               | 1     | 1.6N                |               | 1.6    |                    | LQ0                             | E0      | P101                       |                                  | MP23                            |                                    |                            |
| 0487   | SIGNALS, SMOKE   | 1     | 1.3G                |               | 1      |                    | LQ0                             | E0      | P135                       |                                  | MP23                            |                                    |                            |
| 0488   | AMMUNITION, PRACTICE   | 1     | 1.3G                |               | 1      |                    | LQ0                             | E0      | P130 LP101                 | PP67 L1                          | MP23                            |                                    |                            |
| 0489   | DINITROGLYCOURIL (DINGU)   | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(b) P112(c)            |                                  | MP20                            |                                    |                            |
| 0490   | NITROTRIAZOLONE (NTO)  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(b) P112(c)            |                                  | MP20                            |                                    |                            |
| 0491   | CHARGES, PROPELLING  | 1     | 1.4C                |               | 1.4    |                    | LQ0                             | E0      | P143                       | PP76                             | MP22                            |                                    |                            |
| 0492   | SIGNALS, RAILWAY TRACK, EXPLOSIVE  | 1     | 1.3G                |               | 1      |                    | LQ0                             | E0      | P135                       |                                  | MP23                            |                                    |                            |
| 0493   | SIGNALS, RAILWAY TRACK, EXPLOSIVE  | 1     | 1.4G                |               | 1.4    |                    | LQ0                             | E0      | P135                       |                                  | MP23                            |                                    |                            |
| 0494   | JET PERFORATING GUNS, CHARGED, oil well, without detonator               | 1     | 1.4D                |               | 1.4    |                    | LQ0                             | E0      | P101                       |                                  | MP21                            |                                    |                            |
| 0495   | PROPELLANT, LIQUID   | 1     | 1.3C                |               | 1      | 224                | LQ0                             | E0      | P115                       | PP53 PP54 PP57 PP58              | MP20                            |                                    |                            |
| 0496   | OCTONAL  | 1     | 1.1D                |               | 1      |                    | LQ0                             | E0      | P112(b) P112(c)            |                                  | MP20                            |                                    |                            |



| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0474   | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0475   | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0476   | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 1<br>(C5000D)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0477   | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 1<br>(C5000D)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0478   | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0479   | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0480   | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0481   | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0482   | SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE (SUBSTANCES, EVI), N.O.S.      |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0483   | CYCLOTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX), DESENSITIZED |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0484   | CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN), DESENSITIZED        |
|           |                    |                           | 2<br>(E)                                     | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0485   | SUBSTANCES, EXPLOSIVE, N.O.S.  |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0486   | ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES, EEI)             |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0487   | SIGNALS, SMOKE   |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0488   | AMMUNITION, PRACTICE   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0489   | DINITROGLYCOURIL (DINGU)   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0490   | NITROTRIAZOLONE (NTO)  |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0491   | CHARGES, PROPELLING  |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0492   | SIGNALS, RAILWAY TRACK, EXPLOSIVE                                      |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0493   | SIGNALS, RAILWAY TRACK, EXPLOSIVE                                      |
|           |                    |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0494   | JET PERFORATING GUNS, CHARGED, oil well, without detonator             |
|           |                    |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0495   | PROPELLANT, LIQUID   |
|           |                    |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0496   | OCTONAL  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 0497   | PROPELLANT, LIQUID  | 1     | 1.1C                |               | 1           | 224                | LQ0                             | E0      | P115                       | PP53 PP54<br>PP57 PP58           | MP20                            |                                    |                            |
| 0498   | PROPELLANT, SOLID   | 1     | 1.1C                |               | 1           |                    | LQ0                             | E0      | P114(b)                    |                                  | MP20                            |                                    |                            |
| 0499   | PROPELLANT, SOLID   | 1     | 1.3C                |               | 1           |                    | LQ0                             | E0      | P114(b)                    |                                  | MP20                            |                                    |                            |
| 0500   | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting   | 1     | 1.4S                |               | 1.4         |                    | LQ0                             | E0      | P131                       |                                  | MP23                            |                                    |                            |
| 0501   | PROPELLANT, SOLID   | 1     | 1.4C                |               | 1.4         |                    | LQ0                             | E0      | P114(b)                    |                                  | MP20                            |                                    |                            |
| 0502   | ROCKETS with inert head   | 1     | 1.2C                |               | 1           |                    | LQ0                             | E0      | P130<br>LP101              | PP67<br>L1                       | MP22                            |                                    |                            |
| 0503   | AIR BAG INFLATORS or AIR BAG MODULES or SEAT-BELT PRETENSIONERS   | 1     | 1.4G                |               | 1.4         | 235<br>289         | LQ0                             | E0      | P135                       |                                  | MP23                            |                                    |                            |
| 0504   | 1H-TETRAZOLE  | 1     | 1.1D                |               | 1           |                    | LQ0                             | E0      | P112(c)                    | PP48                             | MP20                            |                                    |                            |
| 0505   | SIGNALS, DISTRESS, ship   | 1     | 1.4G                |               | 1.4         |                    | LQ0                             | E0      | P135                       |                                  | MP23<br>MP24                    |                                    |                            |
| 0506   | SIGNALS, DISTRESS, ship   | 1     | 1.4S                |               | 1.4         |                    | LQ0                             | E0      | P135                       |                                  | MP23<br>MP24                    |                                    |                            |
| 0507   | SIGNALS, SMOKE  | 1     | 1.4S                |               | 1.4         |                    | LQ0                             | E0      | P135                       |                                  | MP23<br>MP24                    |                                    |                            |
| 0508   | 1-HYDROXY-BENZOTRIAZOLE, ANHYDROUS, dry or wetted with less than 20% water, by mass   | 1     | 1.3C                |               | 1           |                    | LQ0                             | E0      | P114(b)                    | PP48 PP50                        | MP20                            |                                    |                            |
| 1001   | ACETYLENE, DISSOLVED  | 2     | 4F                  |               | 2.1         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             |                                    |                            |
| 1002   | AIR, COMPRESSED   | 2     | 1A                  |               | 2.2         | 292                | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1003   | AIR, REFRIGERATED LIQUID  | 2     | 3O                  |               | 2.2<br>+5.1 |                    | LQ0                             | E0      | P203                       |                                  | MP9                             | T75                                | TP5<br>TP22                |
| 1005   | AMMONIA, ANHYDROUS  | 2     | 2TC                 |               | 2.3<br>+8   | 23                 | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1006   | ARGON, COMPRESSED   | 2     | 1A                  |               | 2.2         |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1008   | BORON TRIFLUORIDE   | 2     | 2TC                 |               | 2.3<br>+8   |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1009   | BROMOTRIFLUORO-METHANE (REFRIGERANT GAS R 13B1)   | 2     | 2A                  |               | 2.2         |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1010   | BUTADIENES, STABILIZED or BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, having a vapour pressure at 70 °C not exceeding 1.1 Mpa (11 bar) and a density at 50 °C not lower than 0.525 kg/l | 2     | 2F                  |               | 2.1         | 618                | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1011   | BUTANE  | 2     | 2F                  |               | 2.1         | 652                | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
|           |                        |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0497   | PROPELLANT, LIQUID  |
|           |                        |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0498   | PROPELLANT, SOLID   |
|           |                        |                           | 1<br>(C5000D)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0499   | PROPELLANT, SOLID   |
|           |                        |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0500   | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting   |
|           |                        |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0501   | PROPELLANT, SOLID   |
|           |                        |                           | 1<br>(B1000C)                                | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0502   | ROCKETS with inert head   |
|           |                        |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0503   | AIR BAG INFLATORS or AIR BAG MODULES or SEAT-BELT PRETENSIONERS   |
|           |                        |                           | 1<br>(B1000C)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0504   | 1H-TETRAZOLE  |
|           |                        |                           | 2<br>(E)                                     | V2                              |       | CV1<br>CV2<br>CV3               | S1        |                           | 0505   | SIGNALS, DISTRESS, ship   |
|           |                        |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0506   | SIGNALS, DISTRESS, ship   |
|           |                        |                           | 4<br>(E)                                     |                                 |       | CV1<br>CV2<br>CV3               | S1        |                           | 0507   | SIGNALS, SMOKE  |
|           |                        |                           | 1<br>(C5000D)                                | V2<br>V3                        |       | CV1<br>CV2<br>CV3               | S1        |                           | 0508   | 1-HYDROXY-BENZOTRIAZOLE, ANHYDROUS, dry or wetted with less than 20% water, by mass   |
| PxBN(M)   | TU17<br>TA4<br>TT9     | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2        | 239                       | 1001   | ACETYLENE, DISSOLVED  |
| CxBN(M)   | TA4<br>TT9             | AT                        | 3<br>(E)                                     |                                 |       | CV9<br>CV10                     |           | 20                        | 1002   | AIR, COMPRESSED   |
| RxBN      | TU7 TU19<br>TA4<br>TT9 | AT                        | 3<br>(C/E)                                   | V5                              |       | CV9<br>CV11<br>CV36             | S20       | 225                       | 1003   | AIR, REFRIGERATED LIQUID  |
| PxBH(M)   | TA4<br>TT8 TT9         | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 268                       | 1005   | AMMONIA, ANHYDROUS  |
| CxBN(M)   | TA4<br>TT9             | AT                        | 3<br>(E)                                     |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1006   | ARGON, COMPRESSED   |
| PxBH(M)   | TA4<br>TT9             | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 268                       | 1008   | BORON TRIFLUORIDE   |
| PxBN(M)   | TA4<br>TT9             | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1009   | BROMOTRIFLUOROMETHANE (REFRIGERANT GAS R 13B1)  |
| PxBN(M)   | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 239                       | 1010   | BUTADIENES, STABILIZED or BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, having a vapour pressure at 70 °C not exceeding 1.1 Mpa (11 bar) and a density at 50 °C not lower than 0.525 kg/l |
| PxBN(M)   | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1011   | BUTANE  |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1012   | BUTYLENES MIXTURE or 1-BUTYLENE or cis-2-BUTYLENE or trans-2-BUTYLENE          | 2     | 2F                  |               | 2.1         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1013   | CARBON DIOXIDE   | 2     | 2A                  |               | 2.2         | 584 653            | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1016   | CARBON MONOXIDE, COMPRESSED  | 2     | 1TF                 |               | 2.3 +2.1    |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1017   | CHLORINE   | 2     | 2TOC                |               | 2.3 +5.1 +8 |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            | TP19                       |
| 1018   | CHLORODIFLUOROMETHANE (REFRIGERANT GAS R 22)                                   | 2     | 2A                  |               | 2.2         |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1020   | CHLOROPENTAFLUOROETHANE (REFRIGERANT GAS R 115)                                | 2     | 2A                  |               | 2.2         |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1021   | 1-CHLORO-1,2,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 124)                     | 2     | 2A                  |               | 2.2         |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1022   | CHLOROTRIFLUOROMETHANE (REFRIGERANT GAS R 13)                                  | 2     | 2A                  |               | 2.2         |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1023   | COAL GAS, COMPRESSED   | 2     | 1TF                 |               | 2.3 +2.1    |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1026   | CYANOGEN   | 2     | 2TF                 |               | 2.3 +2.1    |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1027   | CYCLOPROPANE   | 2     | 2F                  |               | 2.1         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1028   | DICHLORODIFLUOROMETHANE (REFRIGERANT GAS R 12)                                 | 2     | 2A                  |               | 2.2         |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1029   | DICHLOROFLUOROMETHANE (REFRIGERANT GAS R 21)                                   | 2     | 2A                  |               | 2.2         |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1030   | 1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152a)                                    | 2     | 2F                  |               | 2.1         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1032   | DIMETHYLAMINE, ANHYDROUS   | 2     | 2F                  |               | 2.1         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1033   | DIMETHYL ETHER   | 2     | 2F                  |               | 2.1         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1035   | ETHANE   | 2     | 2F                  |               | 2.1         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1036   | ETHYLAMINE   | 2     | 2F                  |               | 2.1         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1037   | ETHYL CHLORIDE   | 2     | 2F                  |               | 2.1         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1038   | ETHYLENE, REFRIGERATED LIQUID  | 2     | 3F                  |               | 2.1         |                    | LQ0                             | E0      | P203                       |                                  | MP9                             | T75                                | TP5                        |
| 1039   | ETHYL METHYL ETHER   | 2     | 2F                  |               | 2.1         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1040   | ETHYLENE OXIDE   | 2     | 2TF                 |               | 2.3 +2.1    |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1040   | ETHYLENE OXIDE WITH NITROGEN up to a total pressure of 1 MPa (10 bar) at 50 °C | 2     | 2TF                 |               | 2.3 +2.1    |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            | TP20                       |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1012   | BUTYLENES MIXTURE or 1-BUTYLENE or cis-2-BUTYLENE or trans-2-BUTYLENE          |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1013   | CARBON DIOXIDE   |
| CxBH(M)   | TA4<br>TT9         | FL                        | 1<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 1016   | CARBON MONOXIDE, COMPRESSED  |
| P22DH(M)  | TA4<br>TT9         | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 265                       | 1017   | CHLORINE   |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1018   | CHLORODIFLUORO-METHANE (REFRIGERANT GAS R 22)                                  |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1020   | CHLOROPENTAFLUORO-ETHANE (REFRIGERANT GAS R 115)                               |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1021   | 1-CHLORO-1,2,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 124)                     |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1022   | CHLOROTRIFLUORO-METHANE (REFRIGERANT GAS R 13)                                 |
| CxBH(M)   | TA4<br>TT9         | FL                        | 1<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 1023   | COAL GAS, COMPRESSED   |
| PxBH(M)   | TA4<br>TT9         | FL                        | 1<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 1026   | CYANOGEN   |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1027   | CYCLOPROPANE   |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1028   | DICHLORODIFLUORO-METHANE (REFRIGERANT GAS R 12)                                |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1029   | DICHLOROFLUORO-METHANE (REFRIGERANT GAS R 21)                                  |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1030   | 1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152a)                                    |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1032   | DIMETHYLAMINE, ANHYDROUS   |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1033   | DIMETHYL ETHER   |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1035   | ETHANE   |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1036   | ETHYLAMINE   |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1037   | ETHYL CHLORIDE   |
| RxBN      | TU18<br>TA4<br>TT9 | FL                        | 2<br>(B/D)                                   | V5                              |       | CV9<br>CV11<br>CV36             | S2 S17    | 223                       | 1038   | ETHYLENE, REFRIGERATED LIQUID  |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1039   | ETHYL METHYL ETHER   |
|           |                    | FL                        | 1<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 1040   | ETHYLENE OXIDE   |
| PxBH(M)   | TA4<br>TT9         | FL                        | 1<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 1040   | ETHYLENE OXIDE WITH NITROGEN up to a total pressure of 1 MPa (10 bar) at 50 °C |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging            |                            |                          | Portable tanks and bulk containers |                    |
|--------|--|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|----------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |  |       |                     |               |                   |                    |                                 |         | Packing instructions | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2  | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2             | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                  | (9a)                       | (9b)                     | (10)                               | (11)               |
| 1041   | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 9% but not more than 87% ethylene oxide | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                 |                            | MP9                      | (M)<br>T50                         |                    |
| 1043   | FERTILIZER AMMONIATING SOLUTION with free ammonia  | 2     | 4A                  |               | 2.2               | 642                |                                 |         |                      |                            |                          |                                    |                    |
| 1044   | FIRE EXTINGUISHERS with compressed or liquefied gas  | 2     | 6A                  |               | 2.2               | 225<br>594         | LQ0                             | E0      | P003                 |                            | MP9                      |                                    |                    |
| 1045   | FLUORINE, COMPRESSED   | 2     | 1TOC                |               | 2.3<br>+5.1<br>+8 |                    | LQ0                             | E0      | P200                 |                            | MP9                      |                                    |                    |
| 1046   | HELIUM, COMPRESSED   | 2     | 1A                  |               | 2.2               |                    | LQ1                             | E1      | P200                 |                            | MP9                      | (M)                                |                    |
| 1048   | HYDROGEN BROMIDE, ANHYDROUS  | 2     | 2TC                 |               | 2.3<br>+8         |                    | LQ0                             | E0      | P200                 |                            | MP9                      | (M)                                |                    |
| 1049   | HYDROGEN, COMPRESSED   | 2     | 1F                  |               | 2.1               |                    | LQ0                             | E0      | P200                 |                            | MP9                      | (M)                                |                    |
| 1050   | HYDROGEN CHLORIDE, ANHYDROUS   | 2     | 2TC                 |               | 2.3<br>+8         |                    | LQ0                             | E0      | P200                 |                            | MP9                      | (M)                                |                    |
| 1051   | HYDROGEN CYANIDE, STABILIZED containing less than 3% water                                       | 6.1   | TF1                 | I             | 6.1<br>+3         | 603                | LQ0                             | E5      | P200                 |                            | MP2                      |                                    |                    |
| 1052   | HYDROGEN FLUORIDE, ANHYDROUS   | 8     | CT1                 | I             | 8<br>+6.1         |                    | LQ0                             | E0      | P200                 |                            | MP2                      | T10                                | TP2                |
| 1053   | HYDROGEN SULPHIDE  | 2     | 2TF                 |               | 2.3<br>+2.1       |                    | LQ0                             | E0      | P200                 |                            | MP9                      | (M)                                |                    |
| 1055   | ISOBUTYLENE  | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                 |                            | MP9                      | (M)<br>T50                         |                    |
| 1056   | KRYPTON, COMPRESSED  | 2     | 1A                  |               | 2.2               |                    | LQ1                             | E1      | P200                 |                            | MP9                      | (M)                                |                    |
| 1057   | LIGHTERS or LIGHTER REFILLS containing flammable gas   | 2     | 6F                  |               | 2.1               | 201<br>654         | LQ0                             | E0      | P002                 | PP84<br>RR5                | MP9                      |                                    |                    |
| 1058   | LIQUEFIED GASES, non-flammable, charged with nitrogen, carbon dioxide or air                     | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                 |                            | MP9                      | (M)                                |                    |
| 1060   | METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED such as mixture P1 or mixture P2              | 2     | 2F                  |               | 2.1               | 581                | LQ0                             | E0      | P200                 |                            | MP9                      | (M)<br>T50                         |                    |
| 1061   | METHYLAMINE, ANHYDROUS   | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                 |                            | MP9                      | (M)<br>T50                         |                    |
| 1062   | METHYL BROMIDE with not more than 2% chloropicrin  | 2     | 2T                  |               | 2.3               | 23                 | LQ0                             | E0      | P200                 |                            | MP9                      | (M)<br>T50                         |                    |
| 1063   | METHYL CHLORIDE (REFRIGERANT GAS R 40)   | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                 |                            | MP9                      | (M)<br>T50                         |                    |
| 1064   | METHYL MERCAPTAN   | 2     | 2TF                 |               | 2.3<br>+2.1       |                    | LQ0                             | E0      | P200                 |                            | MP9                      | (M)<br>T50                         |                    |
| 1065   | NEON, COMPRESSED   | 2     | 1A                  |               | 2.2               |                    | LQ1                             | E1      | P200                 |                            | MP9                      | (M)                                |                    |
| 1066   | NITROGEN, COMPRESSED   | 2     | 1A                  |               | 2.2               |                    | LQ1                             | E1      | P200                 |                            | MP9                      | (M)                                |                    |

| ADR tank  |                                      | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |                  | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|------------------|---------------------------|--------|--|
| Tank code | Special provisions                   |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation        |                           |        |  |
| 4.3       | 4.3.5, 6.8.4                         | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5              | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                                 | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)             | (20)                      | (1)    | (2)  |
| PxBN(M)   | TA4<br>TT9                           | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20           | 239                       | 1041   | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 9% but not more than 87% ethylene oxide |
|           |                                      |                           | (E)  |                                 |       |                                 |                  |                           | 1043   | FERTILIZER AMMONIATING SOLUTION with free ammonia  |
|           |                                      |                           | 3<br>(E)                                     |                                 |       | CV9                             |                  |                           | 1044   | FIRE EXTINGUISHERS with compressed or liquefied gas  |
|           |                                      |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S14              |                           | 1045   | FLUORINE, COMPRESSED   |
| CxBN(M)   | TA4<br>TT9                           | AT                        | 3<br>(E)                                     |                                 |       | CV9<br>CV10<br>CV36             |                  | 20                        | 1046   | HELIUM, COMPRESSED   |
| PxBH(M)   | TA4<br>TT9                           | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14              | 268                       | 1048   | HYDROGEN BROMIDE, ANHYDROUS  |
| CxBN(M)   | TA4<br>TT9                           | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20           | 23                        | 1049   | HYDROGEN, COMPRESSED   |
| PxBH(M)   | TA4<br>TT9                           | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14              | 268                       | 1050   | HYDROGEN CHLORIDE, ANHYDROUS   |
|           |                                      |                           | 0<br>(D)                                     |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S10<br>S14 |                           | 1051   | HYDROGEN CYANIDE, STABILIZED containing less than 3% water                                       |
| L21DH(+)  | TU14 TU34<br>TC1 TE21 TA4<br>TT9 TM3 | AT                        | 1<br>(C/D)                                   |                                 |       | CV13<br>CV28<br>CV34            | S14              | 886                       | 1052   | HYDROGEN FLUORIDE, ANHYDROUS   |
| PxDH(M)   | TA4<br>TT9                           | FL                        | 1<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S14           | 263                       | 1053   | HYDROGEN SULPHIDE  |
| PxBN(M)   | TA4<br>TT9                           | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20           | 23                        | 1055   | ISOBUTYLENE  |
| CxBN(M)   | TA4<br>TT9                           | AT                        | 3<br>(E)                                     |                                 |       | CV9<br>CV10<br>CV36             |                  | 20                        | 1056   | KRYPTON, COMPRESSED  |
|           |                                      |                           | 2<br>(D)                                     |                                 |       | CV9                             | S2               |                           | 1057   | LIGHTERS or LIGHTER REFILLS containing flammable gas   |
| PxBN(M)   | TA4<br>TT9                           | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |                  | 20                        | 1058   | LIQUEFIED GASES, non-flammable, charged with nitrogen, carbon dioxide or air                     |
| PxBN(M)   | TA4<br>TT9                           | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20           | 239                       | 1060   | METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED such as mixture P1 or mixture P2              |
| PxBN(M)   | TA4<br>TT9                           | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20           | 23                        | 1061   | METHYLAMINE, ANHYDROUS   |
| PxBH(M)   | TA4<br>TT9                           | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14              | 26                        | 1062   | METHYL BROMIDE with not more than 2% chloropicrin  |
| PxBN(M)   | TA4<br>TT9                           | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20           | 23                        | 1063   | METHYL CHLORIDE (REFRIGERANT GAS R 40)   |
| PxDH(M)   | TA4<br>TT9                           | FL                        | 1<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S14           | 263                       | 1064   | METHYL MERCAPTAN   |
| CxBN(M)   | TA4<br>TT9                           | AT                        | 3<br>(E)                                     |                                 |       | CV9<br>CV10<br>CV36             |                  | 20                        | 1065   | NEON, COMPRESSED   |
| CxBN(M)   | TA4<br>TT9                           | AT                        | 3<br>(E)                                     |                                 |       | CV9<br>CV10<br>CV36             |                  | 20                        | 1066   | NITROGEN, COMPRESSED   |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |                   |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1067   | DINITROGEN TETROXIDE (NITROGEN DIOXIDE)                               | 2     | 2TOC                |               | 2.3<br>+5.1<br>+8 |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | T50                                | TP21                       |
| 1069   | NITROSYL CHLORIDE   | 2     | 2TC                 |               | 2.3<br>+8         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             |                                    |                            |
| 1070   | NITROUS OXIDE   | 2     | 2O                  |               | 2.2<br>+5.1       | 584                | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1071   | OIL GAS, COMPRESSED   | 2     | 1TF                 |               | 2.3<br>+2.1       |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1072   | OXYGEN, COMPRESSED  | 2     | 1O                  |               | 2.2<br>+5.1       |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1073   | OXYGEN, REFRIGERATED LIQUID   | 2     | 3O                  |               | 2.2<br>+5.1       |                    | LQ0                             | E0      | P203                       |                                  | MP9                             | T75                                | TP5<br>TP22                |
| 1075   | PETROLEUM GASES, LIQUEFIED  | 2     | 2F                  |               | 2.1               | 274<br>583<br>639  | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1076   | PHOSGENE  | 2     | 2TC                 |               | 2.3<br>+8         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             |                                    |                            |
| 1077   | PROPYLENE   | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1078   | REFRIGERANT GAS, N.O.S., such as mixture F1, mixture F2 or mixture F3 | 2     | 2A                  |               | 2.2               | 274<br>582         | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1079   | SULPHUR DIOXIDE   | 2     | 2TC                 |               | 2.3<br>+8         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         | TP19                       |
| 1080   | SULPHUR HEXAFLUORIDE  | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1081   | TETRAFLUOROETHYLENE, STABILIZED                                       | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1082   | TRIFLUOROCHLORO-ETHYLENE, STABILIZED                                  | 2     | 2TF                 |               | 2.3<br>+2.1       |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1083   | TRIMETHYLAMINE, ANHYDROUS   | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1085   | VINYL BROMIDE, STABILIZED   | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1086   | VINYL CHLORIDE, STABILIZED  | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1087   | VINYL METHYL ETHER, STABILIZED  | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1088   | ACETAL  | 3     | F1                  | II            | 3                 |                    | LQ4                             | E2      | P001<br>IBC02<br>R001      |                                  | MP19                            | T4                                 | TP1                        |
| 1089   | ACETALDEHYDE  | 3     | F1                  | I             | 3                 |                    | LQ3                             | E3      | P001                       |                                  | MP7<br>MP17                     | T11                                | TP2<br>TP7                 |
| 1090   | ACETONE   | 3     | F1                  | II            | 3                 |                    | LQ4                             | E2      | P001<br>IBC02<br>R001      |                                  | MP19                            | T4                                 | TP1                        |
| 1091   | ACETONE OILS  | 3     | F1                  | II            | 3                 |                    | LQ4                             | E2      | P001<br>IBC02<br>R001      |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1092   | ACROLEIN, STABILIZED  | 6.1   | TF1                 | I             | 6.1<br>+3         |                    | LQ0                             | E5      | P601                       |                                  | MP8<br>MP17                     | T22                                | TP2 TP7<br>TP35            |
| 1093   | ACRYLONITRILE, STABILIZED   | 3     | FT1                 | I             | 3<br>+6.1         |                    | LQ0                             | E0      | P001                       |                                  | MP7<br>MP17                     | T14                                | TP2                        |



| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| PxBH(M)   | TU17<br>TA4<br>TT9     | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 265                       | 1067   | DINITROGEN TETROXIDE<br>(NITROGEN DIOXIDE)                                  |
|           |                        |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S14       |                           | 1069   | NITROSYL CHLORIDE   |
| PxBN(M)   | TA4<br>TT9             | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 25                        | 1070   | NITROUS OXIDE   |
| CxBH(M)   | TA4<br>TT9             | FL                        | 1<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 1071   | OIL GAS, COMPRESSED   |
| CxBN(M)   | TA4<br>TT9             | AT                        | 3<br>(E)                                     |                                 |       | CV9<br>CV10<br>CV36             |           | 25                        | 1072   | OXYGEN, COMPRESSED  |
| RxBN      | TU7 TU19<br>TA4<br>TT9 | AT                        | 3<br>(C/E)                                   | V5                              |       | CV9<br>CV11<br>CV36             | S20       | 225                       | 1073   | OXYGEN, REFRIGERATED<br>LIQUID  |
| PxBN(M)   | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1075   | PETROLEUM GASES,<br>LIQUEFIED   |
| P22DH(M)  | TU17<br>TA4<br>TT9     | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 268                       | 1076   | PHOSGENE  |
| PxBN(M)   | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1077   | PROPYLENE   |
| PxBN(M)   | TA4<br>TT9             | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1078   | REFRIGERANT GAS, N.O.S.,<br>such as mixture F1, mixture F2<br>or mixture F3 |
| PxDH(M)   | TA4<br>TT9             | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 268                       | 1079   | SULPHUR DIOXIDE   |
| PxBN(M)   | TA4<br>TT9             | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1080   | SULPHUR HEXAFLUORIDE  |
|           |                        | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    |                           | 1081   | TETRAFLUOROETHYLENE,<br>STABILIZED  |
| PxBH(M)   | TA4<br>TT9             | FL                        | 1<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 1082   | TRIFLUOROCHLORO-<br>ETHYLENE, STABILIZED                                    |
| PxBN(M)   | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1083   | TRIMETHYLAMINE,<br>ANHYDROUS  |
| PxBN(M)   | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 239                       | 1085   | VINYL BROMIDE,<br>STABILIZED  |
| PxBN(M)   | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 239                       | 1086   | VINYL CHLORIDE,<br>STABILIZED   |
| PxBN(M)   | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 239                       | 1087   | VINYL METHYL ETHER,<br>STABILIZED   |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1088   | ACETAL  |
| L4BN      | TU8                    | FL                        | 1<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1089   | ACETALDEHYDE  |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1090   | ACETONE   |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1091   | ACETONE OILS  |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 1092   | ACROLEIN, STABILIZED  |
| L10CH     | TU14 TU15<br>TE21      | FL                        | 1<br>(C/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 1093   | ACRYLONITRILE,<br>STABILIZED  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|-----------------------|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |                       |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)                   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1098   | ALLYL ALCOHOL         | 6.1   | TF1                 | I             | 6.1<br>+3 |                    | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     | T20                                | TP2<br>TP35                |
| 1099   | ALLYL BROMIDE         | 3     | FT1                 | I             | 3<br>+6.1 |                    | LQ0                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2                        |
| 1100   | ALLYL CHLORIDE        | 3     | FT1                 | I             | 3<br>+6.1 |                    | LQ0                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2                        |
| 1104   | AMYL ACETATES         | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1105   | PENTANOLS             | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 1105   | PENTANOLS             | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1106   | AMYLAMINE             | 3     | FC                  | II            | 3<br>+8   |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 1106   | AMYLAMINE             | 3     | FC                  | III           | 3<br>+8   |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1107   | AMYL CHLORIDE         | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1108   | 1-PENTENE (n-AMYLENE) | 3     | F1                  | I             | 3         |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 1109   | AMYL FORMATES         | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1110   | n-AMYL METHYL KETONE  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1111   | AMYL MERCAPTAN        | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1112   | AMYL NITRATE          | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1113   | AMYL NITRITE          | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1114   | BENZENE               | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1120   | BUTANOLS              | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 1120   | BUTANOLS              | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1123   | BUTYL ACETATES        | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1123   | BUTYL ACETATES        | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1125   | n-BUTYLAMINE          | 3     | FC                  | II            | 3<br>+8   |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 1126   | 1-BROMOBUTANE         | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1127   | CHLOROBUTANES         | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|-----------------------|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |                       |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2                 |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)                   |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 1098   | ALLYL ALCOHOL         |
| L10CH     | TU14 TU15<br>TE21      | FL                        | 1<br>(C/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 1099   | ALLYL BROMIDE         |
| L10CH     | TU14 TU15<br>TE21      | FL                        | 1<br>(C/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 1100   | ALLYL CHLORIDE        |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1104   | AMYL ACETATES         |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1105   | PENTANOLS             |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1105   | PENTANOLS             |
| L4BH      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 1106   | AMYLAMINE             |
| L4BN      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 38                        | 1106   | AMYLAMINE             |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1107   | AMYL CHLORIDE         |
| L4BN      |                        | FL                        | 1<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1108   | 1-PENTENE (n-AMYLENE) |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1109   | AMYL FORMATES         |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1110   | n-AMYL METHYL KETONE  |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1111   | AMYL MERCAPTAN        |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1112   | AMYL NITRATE          |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1113   | AMYL NITRITE          |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1114   | BENZENE               |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1120   | BUTANOLS              |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1120   | BUTANOLS              |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1123   | BUTYL ACETATES        |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1123   | BUTYL ACETATES        |
| L4BH      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 1125   | n-BUTYLAMINE          |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1126   | 1-BROMOBUTANE         |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1127   | CHLOROBUTANES         |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1128   | n-BUTYL FORMATE  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1129   | BUTYRALDEHYDE  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1130   | CAMPHOR OIL  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1131   | CARBON DISULPHIDE  | 3     | FT1                 | I             | 3<br>+6.1 |                    | LQ0                             | E0      | P001                          | PP31                             | MP7<br>MP17                     | T14                                | TP2<br>TP7                 |
| 1133   | ADHESIVES containing flammable liquid  | 3     | F1                  | I             | 3         |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP1<br>TP8<br>TP27         |
| 1133   | ADHESIVES containing flammable liquid (vapour pressure at 50 °C more than 110 kPa)   | 3     | F1                  | II            | 3         | 640C               | LQ6                             | E2      | P001                          | PP1                              | MP19                            | T4                                 | TP1<br>TP8                 |
| 1133   | ADHESIVES containing flammable liquid (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | II            | 3         | 640D               | LQ6                             | E2      | P001<br>IBC02<br>R001         | PP1                              | MP19                            | T4                                 | TP1<br>TP8                 |
| 1133   | ADHESIVES containing flammable liquid  | 3     | F1                  | III           | 3         | 640E               | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 | PP1                              | MP19                            | T2                                 | TP1                        |
| 1133   | ADHESIVES containing flammable liquid (having a flash point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  | 3     | F1                  | III           | 3         | 640F               | LQ7                             | E1      | P001<br>LP01<br>R001          | PP1                              | MP19                            | T2                                 | TP1                        |
| 1133   | ADHESIVES containing flammable liquid (having a flash point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) | 3     | F1                  | III           | 3         | 640G               | LQ7                             | E1      | P001<br>LP01<br>R001          | PP1                              | MP19                            | T2                                 | TP1                        |
| 1133   | ADHESIVES containing flammable liquid (having a flash point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               | 3     | F1                  | III           | 3         | 640H               | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 | PP1                              | MP19                            | T2                                 | TP1                        |
| 1134   | CHLOROBENZENE  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1135   | ETHYLENE CHLOROXYDRIN  | 6.1   | TF1                 | I             | 6.1<br>+3 |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1136   | COAL TAR DISTILLATES, FLAMMABLE  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1136   | COAL TAR DISTILLATES, FLAMMABLE  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 1139   | COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining)                                      | 3     | F1                  | I             | 3         |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP1<br>TP8<br>TP27         |

| ADR tank  |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1128   | n-BUTYL FORMATE  |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1129   | BUTYRALDEHYDE  |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1130   | CAMPHOR OIL  |
| L10CH     | TU14 TU15 TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13 CV28                       | S2 S22    | 336                       | 1131   | CARBON DISULPHIDE  |
| L4BN      |                     | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1133   | ADHESIVES containing flammable liquid  |
| L1.5BN    |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1133   | ADHESIVES containing flammable liquid (vapour pressure at 50 °C more than 110 kPa)   |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1133   | ADHESIVES containing flammable liquid (vapour pressure at 50 °C not more than 110 kPa)   |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1133   | ADHESIVES containing flammable liquid  |
| L4BN      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1133   | ADHESIVES containing flammable liquid (having a flash point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  |
| L1.5BN    |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1133   | ADHESIVES containing flammable liquid (having a flash point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1133   | ADHESIVES containing flammable liquid (having a flash point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1134   | CHLOROBENZENE  |
| L10CH     | TU14 TU15 TE19 TE21 | FL                        | 1 (C/D)                                      |                                 |       | CV1 CV13 CV28                   | S2 S9 S14 | 663                       | 1135   | ETHYLENE CHLOROHYDRIN  |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1136   | COAL TAR DISTILLATES, FLAMMABLE  |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1136   | COAL TAR DISTILLATES, FLAMMABLE  |
| L4BN      |                     | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1139   | COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining)                                      |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |      | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    |                                 |      | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b) | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1139   | COATING SOLUTION<br>(includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (vapour pressure at 50 °C more than 110 kPa)   | 3     | F1                  | II            | 3         | 640C               | LQ6                             | E2   | P001                          |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1139   | COATING SOLUTION<br>(includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | II            | 3         | 640D               | LQ6                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1139   | COATING SOLUTION<br>(includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining)  | 3     | F1                  | III           | 3         | 640E               | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1139   | COATING SOLUTION<br>(includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  | 3     | F1                  | III           | 3         | 640F               | LQ7                             | E1   | P001<br>LP01<br>R001          |                                  | MP19                            | T2                                 | TP1                        |
| 1139   | COATING SOLUTION<br>(includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) | 3     | F1                  | III           | 3         | 640G               | LQ7                             | E1   | P001<br>LP01<br>R001          |                                  | MP19                            | T2                                 | TP1                        |
| 1139   | COATING SOLUTION<br>(includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               | 3     | F1                  | III           | 3         | 640H               | LQ7                             | E1   | P001<br>IBC02<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1143   | CROTONALDEHYDE or CROTONALDEHYDE, STABILIZED  | 6.1   | TF1                 | I             | 6.1<br>+3 | 324                | LQ0                             | E5   | P001                          |                                  | MP8<br>MP17                     | T20                                | TP2<br>TP35                |
| 1144   | CROTONYLENE   | 3     | F1                  | I             | 3         |                    | LQ3                             | E3   | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 1145   | CYCLOHEXANE   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1146   | CYCLOPENTANE  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1                        |
| 1147   | DECAHYDRO-NAPHTHALENE   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1148   | DIACETONE ALCOHOL   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1148   | DIACETONE ALCOHOL   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |

| ADR tank  |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L1.5BN    |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1139   | COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (vapour pressure at 50 °C more than 110 kPa)   |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1139   | COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (vapour pressure at 50 °C not more than 110 kPa)   |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1139   | COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining)  |
| L4BN      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1139   | COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  |
| L1.5BN    |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1139   | COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1139   | COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               |
| L10CH     | TU14 TU15 TE19 TE21 | FL                        | 1 (C/D)                                      |                                 |       | CV1 CV13 CV28                   | S2 S9 S14 | 663                       | 1143   | CROTONALDEHYDE or CROTONALDEHYDE, STABILIZED   |
| L4BN      |                     | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 1144   | CROTONYLENE  |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1145   | CYCLOHEXANE  |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1146   | CYCLOPENTANE   |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1147   | DECAHYDRO-NAPHTHALENE  |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1148   | DIACETONE ALCOHOL  |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1148   | DIACETONE ALCOHOL  |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels          | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |                 |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1149   | DIBUTYL ETHERS   | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1150   | 1,2-DICHLOROETHYLENE   | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP2                        |
| 1152   | DICHLOROPENTANES   | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1153   | ETHYLENE GLYCOL<br>DIETHYL ETHER   | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1153   | ETHYLENE GLYCOL<br>DIETHYL ETHER   | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1154   | DIETHYLAMINE   | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 1155   | DIETHYL ETHER (ETHYL<br>ETHER)   | 3     | F1                  | I             | 3               |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 1156   | DIETHYL KETONE   | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1157   | DIISOBUTYL KETONE  | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1158   | DIISOPROPYLAMINE   | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 1159   | DIISOPROPYL ETHER  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1160   | DIMETHYLAMINE<br>AQUEOUS SOLUTION  | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 1161   | DIMETHYL CARBONATE   | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1162   | DIMETHYLDICHLORO-<br>SILANE  | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P010                          |                                  | MP19                            | T10                                | TP2<br>TP7                 |
| 1163   | DIMETHYLHYDRAZINE,<br>UNSYMMETRICAL  | 6.1   | TFC                 | I             | 6.1<br>+3<br>+8 |                    | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     | T20                                | TP2<br>TP35                |
| 1164   | DIMETHYL SULPHIDE  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02                 | B8                               | MP19                            | T7                                 | TP2                        |
| 1165   | DIOXANE  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1166   | DIOXOLANE  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1167   | DIVINYL ETHER,<br>STABILIZED   | 3     | F1                  | I             | 3               |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 1169   | EXTRACTS, AROMATIC,<br>LIQUID  | 3     | F1                  | I             | 3               |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     |                                    |                            |
| 1169   | EXTRACTS, AROMATIC,<br>LIQUID (vapour pressure at<br>50 °C more than 110 kPa)  | 3     | F1                  | II            | 3               | 601<br>640C        | LQ6                             | E2      | P001                          |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1169   | EXTRACTS, AROMATIC,<br>LIQUID (vapour pressure at<br>50 °C not more than 110 kPa)  | 3     | F1                  | II            | 3               | 601<br>640D        | LQ6                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1169   | EXTRACTS, AROMATIC,<br>LIQUID  | 3     | F1                  | III           | 3               | 601<br>640E        | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1169   | EXTRACTS, AROMATIC,<br>LIQUID (having a flash-point<br>below 23 °C and viscous<br>according to 2.2.3.1.4) (boiling<br>point not more than 35 °C) | 3     | F1                  | III           | 3               | 601<br>640F        | LQ7                             | E1      | P001<br>LP01<br>R001          |                                  | MP19                            | T2                                 | TP1                        |



| ADR tank  |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1149   | DIBUTYL ETHERS   |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1150   | 1,2-DICHLOROETHYLENE   |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1152   | DICHLOROPENTANES   |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1153   | ETHYLENE GLYCOL DIETHYL ETHER  |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1153   | ETHYLENE GLYCOL DIETHYL ETHER  |
| L4BH      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 1154   | DIETHYLAMINE   |
| L4BN      |                     | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1155   | DIETHYL ETHER (ETHYL ETHER)  |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1156   | DIETHYL KETONE   |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1157   | DIISOBUTYL KETONE  |
| L4BH      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 1158   | DIISOPROPYLAMINE   |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1159   | DIISOPROPYL ETHER  |
| L4BH      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 1160   | DIMETHYLAMINE AQUEOUS SOLUTION   |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1161   | DIMETHYL CARBONATE   |
| L4BH      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | X338                      | 1162   | DIMETHYLDICHLORO-SILANE  |
| L10CH     | TU14 TU15 TE19 TE21 | FL                        | 1 (C/D)                                      |                                 |       | CV1 CV13 CV28                   | S2 S9 S14 | 663                       | 1163   | DIMETHYLHYDRAZINE, UNSYMMETRICAL   |
| L1.5BN    |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1164   | DIMETHYL SULPHIDE  |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1165   | DIOXANE  |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1166   | DIOXOLANE  |
| L4BN      |                     | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 1167   | DIVINYL ETHER, STABILIZED  |
| L4BN      |                     | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1169   | EXTRACTS, AROMATIC, LIQUID   |
| L1.5BN    |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1169   | EXTRACTS, AROMATIC, LIQUID (vapour pressure at 50 °C more than 110 kPa)  |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1169   | EXTRACTS, AROMATIC, LIQUID (vapour pressure at 50 °C not more than 110 kPa)  |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1169   | EXTRACTS, AROMATIC, LIQUID   |
| L4BN      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1169   | EXTRACTS, AROMATIC, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C) |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1169   | EXTRACTS, AROMATIC, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) | 3     | F1                  | III           | 3         | 601 640G           | LQ7                             | E1      | P001<br>LP01<br>R001          |                                  | MP19                            | T2                                 | TP1                        |
| 1169   | EXTRACTS, AROMATIC, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               | 3     | F1                  | III           | 3         | 601 640H           | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1170   | ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  | 3     | F1                  | II            | 3         | 144 601            | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1170   | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)   | 3     | F1                  | III           | 3         | 144 601            | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1171   | ETHYLENE GLYCOL MONOETHYL ETHER   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1172   | ETHYLENE GLYCOL MONOETHYL ETHER ACETATE   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1173   | ETHYL ACETATE   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1175   | ETHYLBENZENE  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1176   | ETHYL BORATE  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1177   | 2-ETHYLBUTYL ACETATE  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1178   | 2-ETHYLBUTYRALDEHYDE  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1179   | ETHYL BUTYL ETHER   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1180   | ETHYL BUTYRATE  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1181   | ETHYL CHLOROACETATE   | 6.1   | TF1                 | II            | 6.1 +3    |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1182   | ETHYL CHLOROFORMATE   | 6.1   | TFC                 | I             | 6.1 +3 +8 |                    | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1183   | ETHYLDICHLOROSILANE   | 4.3   | WFC                 | I             | 4.3 +3 +8 |                    | LQ0                             | E0      | P401                          | RR7                              | MP2                             | T14                                | TP2<br>TP7                 |
| 1184   | ETHYLENE DICHLORIDE   | 3     | FT1                 | II            | 3 +6.1    |                    | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 1185   | ETHYLENEIMINE, STABILIZED   | 6.1   | TF1                 | I             | 6.1 +3    |                    | LQ0                             | E5      | P601                          |                                  | MP2                             | T22                                | TP2                        |
| 1188   | ETHYLENE GLYCOL MONOMETHYL ETHER  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L1.5BN    |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1169   | EXTRACTS, AROMATIC, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1169   | EXTRACTS, AROMATIC, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1170   | ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1170   | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)   |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1171   | ETHYLENE GLYCOL MONOETHYL ETHER   |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1172   | ETHYLENE GLYCOL MONOETHYL ETHER ACETATE   |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1173   | ETHYL ACETATE   |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1175   | ETHYLBENZENE  |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1176   | ETHYL BORATE  |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1177   | 2-ETHYLBUTYL ACETATE  |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1178   | 2-ETHYLBUTYRALDEHYDE  |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1179   | ETHYL BUTYL ETHER   |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1180   | ETHYL BUTYRATE  |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S9 S19 | 63                        | 1181   | ETHYL CHLOROACETATE   |
| L10CH     | TU14 TU15 TE19 TE21    | FL                        | 1 (C/D)                                      |                                 |       | CV1 CV13 CV28                   | S2 S9 S14 | 663                       | 1182   | ETHYL CHLOROFORMATE   |
| L10DH     | TU14 TU23 TE21 TM2 TM3 | FL                        | 0 (B/E)                                      | V1                              |       | CV23                            | S2 S20    | X338                      | 1183   | ETHYLDICHLOROSILANE   |
| L4BH      | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S19    | 336                       | 1184   | ETHYLENE DICHLORIDE   |
| L15CH     | TU14 TU15 TE19 TE21    | FL                        | 1 (C/D)                                      |                                 |       | CV1 CV13 CV28                   | S2 S9 S14 | 663                       | 1185   | ETHYLENEIMINE, STABILIZED   |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1188   | ETHYLENE GLYCOL MONOMETHYL ETHER  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1189   | ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1190   | ETHYL FORMATE   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1191   | OCTYL ALDEHYDES   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1192   | ETHYL LACTATE   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1193   | ETHYL METHYL KETONE (METHYL ETHYL KETONE)   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1194   | ETHYL NITRITE SOLUTION  | 3     | FT1                 | I             | 3<br>+6.1 |                    | LQ0                             | E0      | P001                          |                                  | MP7<br>MP17                     |                                    |                            |
| 1195   | ETHYL PROPIONATE  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1196   | ETHYLTRICHLOROSILANE  | 3     | FC                  | II            | 3<br>+8   |                    | LQ4                             | E2      | P010                          |                                  | MP19                            | T10                                | TP2<br>TP7                 |
| 1197   | EXTRACTS, FLAVOURING, LIQUID  | 3     | F1                  | I             | 3         |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     |                                    |                            |
| 1197   | EXTRACTS, FLAVOURING, LIQUID (vapour pressure at 50 °C more than 110 kPa)   | 3     | F1                  | II            | 3         | 601<br>640C        | LQ6                             | E2      | P001                          |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1197   | EXTRACTS, FLAVOURING, LIQUID (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | II            | 3         | 601<br>640D        | LQ6                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1197   | EXTRACTS, FLAVOURING, LIQUID  | 3     | F1                  | III           | 3         | 601<br>640E        | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1197   | EXTRACTS, FLAVOURING, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  | 3     | F1                  | III           | 3         | 601<br>640F        | LQ7                             | E1      | P001<br>LP01<br>R001          |                                  | MP19                            | T2                                 | TP1                        |
| 1197   | EXTRACTS, FLAVOURING, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) | 3     | F1                  | III           | 3         | 601<br>640G        | LQ7                             | E1      | P001<br>LP01<br>R001          |                                  | MP19                            | T2                                 | TP1                        |
| 1197   | EXTRACTS, FLAVOURING, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               | 3     | F1                  | III           | 3         | 601<br>640H        | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1198   | FORMALDEHYDE SOLUTION, FLAMMABLE  | 3     | FC                  | III           | 3<br>+8   |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1199   | FURALDEHYDES  | 6.1   | TF1                 | II            | 6.1<br>+3 |                    | LQ0                             | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1201   | FUSEL OIL   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1201   | FUSEL OIL   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1202   | GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT (flash-point not more than 60 °C)  | 3     | F1                  | III           | 3         | 640K               | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1189   | ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1190   | ETHYL FORMATE   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1191   | OCTYL ALDEHYDES   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1192   | ETHYL LACTATE   |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1193   | ETHYL METHYL KETONE (METHYL ETHYL KETONE)   |
| L10CH     | TU14 TU15 TE21     | FL                        | 1 (C/E)                                      |                                 |       | CV13 CV28                       | S2 S22    | 336                       | 1194   | ETHYL NITRITE SOLUTION  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1195   | ETHYL PROPIONATE  |
| L4BH      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | X338                      | 1196   | ETHYLTRICHLOROSILANE  |
| L4BN      |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1197   | EXTRACTS, FLAVOURING, LIQUID  |
| L1.5BN    |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1197   | EXTRACTS, FLAVOURING, LIQUID (vapour pressure at 50 °C more than 110 kPa)   |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1197   | EXTRACTS, FLAVOURING, LIQUID (vapour pressure at 50 °C not more than 110 kPa)   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1197   | EXTRACTS, FLAVOURING, LIQUID  |
| L4BN      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1197   | EXTRACTS, FLAVOURING, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  |
| L1.5BN    |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1197   | EXTRACTS, FLAVOURING, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1197   | EXTRACTS, FLAVOURING, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               |
| L4BN      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 38                        | 1198   | FORMALDEHYDE SOLUTION, FLAMMABLE  |
| L4BH      | TU15 TE19          | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S9 S19 | 63                        | 1199   | FURALDEHYDES  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1201   | FUSEL OIL   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1201   | FUSEL OIL   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1202   | GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT (flash-point not more than 60 °C)  |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging                     |                            |                          | Portable tanks and bulk containers |                    |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|-------------------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |  |       |                     |               |        |                    |                                 |         | Packing instructions          | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2  | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2  | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                         | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                       | (9b)                     | (10)                               | (11)               |
| 1202   | DIESEL FUEL complying with standard EN 590:2004 or GAS OIL or HEATING OIL, LIGHT with a flash-point as specified in EN 590:2004  | 3     | F1                  | III           | 3      | 640L               | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T2                                 | TP1                |
| 1202   | GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT (flash-point more than 60 °C and not more than 100 °C)  | 3     | F1                  | III           | 3      | 640M               | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T2                                 | TP1                |
| 1203   | MOTOR SPIRIT or GASOLINE or PETROL   | 3     | F1                  | II            | 3      | 243<br>534         | LQ4                             | E2      | P001<br>IBC02<br>R001         | BB2                        | MP19                     | T4                                 | TP1                |
| 1204   | NITROGLYCERIN SOLUTION IN ALCOHOL with not more than 1% nitroglycerin  | 3     | D                   | II            | 3      | 601                | LQ0                             | E0      | P001<br>IBC02                 | PP5                        | MP2                      |                                    |                    |
| 1206   | HEPTANES   | 3     | F1                  | II            | 3      |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                            | MP19                     | T4                                 | TP1                |
| 1207   | HEXALDEHYDE  | 3     | F1                  | III           | 3      |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T2                                 | TP1                |
| 1208   | HEXANES  | 3     | F1                  | II            | 3      |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                            | MP19                     | T4                                 | TP1                |
| 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable   | 3     | F1                  | I             | 3      | 163                | LQ3                             | E3      | P001                          |                            | MP7<br>MP17              | T11                                | TP1<br>TP8         |
| 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (vapour pressure at 50 °C more than 110 kPa)  | 3     | F1                  | II            | 3      | 163<br>640C        | LQ6                             | E2      | P001                          | PP1                        | MP19                     | T4                                 | TP1<br>TP8         |
| 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (vapour pressure at 50 °C not more than 110 kPa)  | 3     | F1                  | II            | 3      | 163<br>640D        | LQ6                             | E2      | P001<br>IBC02<br>R001         | PP1                        | MP19                     | T4                                 | TP1<br>TP8         |
| 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable   | 3     | F1                  | III           | 3      | 163<br>640E        | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 | PP1                        | MP19                     | T2                                 | TP1                |
| 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C) | 3     | F1                  | III           | 3      | 163<br>640F        | LQ7                             | E1      | P001<br>LP01<br>R001          | PP1                        | MP19                     | T2                                 | TP1                |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| LGBF      |                    | AT                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1202   | DIESEL FUEL complying with standard EN 590:2004 or GAS OIL or HEATING OIL, LIGHT with a flash-point as specified in EN 590:2004  |
| LGBV      |                    | AT                        | 3 (D/E)                                      |                                 |       |                                 |           | 30                        | 1202   | GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT (flash-point more than 60 °C and not more than 100 °C)  |
| LGBF      | TU9                | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1203   | MOTOR SPIRIT or GASOLINE or PETROL   |
|           |                    |                           | 2 (B)  |                                 |       |                                 | S2 S14    |                           | 1204   | NITROGLYCERIN SOLUTION IN ALCOHOL with not more than 1% nitroglycerin  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1206   | HEPTANES   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1207   | HEXALDEHYDE  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1208   | HEXANES  |
| L4BN      |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable   |
| L1.5BN    |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (vapour pressure at 50 °C more than 110 kPa)  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (vapour pressure at 50 °C not more than 110 kPa)  |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable   |
| L4BN      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C) |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) | 3     | F1                  | III           | 3         | 163 640G           | LQ7                             | E1      | P001<br>LP01<br>R001          | PP1                              | MP19                            | T2                                 | TP1                        |
| 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               | 3     | F1                  | III           | 3         | 163 640H           | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 | PP1                              | MP19                            | T2                                 | TP1                        |
| 1212   | ISOBUTANOL (ISOBUTYL ALCOHOL)   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1213   | ISOBUTYL ACETATE  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1214   | ISOBUTYLAMINE   | 3     | FC                  | II            | 3<br>+8   |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 1216   | ISOCTENES   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1218   | ISOPRENE, STABILIZED  | 3     | F1                  | I             | 3         |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 1219   | ISOPROPANOL (ISOPROPYL ALCOHOL)   | 3     | F1                  | II            | 3         | 601                | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1220   | ISOPROPYL ACETATE   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1221   | ISOPROPYLAMINE  | 3     | FC                  | I             | 3<br>+8   |                    | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 1222   | ISOPROPYL NITRATE   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         | B7                               | MP19                            |                                    |                            |
| 1223   | KEROSENE  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP2                        |
| 1224   | KETONES, LIQUID, N.O.S. (vapour pressure at 50 °C more than 110 kPa)  | 3     | F1                  | II            | 3         | 274 640C           | LQ4                             | E2      | P001                          |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 1224   | KETONES, LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)  | 3     | F1                  | II            | 3         | 274 640D           | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 1224   | KETONES, LIQUID, N.O.S.   | 3     | F1                  | III           | 3         | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 1228   | MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.   | 3     | FT1                 | II            | 3<br>+6.1 | 274                | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 1228   | MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.   | 3     | FT1                 | III           | 3<br>+6.1 | 274                | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP28                |



| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L1.5BN    |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1210   | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1212   | ISOBUTANOL (ISOBUTYL ALCOHOL)   |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1213   | ISOBUTYL ACETATE  |
| L4BH      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 1214   | ISOBUTYLAMINE   |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1216   | ISOCTENES   |
| L4BN      |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 1218   | ISOPRENE, STABILIZED  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1219   | ISOPROPANOL (ISOPROPYL ALCOHOL)   |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1220   | ISOPROPYL ACETATE   |
| L10CH     | TU14 TE21          | FL                        | 1 (C/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 1221   | ISOPROPYLAMINE  |
|           |                    |                           | 2 (E)  |                                 |       |                                 | S2 S20    |                           | 1222   | ISOPROPYL NITRATE   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1223   | KEROSENE  |
| L1.5BN    |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1224   | KETONES, LIQUID, N.O.S. (vapour pressure at 50 °C more than 110 kPa)  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1224   | KETONES, LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)  |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1224   | KETONES, LIQUID, N.O.S.   |
| L4BH      | TU15               | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S19    | 336                       | 1228   | MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.   |
| L4BH      | TU15               | FL                        | 3 (D/E)                                      |                                 |       | CV13 CV28                       | S2        | 36                        | 1228   | MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.   |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels          | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |                 |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1229   | MESITYL OXIDE   | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1230   | METHANOL  | 3     | FT1                 | II            | 3<br>+6.1       | 279                | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP2                        |
| 1231   | METHYL ACETATE  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1233   | METHYLAMYL ACETATE  | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1234   | METHYLAL  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02                 | B8                               | MP19                            | T7                                 | TP2                        |
| 1235   | METHYLAMINE, AQUEOUS SOLUTION   | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 1237   | METHYL BUTYRATE   | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1238   | METHYL CHLOROFORMATE  | 6.1   | TFC                 | I             | 6.1<br>+3<br>+8 |                    | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     | T22                                | TP2<br>TP35                |
| 1239   | METHYL CHLOROMETHYL ETHER   | 6.1   | TF1                 | I             | 6.1<br>+3       |                    | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     | T22                                | TP2<br>TP35                |
| 1242   | METHYLDICHLOROSILANE  | 4.3   | WFC                 | I             | 4.3<br>+3<br>+8 |                    | LQ0                             | E0      | P401                          | RR7                              | MP2                             | T14                                | TP2<br>TP7                 |
| 1243   | METHYL FORMATE  | 3     | F1                  | I             | 3               |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 1244   | METHYLHYDRAZINE   | 6.1   | TFC                 | I             | 6.1<br>+3<br>+8 |                    | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     | T22                                | TP2<br>TP35                |
| 1245   | METHYL ISOBUTYL KETONE  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1246   | METHYL ISOPROPENYL KETONE, STABILIZED   | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1247   | METHYL METHACRYLATE MONOMER, STABILIZED   | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1248   | METHYL PROPIONATE   | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1249   | METHYL PROPYL KETONE  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1250   | METHYLTRICHLORO-SILANE  | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P010                          |                                  | MP19                            | T10                                | TP2<br>TP7                 |
| 1251   | METHYL VINYL KETONE, STABILIZED   | 6.1   | TFC                 | I             | 6.1<br>+3<br>+8 |                    | LQ0                             | E5      | P601                          | RR7                              | MP8<br>MP17                     | T14                                | TP2                        |
| 1259   | NICKEL CARBONYL   | 6.1   | TF1                 | I             | 6.1<br>+3       |                    | LQ0                             | E5      | P601                          |                                  | MP2                             |                                    |                            |
| 1261   | NITROMETHANE  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>R001                  | RR2                              | MP19                            |                                    |                            |
| 1262   | OCTANES   | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) | 3     | F1                  | I             | 3               | 163<br>650         | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP1<br>TP8<br>TP27         |

| ADR tank  |                                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|------------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions                 |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4                       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)                               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| LGBF      |                                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1229   | MESITYL OXIDE   |
| L4BH      | TU15                               | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 1230   | METHANOL  |
| LGBF      |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1231   | METHYL ACETATE  |
| LGBF      |                                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1233   | METHYLAMYL ACETATE  |
| L1.5BN    |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1234   | METHYLAL  |
| L4BH      |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 1235   | METHYLAMINE, AQUEOUS SOLUTION   |
| LGBF      |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1237   | METHYL BUTYRATE   |
| L10CH     | TU14 TU15<br>TE19 TE21             | FL                        | 1 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 1238   | METHYL CHLOROFORMATE  |
| L10CH     | TU14 TU15<br>TE19 TE21             | FL                        | 1 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 1239   | METHYL CHLOROMETHYL ETHER   |
| L10DH     | TU14 TU24<br>TE21 TM2<br>TM3       | FL                        | 0 (B/E)                                      | V1                              |       | CV23                            | S2 S20    | X338                      | 1242   | METHYLDICHLOROSILANE  |
| L4BN      |                                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1243   | METHYL FORMATE  |
| L10CH     | TU14 TU15<br>TE19 TE21             | FL                        | 1 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 1244   | METHYLHYDRAZINE   |
| LGBF      |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1245   | METHYL ISOBUTYL KETONE  |
| LGBF      |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 1246   | METHYL ISOPROPENYL KETONE, STABILIZED   |
| LGBF      |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 1247   | METHYL METHACRYLATE MONOMER, STABILIZED   |
| LGBF      |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1248   | METHYL PROPIONATE   |
| LGBF      |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1249   | METHYL PROPYL KETONE  |
| L4BH      |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | X338                      | 1250   | METHYLTRICHLORO-SILANE  |
| L10CH     | TU14 TU15<br>TE19 TE21             | FL                        | 1 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 639                       | 1251   | METHYL VINYL KETONE, STABILIZED   |
| L15CH     | TU14 TU15<br>TU31 TE19<br>TE21 TM3 | FL                        | 1 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 1259   | NICKEL CARBONYL   |
|           |                                    |                           | 2 (E)  |                                 |       |                                 | S2 S20    |                           | 1261   | NITROMETHANE  |
| LGBF      |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1262   | OCTANES   |
| L4BN      |                                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging                     |                                     |                                    | Portable tanks and bulk containers |                               |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|-------------------------------|-------------------------------------|------------------------------------|------------------------------------|-------------------------------|
|        |  |       |                     |               |        |                    | 3.4.6                           | 3.5.1.2 | Packing instructions<br>4.1.4 | Special packing provisions<br>4.1.4 | Mixed packing provisions<br>4.1.10 | Instructions<br>4.2.5.2<br>7.3.2   | Special provisions<br>4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                                | (9b)                               | (10)                               | (11)                          |
| 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (vapour pressure at 50 °C more than 110 kPa)   | 3     | F1                  | II            | 3      | 163<br>640C<br>650 | LQ6                             | E2      | P001                          | PP1                                 | MP19                               | T4                                 | TP1<br>TP8<br>TP28            |
| 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | II            | 3      | 163<br>640D<br>650 | LQ6                             | E2      | P001<br>IBC02<br>R001         | PP1                                 | MP19                               | T4                                 | TP1<br>TP8<br>TP28            |
| 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound)  | 3     | F1                  | III           | 3      | 163<br>640E<br>650 | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 | PP1                                 | MP19                               | T2                                 | TP1<br>TP29                   |
| 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  | 3     | F1                  | III           | 3      | 163<br>640F<br>650 | LQ7                             | E1      | P001<br>LP01<br>R001          | PP1                                 | MP19                               | T2                                 | TP1<br>TP29                   |
| 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) | 3     | F1                  | III           | 3      | 163<br>640G<br>650 | LQ7                             | E1      | P001<br>LP01<br>R001          | PP1                                 | MP19                               | T2                                 | TP1<br>TP29                   |
| 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               | 3     | F1                  | III           | 3      | 163<br>640H<br>650 | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 | PP1                                 | MP19                               | T2                                 | TP1<br>TP29                   |
| 1264   | PARALDEHYDE  | 3     | F1                  | III           | 3      |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T2                                 | TP1                           |
| 1265   | PENTANES, liquid   | 3     | F1                  | I             | 3      |                    | LQ3                             | E3      | P001                          |                                     | MP7<br>MP17                        | T11                                | TP2                           |
| 1265   | PENTANES, liquid   | 3     | F1                  | II            | 3      |                    | LQ4                             | E2      | P001<br>IBC02                 | B8                                  | MP19                               | T4                                 | TP1                           |
| 1266   | PERFUMERY PRODUCTS with flammable solvents   | 3     | F1                  | I             | 3      |                    | LQ3                             | E3      | P001                          |                                     | MP7<br>MP17                        |                                    |                               |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L1.5BN    |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (vapour pressure at 50 °C more than 110 kPa)   |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (vapour pressure at 50 °C not more than 110 kPa)   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound)  |
| L4BN      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  |
| L1.5BN    |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1263   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1264   | PARALDEHYDE  |
| L4BN      |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1265   | PENTANES, liquid   |
| L1.5BN    |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1265   | PENTANES, liquid   |
| L4BN      |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1266   | PERFUMERY PRODUCTS with flammable solvents   |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |        |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1266   | PERFUMERY PRODUCTS with flammable solvents (vapour pressure at 50 °C more than 110 kPa)   | 3     | F1                  | II            | 3      | 640C               | LQ6                             | E2      | P001                       |                                  | MP19                            | T4                                 | TP1 TP8                    |
| 1266   | PERFUMERY PRODUCTS with flammable solvents (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | II            | 3      | 640D               | LQ6                             | E2      | P001 IBC02 R001            |                                  | MP19                            | T4                                 | TP1 TP8                    |
| 1266   | PERFUMERY PRODUCTS with flammable solvents  | 3     | F1                  | III           | 3      | 640E               | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T2                                 | TP1                        |
| 1266   | PERFUMERY PRODUCTS with flammable solvents (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  | 3     | F1                  | III           | 3      | 640F               | LQ7                             | E1      | P001 LP01 R001             |                                  | MP19                            | T2                                 | TP1                        |
| 1266   | PERFUMERY PRODUCTS with flammable solvents (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) | 3     | F1                  | III           | 3      | 640G               | LQ7                             | E1      | P001 LP01 R001             |                                  | MP19                            | T2                                 | TP1                        |
| 1266   | PERFUMERY PRODUCTS with flammable solvents (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               | 3     | F1                  | III           | 3      | 640H               | LQ7                             | E1      | P001 IBC02 LP01 R001       |                                  | MP19                            | T2                                 | TP1                        |
| 1267   | PETROLEUM CRUDE OIL   | 3     | F1                  | I             | 3      | 649                | LQ3                             | E3      | P001                       |                                  | MP7 MP17                        | T11                                | TP1 TP8                    |
| 1267   | PETROLEUM CRUDE OIL (vapour pressure at 50 °C more than 110 kPa)  | 3     | F1                  | II            | 3      | 640C 649           | LQ4                             | E2      | P001                       |                                  | MP19                            | T4                                 | TP1 TP8                    |
| 1267   | PETROLEUM CRUDE OIL (vapour pressure at 50 °C not more than 110 kPa)  | 3     | F1                  | II            | 3      | 640D 649           | LQ4                             | E2      | P001 IBC02 R001            |                                  | MP19                            | T4                                 | TP1 TP8                    |
| 1267   | PETROLEUM CRUDE OIL   | 3     | F1                  | III           | 3      |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T2                                 | TP1                        |
| 1268   | PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.   | 3     | F1                  | I             | 3      | 649                | LQ3                             | E3      | P001                       |                                  | MP7 MP17                        | T11                                | TP1 TP8                    |
| 1268   | PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (vapour pressure at 50 °C more than 110 kPa)  | 3     | F1                  | II            | 3      | 640C 649           | LQ4                             | E2      | P001                       |                                  | MP19                            | T7                                 | TP1 TP8 TP28               |
| 1268   | PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)  | 3     | F1                  | II            | 3      | 640D 649           | LQ4                             | E2      | P001 IBC02 R001            |                                  | MP19                            | T7                                 | TP1 TP8 TP28               |
| 1268   | PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.   | 3     | F1                  | III           | 3      |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T4                                 | TP1 TP29                   |
| 1272   | PINE OIL  | 3     | F1                  | III           | 3      |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T2                                 | TP1                        |
| 1274   | n-PROPANOL (PROPYL ALCOHOL, NORMAL)   | 3     | F1                  | II            | 3      |                    | LQ4                             | E2      | P001 IBC02 R001            |                                  | MP19                            | T4                                 | TP1                        |
| 1274   | n-PROPANOL (PROPYL ALCOHOL, NORMAL)   | 3     | F1                  | III           | 3      |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T2                                 | TP1                        |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L1.5BN    |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1266   | PERFUMERY PRODUCTS with flammable solvents (vapour pressure at 50 °C more than 110 kPa)   |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1266   | PERFUMERY PRODUCTS with flammable solvents (vapour pressure at 50 °C not more than 110 kPa)   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1266   | PERFUMERY PRODUCTS with flammable solvents  |
| L4BN      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1266   | PERFUMERY PRODUCTS with flammable solvents (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  |
| L1.5BN    |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1266   | PERFUMERY PRODUCTS with flammable solvents (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1266   | PERFUMERY PRODUCTS with flammable solvents (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               |
| L4BN      |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1267   | PETROLEUM CRUDE OIL   |
| L1.5BN    |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1267   | PETROLEUM CRUDE OIL (vapour pressure at 50 °C more than 110 kPa)  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1267   | PETROLEUM CRUDE OIL (vapour pressure at 50 °C not more than 110 kPa)  |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1267   | PETROLEUM CRUDE OIL   |
| L4BN      |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1268   | PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.   |
| L1.5BN    |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1268   | PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (vapour pressure at 50 °C more than 110 kPa)  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1268   | PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)  |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1268   | PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1272   | PINE OIL  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1274   | n-PROPANOL (PROPYL ALCOHOL, NORMAL)   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1274   | n-PROPANOL (PROPYL ALCOHOL, NORMAL)   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels  | Special provisions | Limited and excepted quantities |      | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|---------|--------------------|---------------------------------|------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |         |                    |                                 |      | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)     | (6)                | (7a)                            | (7b) | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1275   | PROPIONALDEHYDE  | 3     | F1                  | II            | 3       |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1                        |
| 1276   | n-PROPYL ACETATE   | 3     | F1                  | II            | 3       |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1277   | PROPYLAMINE  | 3     | FC                  | II            | 3<br>+8 |                    | LQ4                             | E2   | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 1278   | 1-CHLOROPROPANE  | 3     | F1                  | II            | 3       |                    | LQ4                             | E2   | P001<br>IBC02                 | B8                               | MP19                            | T7                                 | TP2                        |
| 1279   | 1,2-DICHLOROPROPANE  | 3     | F1                  | II            | 3       |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1280   | PROPYLENE OXIDE  | 3     | F1                  | I             | 3       |                    | LQ3                             | E3   | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2<br>TP7                 |
| 1281   | PROPYL FORMATES  | 3     | F1                  | II            | 3       |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1282   | PYRIDINE   | 3     | F1                  | II            | 3       |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP2                        |
| 1286   | ROSIN OIL  | 3     | F1                  | I             | 3       |                    | LQ3                             | E3   | P001                          |                                  | MP7<br>MP17                     |                                    |                            |
| 1286   | ROSIN OIL (vapour pressure at 50 °C more than 110 kPa)   | 3     | F1                  | II            | 3       | 640C               | LQ6                             | E2   | P001                          |                                  | MP19                            | T4                                 | TP1                        |
| 1286   | ROSIN OIL (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | II            | 3       | 640D               | LQ6                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1286   | ROSIN OIL  | 3     | F1                  | III           | 3       | 640E               | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1286   | ROSIN OIL (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  | 3     | F1                  | III           | 3       | 640F               | LQ7                             | E1   | P001<br>LP01<br>R001          |                                  | MP19                            | T2                                 | TP1                        |
| 1286   | ROSIN OIL (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)       | 3     | F1                  | III           | 3       | 640G               | LQ7                             | E1   | P001<br>LP01<br>R001          |                                  | MP19                            | T2                                 | TP1                        |
| 1286   | ROSIN OIL (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                                     | 3     | F1                  | III           | 3       | 640H               | LQ7                             | E1   | P001<br>IBC02<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1287   | RUBBER SOLUTION  | 3     | F1                  | I             | 3       |                    | LQ3                             | E3   | P001                          |                                  | MP7<br>MP17                     |                                    |                            |
| 1287   | RUBBER SOLUTION (vapour pressure at 50 °C more than 110 kPa)   | 3     | F1                  | II            | 3       | 640C               | LQ6                             | E2   | P001                          |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1287   | RUBBER SOLUTION (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | II            | 3       | 640D               | LQ6                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1287   | RUBBER SOLUTION  | 3     | F1                  | III           | 3       | 640E               | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1287   | RUBBER SOLUTION (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  | 3     | F1                  | III           | 3       | 640F               | LQ7                             | E1   | P001<br>LP01<br>R001          |                                  | MP19                            | T2                                 | TP1                        |
| 1287   | RUBBER SOLUTION (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) | 3     | F1                  | III           | 3       | 640G               | LQ7                             | E1   | P001<br>LP01<br>R001          |                                  | MP19                            | T2                                 | TP1                        |



| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1275   | PROPIONALDEHYDE  |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1276   | n-PROPYL ACETATE   |
| L4BH      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 1277   | PROPYLAMINE  |
| L1.5BN    |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1278   | 1-CHLOROPROPANE  |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1279   | 1,2-DICHLOROPROPANE  |
| L4BN      |                    | FL                        | 1<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1280   | PROPYLENE OXIDE  |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1281   | PROPYL FORMATES  |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1282   | PYRIDINE   |
| L4BN      |                    | FL                        | 1<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1286   | ROSIN OIL  |
| L1.5BN    |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1286   | ROSIN OIL (vapour pressure at 50 °C more than 110 kPa)   |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1286   | ROSIN OIL (vapour pressure at 50 °C not more than 110 kPa)   |
| LGBF      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1286   | ROSIN OIL  |
| L4BN      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 33                        | 1286   | ROSIN OIL (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  |
| L1.5BN    |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 33                        | 1286   | ROSIN OIL (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)       |
| LGBF      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 33                        | 1286   | ROSIN OIL (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                                     |
| L4BN      |                    | FL                        | 1<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1287   | RUBBER SOLUTION  |
| L1.5BN    |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1287   | RUBBER SOLUTION (vapour pressure at 50 °C more than 110 kPa)   |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1287   | RUBBER SOLUTION (vapour pressure at 50 °C not more than 110 kPa)   |
| LGBF      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1287   | RUBBER SOLUTION  |
| L4BN      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 33                        | 1287   | RUBBER SOLUTION (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  |
| L1.5BN    |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 33                        | 1287   | RUBBER SOLUTION (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels          | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |                 |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1287   | RUBBER SOLUTION (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa) | 3     | F1                  | III           | 3               | 640H               | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1288   | SHALE OIL  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1288   | SHALE OIL  | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1289   | SODIUM METHYLATE SOLUTION in alcohol   | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1<br>TP8                 |
| 1289   | SODIUM METHYLATE SOLUTION in alcohol   | 3     | FC                  | III           | 3<br>+8         |                    | LQ7                             | E1      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1292   | TETRAETHYL SILICATE  | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1293   | TINCTURES, MEDICINAL   | 3     | F1                  | II            | 3               | 601                | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1293   | TINCTURES, MEDICINAL   | 3     | F1                  | III           | 3               | 601                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1294   | TOLUENE  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1295   | TRICHLOROSILANE  | 4.3   | WFC                 | I             | 4.3<br>+3<br>+8 |                    | LQ0                             | E0      | P401                          | RR7                              | MP2                             | T14                                | TP2<br>TP7                 |
| 1296   | TRIETHYLAMINE  | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 1297   | TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass  | 3     | FC                  | I             | 3<br>+8         |                    | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP1                        |
| 1297   | TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass  | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 1297   | TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass  | 3     | FC                  | III           | 3<br>+8         |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP1                        |
| 1298   | TRIMETHYLCHLORO-SILANE   | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P010                          |                                  | MP19                            | T10                                | TP2<br>TP7                 |
| 1299   | TURPENTINE   | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1300   | TURPENTINE SUBSTITUTE  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1300   | TURPENTINE SUBSTITUTE  | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1301   | VINYL ACETATE, STABILIZED  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1302   | VINYL ETHYL ETHER, STABILIZED  | 3     | F1                  | I             | 3               |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 1303   | VINYLDIENE CHLORIDE, STABILIZED  | 3     | F1                  | I             | 3               |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T12                                | TP2<br>TP7                 |
| 1304   | VINYL ISOBUTYL ETHER, STABILIZED   | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1287   | RUBBER SOLUTION (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa) |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1288   | SHALE OIL  |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1288   | SHALE OIL  |
| L4BH      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 1289   | SODIUM METHYLATE SOLUTION in alcohol   |
| L4BN      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 38                        | 1289   | SODIUM METHYLATE SOLUTION in alcohol   |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1292   | TETRAETHYL SILICATE  |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1293   | TINCTURES, MEDICINAL   |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1293   | TINCTURES, MEDICINAL   |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1294   | TOLUENE  |
| L10DH     | TU14 TU25 TE21 TM2 TM3 | FL                        | 0 (B/E)                                      | V1                              |       | CV23                            | S2 S20    | X338                      | 1295   | TRICHLOROSILANE  |
| L4BH      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 1296   | TRIETHYLAMINE  |
| L10CH     | TU14 TE21              | FL                        | 1 (C/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 1297   | TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass  |
| L4BH      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 1297   | TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass  |
| L4BN      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 38                        | 1297   | TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass  |
| L4BH      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | X338                      | 1298   | TRIMETHYLCHLORO-SILANE   |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1299   | TURPENTINE   |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1300   | TURPENTINE SUBSTITUTE  |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1300   | TURPENTINE SUBSTITUTE  |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 1301   | VINYL ACETATE, STABILIZED  |
| L4BN      |                        | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 1302   | VINYL ETHYL ETHER, STABILIZED  |
| L4BN      |                        | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 1303   | VINYLDENE CHLORIDE, STABILIZED   |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 1304   | VINYL ISOBUTYL ETHER, STABILIZED   |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels  | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|---------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |         |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)     | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1305   | VINYLTRICHLOROSILANE  | 3     | FC                  | II            | 3<br>+8 |                    | LQ4                             | E2      | P010                          |                                  | MP19                            | T10                                | TP2<br>TP7                 |
| 1306   | WOOD PRESERVATIVES, LIQUID (vapour pressure at 50 °C more than 110 kPa)   | 3     | F1                  | II            | 3       | 640C               | LQ6                             | E2      | P001                          |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1306   | WOOD PRESERVATIVES, LIQUID (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | II            | 3       | 640D               | LQ6                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1<br>TP8                 |
| 1306   | WOOD PRESERVATIVES, LIQUID  | 3     | F1                  | III           | 3       | 640E               | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1306   | WOOD PRESERVATIVES, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  | 3     | F1                  | III           | 3       | 640F               | LQ7                             | E1      | P001<br>LP01<br>R001          |                                  | MP19                            | T2                                 | TP1                        |
| 1306   | WOOD PRESERVATIVES, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) | 3     | F1                  | III           | 3       | 640G               | LQ7                             | E1      | P001<br>LP01<br>R001          |                                  | MP19                            | T2                                 | TP1                        |
| 1306   | WOOD PRESERVATIVES, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               | 3     | F1                  | III           | 3       | 640H               | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1307   | XYLENES   | 3     | F1                  | II            | 3       |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 1307   | XYLENES   | 3     | F1                  | III           | 3       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 1308   | ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID   | 3     | F1                  | I             | 3       |                    | LQ3                             | E3      | P001                          | PP33                             | MP7<br>MP17                     |                                    |                            |
| 1308   | ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID (vapour pressure at 50 °C more than 110 kPa)  | 3     | F1                  | II            | 3       | 640C               | LQ4                             | E2      | P001<br>R001                  | PP33                             | MP19                            |                                    |                            |
| 1308   | ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID (vapour pressure at 50 °C not more than 110 kPa)  | 3     | F1                  | II            | 3       | 640D               | LQ4                             | E2      | P001<br>R001                  | PP33                             | MP19                            |                                    |                            |
| 1308   | ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID   | 3     | F1                  | III           | 3       |                    | LQ7                             | E1      | P001<br>R001                  |                                  | MP19                            |                                    |                            |
| 1309   | ALUMINIUM POWDER, COATED  | 4.1   | F3                  | II            | 4.1     |                    | LQ8                             | E2      | P002<br>IBC08                 | PP38<br>B4                       | MP11                            | T3                                 | TP33                       |
| 1309   | ALUMINIUM POWDER, COATED  | 4.1   | F3                  | III           | 4.1     |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | PP11<br>B3                       | MP11                            | T1                                 | TP33                       |
| 1310   | AMMONIUM PICRATE, WETTED with not less than 10% water, by mass  | 4.1   | D                   | I             | 4.1     |                    | LQ0                             | E0      | P406                          | PP26                             | MP2                             |                                    |                            |
| 1312   | BORNEOL   | 4.1   | F1                  | III           | 4.1     |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1313   | CALCIUM RESINATE  | 4.1   | F3                  | III           | 4.1     |                    | LQ9                             | E1      | P002<br>IBC06<br>R001         |                                  | MP11                            | T1                                 | TP33                       |
| 1314   | CALCIUM RESINATE, FUSED   | 4.1   | F3                  | III           | 4.1     |                    | LQ9                             | E1      | P002<br>IBC04<br>R001         |                                  | MP11                            | T1                                 | TP33                       |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BH      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | X338                      | 1305   | VINYLTRICHLOROSILANE  |
| L1.5BN    |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1306   | WOOD PRESERVATIVES, LIQUID (vapour pressure at 50 °C more than 110 kPa)   |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1306   | WOOD PRESERVATIVES, LIQUID (vapour pressure at 50 °C not more than 110 kPa)   |
| LGBF      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1306   | WOOD PRESERVATIVES, LIQUID  |
| L4BN      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 33                        | 1306   | WOOD PRESERVATIVES, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  |
| L1.5BN    |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 33                        | 1306   | WOOD PRESERVATIVES, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) |
| LGBF      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 33                        | 1306   | WOOD PRESERVATIVES, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1307   | XYLENES   |
| LGBF      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1307   | XYLENES   |
| L4BN      |                    | FL                        | 1<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1308   | ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID   |
| L1.5BN    |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1308   | ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID (vapour pressure at 50 °C more than 110 kPa)  |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1308   | ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID (vapour pressure at 50 °C not more than 110 kPa)  |
| LGBF      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1308   | ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID   |
| SGAN      |                    | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 40                        | 1309   | ALUMINIUM POWDER, COATED  |
| SGAV      |                    | AT                        | 3<br>(E)                                     |                                 | VV1   |                                 |           | 40                        | 1309   | ALUMINIUM POWDER, COATED  |
|           |                    |                           | 1<br>(B)                                     |                                 |       |                                 | S14       |                           | 1310   | AMMONIUM PICRATE, WETTED with not less than 10% water, by mass  |
| SGAV      |                    | AT                        | 3<br>(E)                                     |                                 | VV1   |                                 |           | 40                        | 1312   | BORNEOL   |
| SGAV      |                    | AT                        | 3<br>(E)                                     | V12                             | VV1   |                                 |           | 40                        | 1313   | CALCIUM RESINATE  |
| SGAV      |                    | AT                        | 3<br>(E)                                     |                                 | VV1   |                                 |           | 40                        | 1314   | CALCIUM RESINATE, FUSED   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1318   | COBALT RESINATE, PRECIPITATED  | 4.1   | F3                  | III           | 4.1         |                    | LQ9                             | E1      | P002<br>IBC06<br>R001         |                                  | MP11                            | T1                                 | TP33                       |
| 1320   | DINITROPHENOL, WETTED with not less than 15% water, by mass            | 4.1   | DT                  | I             | 4.1<br>+6.1 |                    | LQ0                             | E0      | P406                          | PP26                             | MP2                             |                                    |                            |
| 1321   | DINITROPHENOLATES, WETTED with not less than 15% water, by mass        | 4.1   | DT                  | I             | 4.1<br>+6.1 |                    | LQ0                             | E0      | P406                          | PP26                             | MP2                             |                                    |                            |
| 1322   | DINITRORESORCINOL, WETTED with not less than 15% water, by mass        | 4.1   | D                   | I             | 4.1         |                    | LQ0                             | E0      | P406                          | PP26                             | MP2                             |                                    |                            |
| 1323   | FERROCERIUM  | 4.1   | F3                  | II            | 4.1         | 249                | LQ8                             | E2      | P002<br>IBC08                 | B4                               | MP11                            | T3                                 | TP33                       |
| 1324   | FILMS, NITROCELLULOSE BASE, gelatin coated, except scrap               | 4.1   | F1                  | III           | 4.1         |                    | LQ9                             | E1      | P002<br>R001                  | PP15                             | MP11                            |                                    |                            |
| 1325   | FLAMMABLE SOLID, ORGANIC, N.O.S.                                       | 4.1   | F1                  | II            | 4.1         | 274                | LQ8                             | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1325   | FLAMMABLE SOLID, ORGANIC, N.O.S.                                       | 4.1   | F1                  | III           | 4.1         | 274                | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1326   | HAFNIUM POWDER, WETTED with not less than 25% water                    | 4.1   | F3                  | II            | 4.1         | 586                | LQ8                             | E2      | P410<br>IBC06                 | PP40                             | MP11                            | T3                                 | TP33                       |
| 1327   | Hay, Straw or Bhusa  | 4.1   | F1                  |               |             | NOT SUBJECT TO ADR |                                 |         |                               |                                  |                                 |                                    |                            |
| 1328   | HEXAMETHYLENETE-TRAMINE  | 4.1   | F1                  | III           | 4.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>R001         | B3                               | MP10                            | T1                                 | TP33                       |
| 1330   | MANGANESE RESINATE   | 4.1   | F3                  | III           | 4.1         |                    | LQ9                             | E1      | P002<br>IBC06<br>R001         |                                  | MP11                            | T1                                 | TP33                       |
| 1331   | MATCHES, 'STRIKE ANYWHERE'   | 4.1   | F1                  | III           | 4.1         | 293                | LQ9                             | E1      | P407                          | PP27                             | MP12                            |                                    |                            |
| 1332   | METALDEHYDE  | 4.1   | F1                  | III           | 4.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1333   | CERIUM, slabs, ingots or rods  | 4.1   | F3                  | II            | 4.1         |                    | LQ8                             | E2      | P002<br>IBC08                 | B4                               | MP11                            |                                    |                            |
| 1334   | NAPHTHALENE, CRUDE or NAPHTHALENE, REFINED                             | 4.1   | F1                  | III           | 4.1         | 501                | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1<br>BK1 BK2                      | TP33                       |
| 1336   | NITROGUANIDINE (PICRITE), WETTED with not less than 20% water, by mass | 4.1   | D                   | I             | 4.1         |                    | LQ0                             | E0      | P406                          |                                  | MP2                             |                                    |                            |
| 1337   | NITROSTARCH, WETTED with not less than 20% water, by mass              | 4.1   | D                   | I             | 4.1         |                    | LQ0                             | E0      | P406                          |                                  | MP2                             |                                    |                            |
| 1338   | PHOSPHORUS, AMORPHOUS  | 4.1   | F3                  | III           | 4.1         |                    | LQ9                             | E1      | P410<br>IBC08<br>R001         | B3                               | MP11                            | T1                                 | TP33                       |
| 1339   | PHOSPHORUS HEPTASULPHIDE, free from yellow and white phosphorus        | 4.1   | F3                  | II            | 4.1         | 602                | LQ8                             | E2      | P410<br>IBC04                 |                                  | MP11                            | T3                                 | TP33                       |
| 1340   | PHOSPHORUS PENTASULPHIDE, free from yellow and white phosphorus        | 4.3   | WF2                 | II            | 4.3<br>+4.1 | 602                | LQ11                            | E2      | P410<br>IBC04                 |                                  | MP14                            | T3                                 | TP33                       |
| 1341   | PHOSPHORUS SESQUISULPHIDE, free from yellow and white phosphorus       | 4.1   | F3                  | II            | 4.1         | 602                | LQ8                             | E2      | P410<br>IBC04                 |                                  | MP11                            | T3                                 | TP33                       |
| 1343   | PHOSPHORUS TRISULPHIDE, free from yellow and white phosphorus          | 4.1   | F3                  | II            | 4.1         | 602                | LQ8                             | E2      | P410<br>IBC04                 |                                  | MP11                            | T3                                 | TP33                       |

| ADR tank           |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|--------------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code          | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3                | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)               | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| SGAV               |                    | AT                        | 3 (E)  | V12                             | VV1   |                                 |           | 40                        | 1318   | COBALT RESINATE, PRECIPITATED  |
|                    |                    |                           | 1 (B)  |                                 |       | CV28                            | S14       |                           | 1320   | DINITROPHENOL, WETTED with not less than 15% water, by mass            |
|                    |                    |                           | 1 (B)  |                                 |       | CV28                            | S14       |                           | 1321   | DINITROPHENOLATES, WETTED with not less than 15% water, by mass        |
|                    |                    |                           | 1 (B)  |                                 |       |                                 | S14       |                           | 1322   | DINITRORESORCINOL, WETTED with not less than 15% water, by mass        |
| SGAN               |                    | AT                        | 2 (E)  | V11                             |       |                                 |           | 40                        | 1323   | FERROCERIUM  |
|                    |                    |                           | 3 (E)  |                                 |       |                                 |           |                           | 1324   | FILMS, NITROCELLULOSE BASE, gelatin coated, except scrap               |
| SGAN               |                    | AT                        | 2 (E)  | V11                             |       |                                 |           | 40                        | 1325   | FLAMMABLE SOLID, ORGANIC, N.O.S.                                       |
| SGAV               |                    | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 1325   | FLAMMABLE SOLID, ORGANIC, N.O.S.                                       |
| SGAN               |                    | AT                        | 2 (E)  | V11<br>V12                      |       |                                 |           | 40                        | 1326   | HAFNIUM POWDER, WETTED with not less than 25% water                    |
| NOT SUBJECT TO ADR |                    |                           |  |                                 |       |                                 |           |                           | 1327   | Hay, Straw or Bhusa  |
| SGAV               |                    | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 1328   | HEXAMETHYLENETE-TRAMINE  |
| SGAV               |                    | AT                        | 3 (E)  | V12                             | VV1   |                                 |           | 40                        | 1330   | MANGANESE RESINATE   |
|                    |                    |                           | 4 (E)  |                                 |       |                                 |           |                           | 1331   | MATCHES, 'STRIKE ANYWHERE'   |
| SGAV               |                    | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 1332   | METALDEHYDE  |
|                    |                    |                           | 2 (E)  | V11                             |       |                                 |           |                           | 1333   | CERIUM, slabs, ingots or rods  |
| SGAV               |                    | AT                        | 3 (E)  |                                 | VV2   |                                 |           | 40                        | 1334   | NAPHTHALENE, CRUDE or NAPHTHALENE, REFINED                             |
|                    |                    |                           | 1 (B)  |                                 |       |                                 | S14       |                           | 1336   | NITROGUANIDINE (PICRITE), WETTED with not less than 20% water, by mass |
|                    |                    |                           | 1 (B)  |                                 |       |                                 | S14       |                           | 1337   | NITROSTARCH, WETTED with not less than 20% water, by mass              |
| SGAV               |                    | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 1338   | PHOSPHORUS, AMORPHOUS  |
| SGAN               |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 40                        | 1339   | PHOSPHORUS HEPTASULPHIDE, free from yellow and white phosphorus        |
| SGAN               |                    | AT                        | 0 (D/E)                                      | V1                              |       | CV23                            |           | 423                       | 1340   | PHOSPHORUS PENTASULPHIDE, free from yellow and white phosphorus        |
| SGAN               |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 40                        | 1341   | PHOSPHORUS SESQUISULPHIDE, free from yellow and white phosphorus       |
| SGAN               |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 40                        | 1343   | PHOSPHORUS TRISULPHIDE, free from yellow and white phosphorus          |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels   | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|----------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |          |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)      | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1344   | TRINITROPHENOL (PICRIC ACID), WETTED with not less than 30% water, by mass | 4.1   | D                   | I             | 4.1      |                    | LQ0                             | E0      | P406                       | PP26                             | MP2                             |                                    |                            |
| 1345   | RUBBER SCRAP or RUBBER SHODDY, powdered or granulated                      | 4.1   | F1                  | II            | 4.1      |                    | LQ8                             | E2      | P002 IBC08                 | B4                               | MP11                            | T3                                 | TP33                       |
| 1346   | SILICON POWDER, AMORPHOUS  | 4.1   | F3                  | III           | 4.1      | 32                 | LQ9                             | E1      | P002 IBC08 LP02 R001       | B3                               | MP11                            | T1                                 | TP33                       |
| 1347   | SILVER PICRATE, WETTED with not less than 30% water, by mass               | 4.1   | D                   | I             | 4.1      |                    | LQ0                             | E0      | P406                       | PP25 PP26                        | MP2                             |                                    |                            |
| 1348   | SODIUM DINITRO-o-CRESOLATE, WETTED with not less than 15% water, by mass   | 4.1   | DT                  | I             | 4.1 +6.1 |                    | LQ0                             | E0      | P406                       | PP26                             | MP2                             |                                    |                            |
| 1349   | SODIUM PICRAMATE, WETTED with not less than 20% water, by mass             | 4.1   | D                   | I             | 4.1      |                    | LQ0                             | E0      | P406                       | PP26                             | MP2                             |                                    |                            |
| 1350   | SULPHUR  | 4.1   | F3                  | III           | 4.1      | 242                | LQ9                             | E1      | P002 IBC08 LP02 R001       | B3                               | MP11                            | T1 BK1 BK2                         | TP33                       |
| 1352   | TITANIUM POWDER, WETTED with not less than 25% water                       | 4.1   | F3                  | II            | 4.1      | 586                | LQ8                             | E2      | P410 IBC06                 | PP40                             | MP11                            | T3                                 | TP33                       |
| 1353   | FIBRES or FABRICS IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S.  | 4.1   | F1                  | III           | 4.1      | 274 502            | LQ9                             | E1      | P410 IBC08 R001            | B3                               | MP11                            |                                    |                            |
| 1354   | TRINITROBENZENE, WETTED with not less than 30% water, by mass              | 4.1   | D                   | I             | 4.1      |                    | LQ0                             | E0      | P406                       |                                  | MP2                             |                                    |                            |
| 1355   | TRINITROBENZOIC ACID, WETTED with not less than 30% water, by mass         | 4.1   | D                   | I             | 4.1      |                    | LQ0                             | E0      | P406                       |                                  | MP2                             |                                    |                            |
| 1356   | TRINITROTOLUENE (TNT), WETTED with not less than 30% water, by mass        | 4.1   | D                   | I             | 4.1      |                    | LQ0                             | E0      | P406                       |                                  | MP2                             |                                    |                            |
| 1357   | UREA NITRATE, WETTED with not less than 20% water, by mass                 | 4.1   | D                   | I             | 4.1      | 227                | LQ0                             | E0      | P406                       |                                  | MP2                             |                                    |                            |
| 1358   | ZIRCONIUM POWDER, WETTED with not less than 25% water                      | 4.1   | F3                  | II            | 4.1      | 586                | LQ8                             | E2      | P410 IBC06                 | PP40                             | MP11                            | T3                                 | TP33                       |
| 1360   | CALCIUM PHOSPHIDE  | 4.3   | WT2                 | I             | 4.3 +6.1 |                    | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1361   | CARBON, animal or vegetable origin   | 4.2   | S2                  | II            | 4.2      |                    | LQ0                             | E2      | P002 IBC06                 | PP12                             | MP14                            | T3                                 | TP33                       |
| 1361   | CARBON, animal or vegetable origin   | 4.2   | S2                  | III           | 4.2      |                    | LQ0                             | E1      | P002 IBC08 LP02 R001       | PP12 B3                          | MP14                            | T1                                 | TP33                       |
| 1362   | CARBON, ACTIVATED  | 4.2   | S2                  | III           | 4.2      | 646                | LQ0                             | E1      | P002 IBC08 LP02 R001       | PP11 B3                          | MP14                            | T1                                 | TP33                       |
| 1363   | COPRA  | 4.2   | S2                  | III           | 4.2      |                    | LQ0                             | E1      | P003 IBC08 LP02 R001       | PP20 B3 B6                       | MP14                            |                                    |                            |
| 1364   | COTTON WASTE, OILY   | 4.2   | S2                  | III           | 4.2      |                    | LQ0                             | E1      | P003 IBC08 LP02 R001       | PP19 B3 B6                       | MP14                            |                                    |                            |
| 1365   | COTTON, WET  | 4.2   | S2                  | III           | 4.2      |                    | LQ0                             | E1      | P003 IBC08 LP02 R001       | PP19 B3 B6                       | MP14                            |                                    |                            |



| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 1 (B)  |                                 |       |                                 | S14       |                           | 1344   | TRINITROPHENOL (PICRIC ACID), WETTED with not less than 30% water, by mass |
| SGAN      |                    | AT                        | 4 (E)  | V11                             |       |                                 |           | 40                        | 1345   | RUBBER SCRAP or RUBBER SHODDY, powdered or granulated                      |
| SGAV      |                    | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 1346   | SILICON POWDER, AMORPHOUS  |
|           |                    |                           | 1 (B)  |                                 |       |                                 | S14       |                           | 1347   | SILVER PICRATE, WETTED with not less than 30% water, by mass               |
|           |                    |                           | 1 (B)  |                                 |       | CV28                            | S14       |                           | 1348   | SODIUM DINITRO-o-CRESOLATE, WETTED with not less than 15% water, by mass   |
|           |                    |                           | 1 (B)  |                                 |       |                                 | S14       |                           | 1349   | SODIUM PICRAMATE, WETTED with not less than 20% water, by mass             |
| SGAV      |                    | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 1350   | SULPHUR  |
| SGAN      |                    | AT                        | 2 (E)  | V11 V12                         |       |                                 |           | 40                        | 1352   | TITANIUM POWDER, WETTED with not less than 25% water                       |
|           |                    |                           | 3 (E)  |                                 |       |                                 |           |                           | 1353   | FIBRES or FABRICS IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S.  |
|           |                    |                           | 1 (B)  |                                 |       |                                 | S14       |                           | 1354   | TRINITROBENZENE, WETTED with not less than 30% water, by mass              |
|           |                    |                           | 1 (B)  |                                 |       |                                 | S14       |                           | 1355   | TRINITROBENZOIC ACID, WETTED with not less than 30% water, by mass         |
|           |                    |                           | 1 (B)  |                                 |       |                                 | S14       |                           | 1356   | TRINITROTOLUENE (TNT), WETTED with not less than 30% water, by mass        |
|           |                    |                           | 1 (B)  |                                 |       |                                 | S14       |                           | 1357   | UREA NITRATE, WETTED with not less than 20% water, by mass                 |
| SGAN      |                    | AT                        | 2 (E)  | V11 V12                         |       |                                 |           | 40                        | 1358   | ZIRCONIUM POWDER, WETTED with not less than 25% water                      |
|           |                    |                           | 1 (E)  | V1                              |       | CV23 CV28                       | S20       |                           | 1360   | CALCIUM PHOSPHIDE  |
| SGAN      | TU11               | AT                        | 2 (D/E)                                      | V1 V12 V13                      |       |                                 |           | 40                        | 1361   | CARBON, animal or vegetable origin   |
| SGAV      |                    | AT                        | 4 (E)  | V1 V13                          | VV4   |                                 |           | 40                        | 1361   | CARBON, animal or vegetable origin   |
| SGAV      |                    | AT                        | 4 (E)  | V1                              | VV4   |                                 |           | 40                        | 1362   | CARBON, ACTIVATED  |
|           |                    |                           | 3 (E)  | V1                              | VV4   |                                 |           | 40                        | 1363   | COPRA  |
|           |                    |                           | 3 (E)  | V1                              | VV4   |                                 |           | 40                        | 1364   | COTTON WASTE, OILY   |
|           |                    |                           | 3 (E)  | V1                              | VV4   |                                 |           | 40                        | 1365   | COTTON, WET  |

| UN No. | Name and description   | Class | Classification code | Packing group      | Labels   | Special provisions | Limited and excepted quantities |      | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|--------------------|----------|--------------------|---------------------------------|------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |                    |          |                    |                                 |      | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)                | (5)      | (6)                | (7a)                            | (7b) | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1369   | p-NITROSODIMETHYL-ANILINE  | 4.2   | S2                  | II                 | 4.2      |                    | LQ0                             | E2   | P410 IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 1372   | Fibres, animal or fibres, vegetable burnt, wet or damp   | 4.2   | S2                  | NOT SUBJECT TO ADR |          |                    |                                 |      |                            |                                  |                                 |                                    |                            |
| 1373   | FIBRES or FABRICS, ANIMAL or VEGETABLE or SYNTHETIC, N.O.S. with oil                                   | 4.2   | S2                  | III                | 4.2      | 274                | LQ0                             | E1   | P410 IBC08 R001            | B3                               | MP14                            | T1                                 | TP33                       |
| 1374   | FISH MEAL (FISH SCRAP), UNSTABILIZED   | 4.2   | S2                  | II                 | 4.2      | 300                | LQ0                             | E2   | P410 IBC08                 | B4                               | MP14                            | T3                                 | TP33                       |
| 1376   | IRON OXIDE, SPENT or IRON SPONGE, SPENT obtained from coal gas purification                            | 4.2   | S4                  | III                | 4.2      | 592                | LQ0                             | E1   | P002 IBC08 LP02 R001       | B3                               | MP14                            | T1 BK2                             | TP33                       |
| 1378   | METAL CATALYST, WETTED with a visible excess of liquid   | 4.2   | S4                  | II                 | 4.2      | 274                | LQ0                             | E2   | P410 IBC01                 | PP39                             | MP14                            | T3                                 | TP33                       |
| 1379   | PAPER, UNSATURATED OIL TREATED, incompletely dried (including carbon paper)                            | 4.2   | S2                  | III                | 4.2      |                    | LQ0                             | E1   | P410 IBC08 R001            | B3                               | MP14                            |                                    |                            |
| 1380   | PENTABORANE  | 4.2   | ST3                 | I                  | 4.2 +6.1 |                    | LQ0                             | E0   | P601                       |                                  | MP2                             |                                    |                            |
| 1381   | PHOSPHORUS, WHITE or YELLOW, UNDER WATER or IN SOLUTION  | 4.2   | ST3                 | I                  | 4.2 +6.1 | 503                | LQ0                             | E0   | P405                       |                                  | MP2                             | T9                                 | TP3 TP31                   |
| 1381   | PHOSPHORUS, WHITE or YELLOW, DRY   | 4.2   | ST4                 | I                  | 4.2 +6.1 | 503                | LQ0                             | E0   | P405                       |                                  | MP2                             | T9                                 | TP3 TP31                   |
| 1382   | POTASSIUM SULPHIDE, ANHYDROUS or POTASSIUM SULPHIDE with less than 30% water of crystallization        | 4.2   | S4                  | II                 | 4.2      | 504                | LQ0                             | E2   | P410 IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 1383   | PYROPHORIC METAL, N.O.S. or PYROPHORIC ALLOY, N.O.S.   | 4.2   | S4                  | I                  | 4.2      | 274                | LQ0                             | E0   | P404                       |                                  | MP13                            | T21                                | TP7 TP33                   |
| 1384   | SODIUM DITHIONITE (SODIUM HYDROSULPHITE)   | 4.2   | S4                  | II                 | 4.2      |                    | LQ0                             | E2   | P410 IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 1385   | SODIUM SULPHIDE, ANHYDROUS or SODIUM SULPHIDE with less than 30% water of crystallization              | 4.2   | S4                  | II                 | 4.2      | 504                | LQ0                             | E2   | P410 IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 1386   | SEED CAKE with more than 1.5% oil and not more than 11% moisture                                       | 4.2   | S2                  | III                | 4.2      |                    | LQ0                             | E1   | P003 IBC08 LP02 R001       | PP20 B3 B6                       | MP14                            |                                    |                            |
| 1387   | Wool waste, wet  | 4.2   | S2                  | NOT SUBJECT TO ADR |          |                    |                                 |      |                            |                                  |                                 |                                    |                            |
| 1389   | ALKALI METAL AMALGAM, LIQUID   | 4.3   | W1                  | I                  | 4.3      | 182 274            | LQ0                             | E0   | P402                       | RR8                              | MP2                             |                                    |                            |
| 1390   | ALKALI METAL AMIDES  | 4.3   | W2                  | II                 | 4.3      | 182 274 505        | LQ11                            | E2   | P410 IBC07                 |                                  | MP14                            | T3                                 | TP33                       |
| 1391   | ALKALI METAL DISPERSION or ALKALINE EARTH METAL DISPERSION having a flash-point above 60 °C            | 4.3   | W1                  | I                  | 4.3      | 182 183 274 506    | LQ0                             | E0   | P402                       | RR8                              | MP2                             |                                    |                            |
| 1391   | ALKALI METAL DISPERSION or ALKALINE EARTH METAL DISPERSION having a flash-point of not more than 60 °C | 4.3   | WF1                 | I                  | 4.3 +3   | 182 183 274 506    | LQ0                             | E0   | P402                       | RR8                              | MP2                             |                                    |                            |
| 1392   | ALKALINE EARTH METAL AMALGAM, LIQUID   | 4.3   | W1                  | I                  | 4.3      | 183 274 506        | LQ0                             | E0   | P402                       |                                  | MP2                             |                                    |                            |
| 1393   | ALKALINE EARTH METAL ALLOY, N.O.S.   | 4.3   | W2                  | II                 | 4.3      | 183 274 506        | LQ11                            | E2   | P410 IBC07                 |                                  | MP14                            | T3                                 | TP33                       |
| 1394   | ALUMINIUM CARBIDE  | 4.3   | W2                  | II                 | 4.3      |                    | LQ11                            | E2   | P410 IBC07                 |                                  | MP14                            | T3                                 | TP33                       |

| ADR tank           |                               | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|--------------------|-------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code          | Special provisions            |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3                | 4.3.5, 6.8.4                  | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)               | (13)                          | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| SGAN               |                               | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |       |                                 |           | 40                        | 1369   | p-NITROSODIMETHYL-ANILINE  |
| NOT SUBJECT TO ADR |                               |                           |  |                                 |       |                                 |           |                           | 1372   | Fibres, animal or fibres, vegetable burnt, wet or damp   |
|                    |                               |                           | 3<br>(E)                                     | V1                              | VV4   |                                 |           | 40                        | 1373   | FIBRES or FABRICS, ANIMAL or VEGETABLE or SYNTHETIC, N.O.S. with oil                                   |
|                    |                               | AT                        | 2<br>(D/E)                                   | V1                              |       |                                 |           | 40                        | 1374   | FISH MEAL (FISH SCRAP), UNSTABILIZED   |
| SGAV               |                               | AT                        | 3<br>(E)                                     | V1                              | VV4   |                                 |           | 40                        | 1376   | IRON OXIDE, SPENT or IRON SPONGE, SPENT obtained from coal gas purification                            |
| SGAN               |                               | AT                        | 2<br>(D/E)                                   | V1                              |       |                                 |           | 40                        | 1378   | METAL CATALYST, WETTED with a visible excess of liquid   |
|                    |                               |                           | 3<br>(E)                                     | V1                              | VV4   |                                 |           | 40                        | 1379   | PAPER, UNSATURATED OIL TREATED, incompletely dried (including carbon paper)                            |
| L21DH              | TU14 TC1<br>TE21 TM1          | AT                        | 0<br>(B/E)                                   | V1                              |       | CV28                            | S20       | 333                       | 1380   | PENTABORANE  |
| L10DH(+)           | TU14 TU16<br>TU21 TE3<br>TE21 | AT                        | 0<br>(B/E)                                   | V1                              |       | CV28                            | S20       | 46                        | 1381   | PHOSPHORUS, WHITE or YELLOW, UNDER WATER or IN SOLUTION  |
| L10DH(+)           | TU14 TU16<br>TU21 TE3<br>TE21 | AT                        | 0<br>(B/E)                                   | V1                              |       | CV28                            | S20       | 46                        | 1381   | PHOSPHORUS, WHITE or YELLOW, DRY   |
| SGAN               |                               | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |       |                                 |           | 40                        | 1382   | POTASSIUM SULPHIDE, ANHYDROUS or POTASSIUM SULPHIDE with less than 30% water of crystallization        |
|                    |                               | AT                        | 0<br>(B/E)                                   | V1                              |       |                                 | S20       | 43                        | 1383   | PYROPHORIC METAL, N.O.S. or PYROPHORIC ALLOY, N.O.S.   |
| SGAN               |                               | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |       |                                 |           | 40                        | 1384   | SODIUM DITHIONITE (SODIUM HYDROSULPHITE)   |
| SGAN               |                               | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |       |                                 |           | 40                        | 1385   | SODIUM SULPHIDE, ANHYDROUS or SODIUM SULPHIDE with less than 30% water of crystallization              |
|                    |                               |                           | 3<br>(E)                                     | V1                              | VV4   |                                 |           | 40                        | 1386   | SEED CAKE with more than 1.5% oil and not more than 11% moisture                                       |
| NOT SUBJECT TO ADR |                               |                           |  |                                 |       |                                 |           |                           | 1387   | Wool waste, wet  |
| L10BN(+)           | TU1 TE5 TT3<br>TM2            | AT                        | 1<br>(B/E)                                   | V1                              |       | CV23                            | S20       | X323                      | 1389   | ALKALI METAL AMALGAM, LIQUID   |
| SGAN               |                               | AT                        | 0<br>(D/E)                                   | V1<br>V12                       |       | CV23                            |           | 423                       | 1390   | ALKALI METAL AMIDES  |
| L10BN(+)           | TU1 TE5 TT3<br>TM2            | AT                        | 1<br>(B/E)                                   | V1                              |       | CV23                            | S20       | X323                      | 1391   | ALKALI METAL DISPERSION or ALKALINE EARTH METAL DISPERSION having a flash-point above 60 °C            |
| L10BN(+)           | TU1 TE5 TT3<br>TM2            | FL                        | 1<br>(B/E)                                   | V1                              |       | CV23                            | S2 S20    | X323                      | 1391   | ALKALI METAL DISPERSION or ALKALINE EARTH METAL DISPERSION having a flash-point of not more than 60 °C |
| L10BN(+)           | TU1 TE5 TT3<br>TM2            | AT                        | 1<br>(B/E)                                   | V1                              |       | CV23                            | S20       | X323                      | 1392   | ALKALINE EARTH METAL AMALGAM, LIQUID   |
| SGAN               |                               | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |       | CV23                            |           | 423                       | 1393   | ALKALINE EARTH METAL ALLOY, N.O.S.   |
| SGAN               |                               | AT                        | 2<br>(D/E)                                   | V1<br>V12                       | VV5   | CV23                            |           | 423                       | 1394   | ALUMINIUM CARBIDE  |

| UN No. | Name and description                                    | Class | Classification code | Packing group | Labels   | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|----------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |          |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)      | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1395   | ALUMINIUM FERROSILICON POWDER                           | 4.3   | WT2                 | II            | 4.3 +6.1 |                    | LQ11                            | E2      | P410 IBC05                 | PP40                             | MP14                            | T3                                 | TP33                       |
| 1396   | ALUMINIUM POWDER, UNCOATED                              | 4.3   | W2                  | II            | 4.3      |                    | LQ12                            | E2      | P410 IBC07                 | PP40                             | MP14                            | T3                                 | TP33                       |
| 1396   | ALUMINIUM POWDER, UNCOATED                              | 4.3   | W2                  | III           | 4.3      |                    | LQ12                            | E1      | P410 IBC08 R001            | B4                               | MP14                            | T1                                 | TP33                       |
| 1397   | ALUMINIUM PHOSPHIDE                                     | 4.3   | WT2                 | I             | 4.3 +6.1 | 507                | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1398   | ALUMINIUM SILICON POWDER, UNCOATED                      | 4.3   | W2                  | III           | 4.3      | 37                 | LQ12                            | E1      | P410 IBC08 R001            | B4                               | MP14                            | T1                                 | TP33                       |
| 1400   | BARIUM  | 4.3   | W2                  | II            | 4.3      |                    | LQ11                            | E2      | P410 IBC07                 |                                  | MP14                            | T3                                 | TP33                       |
| 1401   | CALCIUM   | 4.3   | W2                  | II            | 4.3      |                    | LQ11                            | E2      | P410 IBC07                 |                                  | MP14                            | T3                                 | TP33                       |
| 1402   | CALCIUM CARBIDE   | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403 IBC04                 |                                  | MP2                             | T9                                 | TP7 TP33                   |
| 1402   | CALCIUM CARBIDE   | 4.3   | W2                  | II            | 4.3      |                    | LQ11                            | E2      | P410 IBC07                 |                                  | MP14                            | T3                                 | TP33                       |
| 1403   | CALCIUM CYANAMIDE with more than 0.1% calcium carbide   | 4.3   | W2                  | III           | 4.3      | 38                 | LQ12                            | E1      | P410 IBC08 R001            | B4                               | MP14                            | T1                                 | TP33                       |
| 1404   | CALCIUM HYDRIDE   | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1405   | CALCIUM SILICIDE  | 4.3   | W2                  | II            | 4.3      |                    | LQ11                            | E2      | P410 IBC07                 |                                  | MP14                            | T3                                 | TP33                       |
| 1405   | CALCIUM SILICIDE  | 4.3   | W2                  | III           | 4.3      |                    | LQ12                            | E1      | P410 IBC08 R001            | B4                               | MP14                            | T1                                 | TP33                       |
| 1407   | CAESIUM   | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403 IBC04                 |                                  | MP2                             |                                    |                            |
| 1408   | FERROSILICON with 30% or more but less than 90% silicon | 4.3   | WT2                 | III           | 4.3 +6.1 | 39                 | LQ12                            | E1      | P003 IBC08 R001            | PP20 B4 B6                       | MP14                            | T1 BK2                             | TP33                       |
| 1409   | METAL HYDRIDES, WATER-REACTIVE, N.O.S.                  | 4.3   | W2                  | I             | 4.3      | 274 508            | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1409   | METAL HYDRIDES, WATER-REACTIVE, N.O.S.                  | 4.3   | W2                  | II            | 4.3      | 274 508            | LQ11                            | E2      | P410 IBC04                 |                                  | MP14                            | T3                                 | TP33                       |
| 1410   | LITHIUM ALUMINIUM HYDRIDE                               | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1411   | LITHIUM ALUMINIUM HYDRIDE, ETHEREAL                     | 4.3   | WF1                 | I             | 4.3 +3   |                    | LQ0                             | E0      | P402                       | RR8                              | MP2                             |                                    |                            |
| 1413   | LITHIUM BOROHYDRIDE                                     | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1414   | LITHIUM HYDRIDE   | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1415   | LITHIUM   | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403 IBC04                 |                                  | MP2                             |                                    |                            |
| 1417   | LITHIUM SILICON   | 4.3   | W2                  | II            | 4.3      |                    | LQ11                            | E2      | P410 IBC07                 |                                  | MP14                            | T3                                 | TP33                       |
| 1418   | MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER             | 4.3   | WS                  | I             | 4.3 +4.2 |                    | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1418   | MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER             | 4.3   | WS                  | II            | 4.3 +4.2 |                    | LQ11                            | E2      | P410 IBC05                 |                                  | MP14                            | T3                                 | TP33                       |
| 1418   | MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER             | 4.3   | WS                  | III           | 4.3 +4.2 |                    | LQ12                            | E1      | P410 IBC08 R001            | B4                               | MP14                            | T1                                 | TP33                       |
| 1419   | MAGNESIUM ALUMINIUM PHOSPHIDE                           | 4.3   | WT2                 | I             | 4.3 +6.1 |                    | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1420   | POTASSIUM METAL ALLOYS, LIQUID                          | 4.3   | W1                  | I             | 4.3      |                    | LQ0                             | E0      | P402                       |                                  | MP2                             |                                    |                            |
| 1421   | ALKALI METAL ALLOY, LIQUID, N.O.S.                      | 4.3   | W1                  | I             | 4.3      | 182 274            | LQ0                             | E0      | P402                       | RR8                              | MP2                             |                                    |                            |
| 1422   | POTASSIUM SODIUM ALLOYS, LIQUID                         | 4.3   | W1                  | I             | 4.3      |                    | LQ0                             | E0      | P402                       |                                  | MP2                             | T9                                 | TP3 TP7 TP31               |

| ADR tank  |                              | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |            |                                 |           | Hazard identification No. | UN No. | Name and description                                    |
|-----------|------------------------------|---------------------------|--|---------------------------------|------------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions           |                           |  | Packages                        | Bulk       | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4                 | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3      | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)                         | (14)                      | (15)   | (16)                            | (17)       | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAN      |                              | AT                        | 2<br>(D/E)                                   | V1                              |            | CV23<br>CV28                    |           | 462                       | 1395   | ALUMINIUM FERROSILICON POWDER                           |
| SGAN      |                              | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |            | CV23                            |           | 423                       | 1396   | ALUMINIUM POWDER, UNCOATED                              |
| SGAN      |                              | AT                        | 3<br>(E)                                     | V1                              | VV5        | CV23                            |           | 423                       | 1396   | ALUMINIUM POWDER, UNCOATED                              |
|           |                              |                           | 1<br>(E)                                     | V1                              |            | CV23<br>CV28                    | S20       |                           | 1397   | ALUMINIUM PHOSPHIDE                                     |
| SGAN      |                              | AT                        | 3<br>(E)                                     | V1                              | VV5        | CV23                            |           | 423                       | 1398   | ALUMINIUM SILICON POWDER, UNCOATED                      |
| SGAN      |                              | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |            | CV23                            |           | 423                       | 1400   | BARIUM  |
| SGAN      |                              | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |            | CV23                            |           | 423                       | 1401   | CALCIUM   |
|           |                              | AT                        | 1<br>(B/E)                                   | V1                              |            | CV23                            | S20       | X423                      | 1402   | CALCIUM CARBIDE   |
| SGAN      |                              | AT                        | 2<br>(D/E)                                   | V1<br>V12                       | VV5        | CV23                            |           | 423                       | 1402   | CALCIUM CARBIDE   |
| SGAN      |                              | AT                        | 0<br>(E)                                     | V1                              |            | CV23                            |           | 423                       | 1403   | CALCIUM CYANAMIDE with more than 0.1% calcium carbide   |
|           |                              |                           | 1<br>(E)                                     | V1                              |            | CV23                            | S20       |                           | 1404   | CALCIUM HYDRIDE   |
| SGAN      |                              | AT                        | 2<br>(D/E)                                   | V1<br>V12                       | VV7        | CV23                            |           | 423                       | 1405   | CALCIUM SILICIDE  |
| SGAN      |                              | AT                        | 3<br>(E)                                     | V1                              | VV5<br>VV7 | CV23                            |           | 423                       | 1405   | CALCIUM SILICIDE  |
| L10CH(+)  | TU2 TU14 TE5<br>TE21 TT3 TM2 | AT                        | 1<br>(B/E)                                   | V1                              |            | CV23                            | S20       | X423                      | 1407   | CAESIUM   |
| SGAN      |                              | AT                        | 3<br>(E)                                     | V1                              | VV1        | CV23<br>CV28                    |           | 462                       | 1408   | FERROSILICON with 30% or more but less than 90% silicon |
|           |                              |                           | 1<br>(E)                                     | V1                              |            | CV23                            | S20       |                           | 1409   | METAL HYDRIDES, WATER-REACTIVE, N.O.S.                  |
| SGAN      |                              | AT                        | 2<br>(D/E)                                   | V1                              |            | CV23                            |           | 423                       | 1409   | METAL HYDRIDES, WATER-REACTIVE, N.O.S.                  |
|           |                              |                           | 1<br>(E)                                     | V1                              |            | CV23                            | S20       |                           | 1410   | LITHIUM ALUMINIUM HYDRIDE                               |
|           |                              |                           | 1<br>(E)                                     | V1                              |            | CV23                            | S2 S20    |                           | 1411   | LITHIUM ALUMINIUM HYDRIDE, ETHEREAL                     |
|           |                              |                           | 1<br>(E)                                     | V1                              |            | CV23                            | S20       |                           | 1413   | LITHIUM BOROHYDRIDE                                     |
|           |                              |                           | 1<br>(E)                                     | V1                              |            | CV23                            | S20       |                           | 1414   | LITHIUM HYDRIDE   |
| L10BN(+)  | TU1 TE5 TT3<br>TM2           | AT                        | 1<br>(B/E)                                   | V1                              |            | CV23                            | S20       | X423                      | 1415   | LITHIUM   |
| SGAN      |                              | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |            | CV23                            |           | 423                       | 1417   | LITHIUM SILICON   |
|           |                              |                           | 1<br>(E)                                     | V1                              |            | CV23                            | S20       |                           | 1418   | MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER             |
| SGAN      |                              | AT                        | 2<br>(D/E)                                   | V1                              |            | CV23                            |           | 423                       | 1418   | MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER             |
| SGAN      |                              | AT                        | 3<br>(E)                                     | V1                              | VV5        | CV23                            |           | 423                       | 1418   | MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER             |
|           |                              |                           | 1<br>(E)                                     | V1                              |            | CV23<br>CV28                    | S20       |                           | 1419   | MAGNESIUM ALUMINIUM PHOSPHIDE                           |
| L10BN(+)  | TU1 TE5 TT3<br>TM2           | AT                        | 1<br>(B/E)                                   | V1                              |            | CV23                            | S20       | X323                      | 1420   | POTASSIUM METAL ALLOYS, LIQUID                          |
| L10BN(+)  | TU1 TE5 TT3<br>TM2           | AT                        | 1<br>(B/E)                                   | V1                              |            | CV23                            | S20       | X323                      | 1421   | ALKALI METAL ALLOY, LIQUID, N.O.S.                      |
| L10BN(+)  | TU1 TE5 TT3<br>TM2           | AT                        | 1<br>(B/E)                                   | V1                              |            | CV23                            | S20       | X323                      | 1422   | POTASSIUM SODIUM ALLOYS, LIQUID                         |

| UN No. | Name and description        | Class | Classification code | Packing group | Labels   | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|-----------------------------|-------|---------------------|---------------|----------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |                             |       |                     |               |          |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)                         | (3a)  | (3b)                | (4)           | (5)      | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1423   | RUBIDIUM                    | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403 IBC04                 |                                  | MP2                             |                                    |                            |
| 1426   | SODIUM BOROHYDRIDE          | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1427   | SODIUM HYDRIDE              | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1428   | SODIUM                      | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403 IBC04                 |                                  | MP2                             | T9                                 | TP7 TP33                   |
| 1431   | SODIUM METHYLATE            | 4.2   | SC4                 | II            | 4.2 +8   |                    | LQ0                             | E2      | P410 IBC05                 |                                  | MP14                            | T3                                 | TP33                       |
| 1432   | SODIUM PHOSPHIDE            | 4.3   | WT2                 | I             | 4.3 +6.1 |                    | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1433   | STANNIC PHOSPHIDES          | 4.3   | WT2                 | I             | 4.3 +6.1 |                    | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1435   | ZINC ASHES                  | 4.3   | W2                  | III           | 4.3      |                    | LQ12                            | E1      | P002 IBC08 R001            | B4                               | MP14                            | T1                                 | TP33                       |
| 1436   | ZINC POWDER or ZINC DUST    | 4.3   | WS                  | I             | 4.3 +4.2 |                    | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 1436   | ZINC POWDER or ZINC DUST    | 4.3   | WS                  | II            | 4.3 +4.2 |                    | LQ11                            | E2      | P410 IBC07                 | PP40                             | MP14                            | T3                                 | TP33                       |
| 1436   | ZINC POWDER or ZINC DUST    | 4.3   | WS                  | III           | 4.3 +4.2 |                    | LQ12                            | E1      | P410 IBC08 R001            | B4                               | MP14                            | T1                                 | TP33                       |
| 1437   | ZIRCONIUM HYDRIDE           | 4.1   | F3                  | II            | 4.1      |                    | LQ8                             | E2      | P410 IBC04                 | PP40                             | MP11                            | T3                                 | TP33                       |
| 1438   | ALUMINIUM NITRATE           | 5.1   | O2                  | III           | 5.1      |                    | LQ12                            | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1 BK1 BK2                         | TP33                       |
| 1439   | AMMONIUM DICHROMATE         | 5.1   | O2                  | II            | 5.1      |                    | LQ11                            | E2      | P002 IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1442   | AMMONIUM PERCHLORATE        | 5.1   | O2                  | II            | 5.1      | 152                | LQ11                            | E2      | P002 IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1444   | AMMONIUM PERSULPHATE        | 5.1   | O2                  | III           | 5.1      |                    | LQ12                            | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1                                 | TP33                       |
| 1445   | BARIUM CHLORATE, SOLID      | 5.1   | OT2                 | II            | 5.1 +6.1 |                    | LQ11                            | E2      | P002 IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1446   | BARIUM NITRATE              | 5.1   | OT2                 | II            | 5.1 +6.1 |                    | LQ11                            | E2      | P002 IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1447   | BARIUM PERCHLORATE, SOLID   | 5.1   | OT2                 | II            | 5.1 +6.1 |                    | LQ11                            | E2      | P002 IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1448   | BARIUM PERMANGANATE         | 5.1   | OT2                 | II            | 5.1 +6.1 |                    | LQ11                            | E2      | P002 IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1449   | BARIUM PEROXIDE             | 5.1   | OT2                 | II            | 5.1 +6.1 |                    | LQ11                            | E2      | P002 IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1450   | BROMATES, INORGANIC, N.O.S. | 5.1   | O2                  | II            | 5.1      | 274 604            | LQ11                            | E2      | P002 IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1451   | CAESIUM NITRATE             | 5.1   | O2                  | III           | 5.1      |                    | LQ12                            | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1                                 | TP33                       |
| 1452   | CALCIUM CHLORATE            | 5.1   | O2                  | II            | 5.1      |                    | LQ11                            | E2      | P002 IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1453   | CALCIUM CHLORITE            | 5.1   | O2                  | II            | 5.1      |                    | LQ11                            | E2      | P002 IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1454   | CALCIUM NITRATE             | 5.1   | O2                  | III           | 5.1      | 208                | LQ12                            | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1 BK1 BK2                         | TP33                       |
| 1455   | CALCIUM PERCHLORATE         | 5.1   | O2                  | II            | 5.1      |                    | LQ11                            | E2      | P002 IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1456   | CALCIUM PERMANGANATE        | 5.1   | O2                  | II            | 5.1      |                    | LQ11                            | E2      | P002 IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1457   | CALCIUM PEROXIDE            | 5.1   | O2                  | II            | 5.1      |                    | LQ11                            | E2      | P002 IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1458   | CHLORATE AND BORATE MIXTURE | 5.1   | O2                  | II            | 5.1      |                    | LQ11                            | E2      | P002 IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |

| ADR tank  |                              | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description        |
|-----------|------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|-----------------------------|
| Tank code | Special provisions           |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |                             |
| 4.3       | 4.3.5, 6.8.4                 | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2                       |
| (12)      | (13)                         | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)                         |
| L10CH(+)  | TU2 TU14 TE5<br>TE21 TT3 TM2 | AT                        | 1<br>(B/E)                                   | V1                              |       | CV23                            | S20       | X423                      | 1423   | RUBIDIUM                    |
|           |                              |                           | 1<br>(E)                                     | V1                              |       | CV23                            | S20       |                           | 1426   | SODIUM BOROHYDRIDE          |
|           |                              |                           | 1<br>(E)                                     | V1                              |       | CV23                            | S20       |                           | 1427   | SODIUM HYDRIDE              |
| L10BN(+)  | TU1 TE5 TT3<br>TM2           | AT                        | 1<br>(B/E)                                   | V1                              |       | CV23                            | S20       | X423                      | 1428   | SODIUM                      |
| SGAN      |                              | AT                        | 2<br>(D/E)                                   | V1                              |       |                                 |           | 48                        | 1431   | SODIUM METHYLATE            |
|           |                              |                           | 1<br>(E)                                     | V1                              |       | CV23<br>CV28                    | S20       |                           | 1432   | SODIUM PHOSPHIDE            |
|           |                              |                           | 1<br>(E)                                     | V1                              |       | CV23<br>CV28                    | S20       |                           | 1433   | STANNIC PHOSPHIDES          |
| SGAN      |                              | AT                        | 3<br>(E)                                     | V1                              | VV5   | CV23                            |           | 423                       | 1435   | ZINC ASHES                  |
|           |                              |                           | 1<br>(E)                                     | V1                              |       | CV23                            | S20       |                           | 1436   | ZINC POWDER or ZINC DUST    |
| SGAN      |                              | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |       | CV23                            |           | 423                       | 1436   | ZINC POWDER or ZINC DUST    |
| SGAN      |                              | AT                        | 3<br>(E)                                     | V1                              | VV5   | CV23                            |           | 423                       | 1436   | ZINC POWDER or ZINC DUST    |
| SGAN      |                              | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 40                        | 1437   | ZIRCONIUM HYDRIDE           |
| SGAV      | TU3                          | AT                        | 3<br>(E)                                     |                                 | VV8   | CV24                            |           | 50                        | 1438   | ALUMINIUM NITRATE           |
| SGAN      | TU3                          | AT                        | 2<br>(E)                                     | V11                             |       | CV24                            |           | 50                        | 1439   | AMMONIUM DICHROMATE         |
|           |                              |                           | 2<br>(E)                                     | V11<br>V12                      | VV8   | CV24                            | S23       | 50                        | 1442   | AMMONIUM PERCHLORATE        |
| SGAV      | TU3                          | AT                        | 3<br>(E)                                     |                                 | VV8   | CV24                            |           | 50                        | 1444   | AMMONIUM PERSULPHATE        |
| SGAN      | TU3                          | AT                        | 2<br>(E)                                     | V11<br>V12                      |       | CV24<br>CV28                    |           | 56                        | 1445   | BARIUM CHLORATE, SOLID      |
| SGAN      | TU3                          | AT                        | 2<br>(E)                                     | V11                             |       | CV24<br>CV28                    |           | 56                        | 1446   | BARIUM NITRATE              |
| SGAN      | TU3                          | AT                        | 2<br>(E)                                     | V11<br>V12                      |       | CV24<br>CV28                    | S23       | 56                        | 1447   | BARIUM PERCHLORATE, SOLID   |
| SGAN      | TU3                          | AT                        | 2<br>(E)                                     | V11<br>V12                      |       | CV24<br>CV28                    |           | 56                        | 1448   | BARIUM PERMANGANATE         |
| SGAN      | TU3                          | AT                        | 2<br>(E)                                     | V11<br>V12                      |       | CV24<br>CV28                    |           | 56                        | 1449   | BARIUM PEROXIDE             |
| SGAV      | TU3                          | AT                        | 2<br>(E)                                     | V11                             | VV8   | CV24                            |           | 50                        | 1450   | BROMATES, INORGANIC, N.O.S. |
| SGAV      | TU3                          | AT                        | 3<br>(E)                                     |                                 | VV8   | CV24                            |           | 50                        | 1451   | CAESIUM NITRATE             |
| SGAV      | TU3                          | AT                        | 2<br>(E)                                     | V11                             | VV8   | CV24                            |           | 50                        | 1452   | CALCIUM CHLORATE            |
| SGAN      | TU3                          | AT                        | 2<br>(E)                                     | V11                             |       | CV24                            |           | 50                        | 1453   | CALCIUM CHLORITE            |
| SGAV      | TU3                          | AT                        | 3<br>(E)                                     |                                 | VV8   | CV24                            |           | 50                        | 1454   | CALCIUM NITRATE             |
| SGAV      | TU3                          | AT                        | 2<br>(E)                                     | V11<br>V12                      | VV8   | CV24                            | S23       | 50                        | 1455   | CALCIUM PERCHLORATE         |
| SGAN      | TU3                          | AT                        | 2<br>(E)                                     | V11<br>V12                      |       | CV24                            |           | 50                        | 1456   | CALCIUM PERMANGANATE        |
| SGAN      | TU3                          | AT                        | 2<br>(E)                                     | V11<br>V12                      |       | CV24                            |           | 50                        | 1457   | CALCIUM PEROXIDE            |
| SGAV      | TU3                          | AT                        | 2<br>(E)                                     | V11                             | VV8   | CV24                            |           | 50                        | 1458   | CHLORATE AND BORATE MIXTURE |

| UN No. | Name and description                                      | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |                   |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1458   | CHLORATE AND BORATE MIXTURE                               | 5.1   | O2                  | III           | 5.1               |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP2                             | T1                                 | TP33                       |
| 1459   | CHLORATE AND MAGNESIUM CHLORIDE MIXTURE, SOLID            | 5.1   | O2                  | II            | 5.1               |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1459   | CHLORATE AND MAGNESIUM CHLORIDE MIXTURE, SOLID            | 5.1   | O2                  | III           | 5.1               |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP2                             | T1                                 | TP33                       |
| 1461   | CHLORATES, INORGANIC, N.O.S.                              | 5.1   | O2                  | II            | 5.1               | 274<br>605         | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1462   | CHLORITES, INORGANIC, N.O.S.                              | 5.1   | O2                  | II            | 5.1               | 274<br>509<br>606  | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1463   | CHROMIUM TRIOXIDE, ANHYDROUS                              | 5.1   | OTC                 | II            | 5.1<br>+6.1<br>+8 | 510                | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1465   | DIDYMIUM NITRATE  | 5.1   | O2                  | III           | 5.1               |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1466   | FERRIC NITRATE  | 5.1   | O2                  | III           | 5.1               |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1467   | GUANIDINE NITRATE   | 5.1   | O2                  | III           | 5.1               |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1469   | LEAD NITRATE  | 5.1   | OT2                 | II            | 5.1<br>+6.1       |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1470   | LEAD PERCHLORATE, SOLID                                   | 5.1   | OT2                 | II            | 5.1<br>+6.1       |                    | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1471   | LITHIUM HYPOCHLORITE, DRY or LITHIUM HYPOCHLORITE MIXTURE | 5.1   | O2                  | II            | 5.1               |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP10                            |                                    |                            |
| 1472   | LITHIUM PEROXIDE  | 5.1   | O2                  | II            | 5.1               |                    | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1473   | MAGNESIUM BROMATE   | 5.1   | O2                  | II            | 5.1               |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1474   | MAGNESIUM NITRATE   | 5.1   | O2                  | III           | 5.1               | 332                | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1<br>BK1 BK2                      | TP33                       |
| 1475   | MAGNESIUM PERCHLORATE                                     | 5.1   | O2                  | II            | 5.1               |                    | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1476   | MAGNESIUM PEROXIDE  | 5.1   | O2                  | II            | 5.1               |                    | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1477   | NITRATES, INORGANIC, N.O.S.                               | 5.1   | O2                  | II            | 5.1               | 274<br>511         | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1477   | NITRATES, INORGANIC, N.O.S.                               | 5.1   | O2                  | III           | 5.1               | 274<br>511         | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1479   | OXIDIZING SOLID, N.O.S.                                   | 5.1   | O2                  | I             | 5.1               | 274                | LQ0                             | E0      | P503<br>IBC05                 |                                  | MP2                             |                                    |                            |
| 1479   | OXIDIZING SOLID, N.O.S.                                   | 5.1   | O2                  | II            | 5.1               | 274                | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1479   | OXIDIZING SOLID, N.O.S.                                   | 5.1   | O2                  | III           | 5.1               | 274                | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP2                             | T1                                 | TP33                       |
| 1481   | PERCHLORATES, INORGANIC, N.O.S.                           | 5.1   | O2                  | II            | 5.1               | 274                | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1481   | PERCHLORATES, INORGANIC, N.O.S.                           | 5.1   | O2                  | III           | 5.1               | 274                | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP2                             | T1                                 | TP33                       |
| 1482   | PERMANGANATES, INORGANIC, N.O.S.                          | 5.1   | O2                  | II            | 5.1               | 274<br>608         | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |



| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                                      |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1458   | CHLORATE AND BORATE MIXTURE                               |
| SGAV      | TU3                | AT                        | 2 (E)  | V11                             | VV8   | CV24                            |           | 50                        | 1459   | CHLORATE AND MAGNESIUM CHLORIDE MIXTURE, SOLID            |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1459   | CHLORATE AND MAGNESIUM CHLORIDE MIXTURE, SOLID            |
| SGAV      | TU3                | AT                        | 2 (E)  | V11<br>V12                      | VV8   | CV24                            |           | 50                        | 1461   | CHLORATES, INORGANIC, N.O.S.                              |
| SGAN      | TU3                | AT                        | 2 (E)  | V11<br>V12                      |       | CV24                            |           | 50                        | 1462   | CHLORITES, INORGANIC, N.O.S.                              |
| SGAN      | TU3                | AT                        | 2 (E)  | V11<br>V12                      |       | CV24<br>CV28                    |           | 568                       | 1463   | CHROMIUM TRIOXIDE, ANHYDROUS                              |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1465   | DIDYMIUM NITRATE  |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1466   | FERRIC NITRATE  |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1467   | GUANIDINE NITRATE   |
| SGAN      | TU3                | AT                        | 2 (E)  | V11                             |       | CV24<br>CV28                    |           | 56                        | 1469   | LEAD NITRATE  |
| SGAN      | TU3                | AT                        | 2 (E)  | V11<br>V12                      |       | CV24<br>CV28                    | S23       | 56                        | 1470   | LEAD PERCHLORATE, SOLID                                   |
| SGAN      | TU3                | AT                        | 2 (E)  | V11                             |       | CV24                            |           | 50                        | 1471   | LITHIUM HYPOCHLORITE, DRY or LITHIUM HYPOCHLORITE MIXTURE |
| SGAN      | TU3                | AT                        | 2 (E)  | V11<br>V12                      |       | CV24                            |           | 50                        | 1472   | LITHIUM PEROXIDE  |
| SGAV      | TU3                | AT                        | 2 (E)  | V11                             | VV8   | CV24                            |           | 50                        | 1473   | MAGNESIUM BROMATE   |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1474   | MAGNESIUM NITRATE   |
| SGAV      | TU3                | AT                        | 2 (E)  | V11<br>V12                      | VV8   | CV24                            | S23       | 50                        | 1475   | MAGNESIUM PERCHLORATE                                     |
| SGAN      | TU3                | AT                        | 2 (E)  | V11<br>V12                      |       | CV24                            |           | 50                        | 1476   | MAGNESIUM PEROXIDE  |
| SGAN      | TU3                | AT                        | 2 (E)  | V11                             |       | CV24                            |           | 50                        | 1477   | NITRATES, INORGANIC, N.O.S.                               |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1477   | NITRATES, INORGANIC, N.O.S.                               |
|           |                    |                           | 1 (E)  | V10                             |       | CV24                            | S20       |                           | 1479   | OXIDIZING SOLID, N.O.S.                                   |
| SGAN      | TU3                | AT                        | 2 (E)  | V11                             |       | CV24                            |           | 50                        | 1479   | OXIDIZING SOLID, N.O.S.                                   |
| SGAN      | TU3                | AT                        | 3 (E)  |                                 |       | CV24                            |           | 50                        | 1479   | OXIDIZING SOLID, N.O.S.                                   |
| SGAV      | TU3                | AT                        | 2 (E)  | V11<br>V12                      | VV8   | CV24                            | S23       | 50                        | 1481   | PERCHLORATES, INORGANIC, N.O.S.                           |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            | S23       | 50                        | 1481   | PERCHLORATES, INORGANIC, N.O.S.                           |
| SGAN      | TU3                | AT                        | 2 (E)  | V11<br>V12                      |       | CV24                            |           | 50                        | 1482   | PERMANGANATES, INORGANIC, N.O.S.                          |

| UN No. | Name and description                         | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1482   | PERMANGANATES, INORGANIC, N.O.S.             | 5.1   | O2                  | III           | 5.1         | 274 608            | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP2                             | T1                                 | TP33                       |
| 1483   | PEROXIDES, INORGANIC, N.O.S.                 | 5.1   | O2                  | II            | 5.1         | 274                | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1483   | PEROXIDES, INORGANIC, N.O.S.                 | 5.1   | O2                  | III           | 5.1         | 274                | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP2                             | T1                                 | TP33                       |
| 1484   | POTASSIUM BROMATE                            | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1485   | POTASSIUM CHLORATE                           | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1486   | POTASSIUM NITRATE                            | 5.1   | O2                  | III           | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1<br>BK1 BK2                      | TP33                       |
| 1487   | POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE | 5.1   | O2                  | II            | 5.1         | 607                | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1488   | POTASSIUM NITRITE                            | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1489   | POTASSIUM PERCHLORATE                        | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1490   | POTASSIUM PERMANGANATE                       | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1491   | POTASSIUM PEROXIDE                           | 5.1   | O2                  | I             | 5.1         |                    | LQ0                             | E0      | P503<br>IBC06                 |                                  | MP2                             |                                    |                            |
| 1492   | POTASSIUM PERSULPHATE                        | 5.1   | O2                  | III           | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1493   | SILVER NITRATE                               | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1494   | SODIUM BROMATE                               | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1495   | SODIUM CHLORATE                              | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3<br>BK1 BK2                      | TP33                       |
| 1496   | SODIUM CHLORITE                              | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1498   | SODIUM NITRATE                               | 5.1   | O2                  | III           | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1<br>BK1 BK2                      | TP33                       |
| 1499   | SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE | 5.1   | O2                  | III           | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1<br>BK1 BK2                      | TP33                       |
| 1500   | SODIUM NITRITE                               | 5.1   | OT2                 | III           | 5.1<br>+6.1 |                    | LQ12                            | E1      | P002<br>IBC08<br>R001         | B3                               | MP10                            | T1                                 | TP33                       |
| 1502   | SODIUM PERCHLORATE                           | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1503   | SODIUM PERMANGANATE                          | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1504   | SODIUM PEROXIDE                              | 5.1   | O2                  | I             | 5.1         |                    | LQ0                             | E0      | P503<br>IBC05                 |                                  | MP2                             |                                    |                            |
| 1505   | SODIUM PERSULPHATE                           | 5.1   | O2                  | III           | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1506   | STRONTIUM CHLORATE                           | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1507   | STRONTIUM NITRATE                            | 5.1   | O2                  | III           | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1508   | STRONTIUM PERCHLORATE                        | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                         |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| SGAN      | TU3                | AT                        | 3 (E)  |                                 |       | CV24                            |           | 50                        | 1482   | PERMANGANATES, INORGANIC, N.O.S.             |
| SGAN      | TU3                | AT                        | 2 (E)  | V11<br>V12                      |       | CV24                            |           | 50                        | 1483   | PEROXIDES, INORGANIC, N.O.S.                 |
| SGAN      | TU3                | AT                        | 3 (E)  |                                 |       | CV24                            |           | 50                        | 1483   | PEROXIDES, INORGANIC, N.O.S.                 |
| SGAV      | TU3                | AT                        | 2 (E)  | V11                             | VV8   | CV24                            |           | 50                        | 1484   | POTASSIUM BROMATE                            |
| SGAV      | TU3                | AT                        | 2 (E)  | V11                             | VV8   | CV24                            |           | 50                        | 1485   | POTASSIUM CHLORATE                           |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1486   | POTASSIUM NITRATE                            |
| SGAV      | TU3                | AT                        | 2 (E)  | V11                             | VV8   | CV24                            |           | 50                        | 1487   | POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE |
| SGAV      | TU3                | AT                        | 2 (E)  | V11                             | VV8   | CV24                            |           | 50                        | 1488   | POTASSIUM NITRITE                            |
| SGAV      | TU3                | AT                        | 2 (E)  | V11<br>V12                      | VV8   | CV24                            | S23       | 50                        | 1489   | POTASSIUM PERCHLORATE                        |
| SGAN      | TU3                | AT                        | 2 (E)  | V11                             |       | CV24                            |           | 50                        | 1490   | POTASSIUM PERMANGANATE                       |
|           |                    |                           | 1 (E)  | V10<br>V12                      |       | CV24                            | S20       |                           | 1491   | POTASSIUM PEROXIDE                           |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1492   | POTASSIUM PERSULPHATE                        |
| SGAV      | TU3                | AT                        | 2 (E)  | V11                             | VV8   | CV24                            |           | 50                        | 1493   | SILVER NITRATE                               |
| SGAV      | TU3                | AT                        | 2 (E)  | V11                             | VV8   | CV24                            |           | 50                        | 1494   | SODIUM BROMATE                               |
| SGAV      | TU3                | AT                        | 2 (E)  | V11                             | VV8   | CV24                            |           | 50                        | 1495   | SODIUM CHLORATE                              |
| SGAN      | TU3                | AT                        | 2 (E)  | V11                             |       | CV24                            |           | 50                        | 1496   | SODIUM CHLORITE                              |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1498   | SODIUM NITRATE                               |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1499   | SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE |
| SGAN      | TU3                | AT                        | 3 (E)  |                                 |       | CV24<br>CV28                    |           | 56                        | 1500   | SODIUM NITRITE                               |
| SGAV      | TU3                | AT                        | 2 (E)  | V11<br>V12                      | VV8   | CV24                            | S23       | 50                        | 1502   | SODIUM PERCHLORATE                           |
| SGAN      | TU3                | AT                        | 2 (E)  | V11<br>V12                      |       | CV24                            |           | 50                        | 1503   | SODIUM PERMANGANATE                          |
|           |                    |                           | 1 (E)  | V10                             |       | CV24                            | S20       |                           | 1504   | SODIUM PEROXIDE                              |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1505   | SODIUM PERSULPHATE                           |
| SGAV      | TU3                | AT                        | 2 (E)  | V11                             | VV8   | CV24                            |           | 50                        | 1506   | STRONTIUM CHLORATE                           |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 1507   | STRONTIUM NITRATE                            |
| SGAV      | TU3                | AT                        | 2 (E)  | V11<br>V12                      | VV8   | CV24                            | S23       | 50                        | 1508   | STRONTIUM PERCHLORATE                        |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1509   | STRONTIUM PEROXIDE  | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1510   | TETRANITROMETHANE   | 5.1   | OT1                 | I             | 5.1<br>+6.1 | 609                | LQ0                             | E0      | P602                          |                                  | MP2                             |                                    |                            |
| 1511   | UREA HYDROGEN PEROXIDE  | 5.1   | OC2                 | III           | 5.1<br>+8   |                    | LQ12                            | E1      | P002<br>IBC08<br>R001         | B3                               | MP2                             | T1                                 | TP33                       |
| 1512   | ZINC AMMONIUM NITRITE   | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1513   | ZINC CHLORATE   | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 1514   | ZINC NITRATE  | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1515   | ZINC PERMANGANATE   | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1516   | ZINC PEROXIDE   | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 1517   | ZIRCONIUM PICRAMATE, WETTED with not less than 20% water, by mass   | 4.1   | D                   | I             | 4.1         |                    | LQ0                             | E0      | P406                          | PP26                             | MP2                             |                                    |                            |
| 1541   | ACETONE CYANOHYDRIN, STABILIZED   | 6.1   | T1                  | I             | 6.1         |                    | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1544   | ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.   | 6.1   | T2                  | I             | 6.1         | 43<br>274          | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 1544   | ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.   | 6.1   | T2                  | II            | 6.1         | 43<br>274          | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1544   | ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.   | 6.1   | T2                  | III           | 6.1         | 43<br>274          | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1545   | ALLYL ISOTHIOCYANATE, STABILIZED  | 6.1   | TF1                 | II            | 6.1<br>+3   |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1546   | AMMONIUM ARSENATE   | 6.1   | T5                  | II            | 6.1         |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1547   | ANILINE   | 6.1   | T1                  | II            | 6.1         | 279                | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1548   | ANILINE HYDROCHLORIDE   | 6.1   | T2                  | III           | 6.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1549   | ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.   | 6.1   | T5                  | III           | 6.1         | 45<br>274<br>512   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1550   | ANTIMONY LACTATE  | 6.1   | T5                  | III           | 6.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1551   | ANTIMONY POTASSIUM TARTRATE   | 6.1   | T5                  | III           | 6.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1553   | ARSENIC ACID, LIQUID  | 6.1   | T4                  | I             | 6.1         |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T20<br>TP7                         |                            |
| 1554   | ARSENIC ACID, SOLID   | 6.1   | T5                  | II            | 6.1         |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1555   | ARSENIC BROMIDE   | 6.1   | T5                  | II            | 6.1         |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1556   | ARSENIC COMPOUND, LIQUID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s. | 6.1   | T4                  | I             | 6.1         | 43<br>274          | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |

| ADR tank     |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|--------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code    | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3          | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)         | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAN         | TU3                    | AT                        | 2<br>(E)                                     | V11<br>V12                      |       | CV24                            |           | 50                        | 1509   | STRONTIUM PEROXIDE  |
| L4BN         | TU3 TU28               | AT                        | 1<br>(B/E)                                   | V5                              |       | CV24<br>CV28                    | S20       | 559                       | 1510   | TETRANITROMETHANE   |
| SGAN         | TU3                    | AT                        | 3<br>(E)                                     |                                 |       | CV24                            |           | 58                        | 1511   | UREA HYDROGEN PEROXIDE  |
| SGAN         | TU3                    | AT                        | 2<br>(E)                                     | V11                             |       | CV24                            |           | 50                        | 1512   | ZINC AMMONIUM NITRITE   |
| SGAV         | TU3                    | AT                        | 2<br>(E)                                     | V11                             | VV8   | CV24                            |           | 50                        | 1513   | ZINC CHLORATE   |
| SGAN         | TU3                    | AT                        | 2<br>(E)                                     | V11                             |       | CV24                            |           | 50                        | 1514   | ZINC NITRATE  |
| SGAN         | TU3                    | AT                        | 2<br>(E)                                     | V11<br>V12                      |       | CV24                            |           | 50                        | 1515   | ZINC PERMANGANATE   |
| SGAN         | TU3                    | AT                        | 2<br>(E)                                     | V11<br>V12                      |       | CV24                            |           | 50                        | 1516   | ZINC PEROXIDE   |
|              |                        |                           | 1<br>(B)                                     |                                 |       |                                 | S14       |                           | 1517   | ZIRCONIUM PICRAMATE, WETTED with not less than 20% water, by mass   |
| L10CH        | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 669                       | 1541   | ACETONE CYANOHYDRIN, STABILIZED   |
| S10AH        | TU15 TE19              | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1544   | ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.   |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1544   | ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.   |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1544   | ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.   |
| L4BH         | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 639                       | 1545   | ALLYL ISOTHIOCYANATE, STABILIZED  |
| SGAH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1546   | AMMONIUM ARSENATE   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1547   | ANILINE   |
| SGAH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1548   | ANILINE HYDROCHLORIDE   |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1549   | ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.   |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1550   | ANTIMONY LACTATE  |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1551   | ANTIMONY POTASSIUM TARTRATE   |
| L10CH        | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1553   | ARSENIC ACID, LIQUID  |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1554   | ARSENIC ACID, SOLID   |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1555   | ARSENIC BROMIDE   |
| L10CH        | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1556   | ARSENIC COMPOUND, LIQUID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s. |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels      | Special provisions       | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-------------|--------------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |             |                          | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)         | (6)                      | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1556   | ARSENIC COMPOUND, LIQUID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s. | 6.1   | T4                  | II            | 6.1         | 43<br>274                | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 1556   | ARSENIC COMPOUND, LIQUID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s. | 6.1   | T4                  | III           | 6.1         | 43<br>274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP2<br>TP28                |
| 1557   | ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.  | 6.1   | T5                  | I             | 6.1         | 43<br>274                | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 1557   | ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.  | 6.1   | T5                  | II            | 6.1         | 43<br>274                | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1557   | ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.  | 6.1   | T5                  | III           | 6.1         | 43<br>274                | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1558   | ARSENIC   | 6.1   | T5                  | II            | 6.1         |                          | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1559   | ARSENIC PENTOXIDE   | 6.1   | T5                  | II            | 6.1         |                          | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1560   | ARSENIC TRICHLORIDE   | 6.1   | T4                  | I             | 6.1         |                          | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1561   | ARSENIC TRIOXIDE  | 6.1   | T5                  | II            | 6.1         |                          | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1562   | ARSENICAL DUST  | 6.1   | T5                  | II            | 6.1         |                          | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1564   | BARIUM COMPOUND, N.O.S.   | 6.1   | T5                  | II            | 6.1         | 177<br>274<br>513<br>587 | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1564   | BARIUM COMPOUND, N.O.S.   | 6.1   | T5                  | III           | 6.1         | 177<br>274<br>513<br>587 | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1565   | BARIUM CYANIDE  | 6.1   | T5                  | I             | 6.1         |                          | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 1566   | BERYLLIUM COMPOUND, N.O.S.  | 6.1   | T5                  | II            | 6.1         | 274<br>514               | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1566   | BERYLLIUM COMPOUND, N.O.S.  | 6.1   | T5                  | III           | 6.1         | 274<br>514               | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1567   | BERYLLIUM POWDER  | 6.1   | TF3                 | II            | 6.1<br>+4.1 |                          | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1569   | BROMOACETONE  | 6.1   | TF1                 | II            | 6.1<br>+3   |                          | LQ17                            | E4      | P602                          |                                  | MP15                            | T20                                | TP2                        |
| 1570   | BRUCINE   | 6.1   | T2                  | I             | 6.1         | 43                       | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 1571   | BARIUM AZIDE, WETTED with not less than 50% water, by mass  | 4.1   | DT                  | I             | 4.1<br>+6.1 | 568                      | LQ0                             | E0      | P406                          |                                  | MP2                             |                                    |                            |
| 1572   | CACODYLIC ACID  | 6.1   | T5                  | II            | 6.1         |                          | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1573   | CALCIUM ARSENATE  | 6.1   | T5                  | II            | 6.1         |                          | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1574   | CALCIUM ARSENATE AND CALCIUM ARSENITE MIXTURE, SOLID  | 6.1   | T5                  | II            | 6.1         |                          | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |

| ADR tank       |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|----------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code      | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3            | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)           | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BH           | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1556   | ARSENIC COMPOUND, LIQUID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s. |
| L4BH           | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 1556   | ARSENIC COMPOUND, LIQUID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s. |
| S10AH<br>L10CH | TU15 TE19              | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1557   | ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1557   | ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1557   | ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.  |
| SGAH           | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1558   | ARSENIC   |
| SGAH           | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1559   | ARSENIC PENTOXIDE   |
| L10CH          | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1560   | ARSENIC TRICHLORIDE   |
| SGAH           | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1561   | ARSENIC TRIOXIDE  |
| SGAH           | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1562   | ARSENICAL DUST  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1564   | BARIUM COMPOUND, N.O.S.   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1564   | BARIUM COMPOUND, N.O.S.   |
| S10AH          | TU15 TE19              | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1565   | BARIUM CYANIDE  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1566   | BERYLLIUM COMPOUND, N.O.S.  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1566   | BERYLLIUM COMPOUND, N.O.S.  |
| SGAH           | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 64                        | 1567   | BERYLLIUM POWDER  |
| L4BH           | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 1569   | BROMOACETONE  |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1570   | BRUCINE   |
|                |                        |                           | 1 (B)  |                                 |       | CV28                            | S14       |                           | 1571   | BARIUM AZIDE, WETTED with not less than 50% water, by mass  |
| SGAH           | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1572   | CACODYLIC ACID  |
| SGAH           | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1573   | CALCIUM ARSENATE  |
| SGAH           | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1574   | CALCIUM ARSENATE AND CALCIUM ARSENITE MIXTURE, SOLID  |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |        |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1575   | CALCIUM CYANIDE  | 6.1   | T5                  | I             | 6.1    |                    | LQ0                             | E5      | P002 IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 1577   | CHLORODINITRO-BENZENES, LIQUID   | 6.1   | T1                  | II            | 6.1    | 279                | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1578   | CHLORONITROBENZENES, SOLID   | 6.1   | T2                  | II            | 6.1    | 279                | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1579   | 4-CHLORO-o-TOLUIDINE HYDROCHLORIDE, SOLID                              | 6.1   | T2                  | III           | 6.1    |                    | LQ9                             | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1                                 | TP33                       |
| 1580   | CHLOROPICRIN   | 6.1   | T1                  | I             | 6.1    |                    | LQ0                             | E5      | P602                       |                                  | MP8 MP17                        | T14                                | TP2                        |
| 1581   | CHLOROPICRIN AND METHYL BROMIDE MIXTURE with more than 2% chloropicrin | 2     | 2T                  |               | 2.3    |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1582   | CHLOROPICRIN AND METHYL CHLORIDE MIXTURE                               | 2     | 2T                  |               | 2.3    |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 1583   | CHLOROPICRIN MIXTURE, N.O.S.   | 6.1   | T1                  | I             | 6.1    | 274 315 515        | LQ0                             | E5      | P602                       |                                  | MP8 MP17                        |                                    |                            |
| 1583   | CHLOROPICRIN MIXTURE, N.O.S.   | 6.1   | T1                  | II            | 6.1    | 274 515            | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            |                                    |                            |
| 1583   | CHLOROPICRIN MIXTURE, N.O.S.   | 6.1   | T1                  | III           | 6.1    | 274 515            | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            |                                    |                            |
| 1585   | COPPER ACETOARSENITE   | 6.1   | T5                  | II            | 6.1    |                    | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1586   | COPPER ARSENITE  | 6.1   | T5                  | II            | 6.1    |                    | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1587   | COPPER CYANIDE   | 6.1   | T5                  | II            | 6.1    |                    | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1588   | CYANIDES, INORGANIC, SOLID, N.O.S.                                     | 6.1   | T5                  | I             | 6.1    | 47 274             | LQ0                             | E5      | P002 IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 1588   | CYANIDES, INORGANIC, SOLID, N.O.S.                                     | 6.1   | T5                  | II            | 6.1    | 47 274             | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1588   | CYANIDES, INORGANIC, SOLID, N.O.S.                                     | 6.1   | T5                  | III           | 6.1    | 47 274             | LQ9                             | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1                                 | TP33                       |
| 1589   | CYANOGEN CHLORIDE, STABILIZED  | 2     | 2TC                 |               | 2.3 +8 |                    | LQ0                             | E0      | P200                       |                                  | MP9                             |                                    |                            |
| 1590   | DICHLOROANILINES, LIQUID   | 6.1   | T1                  | II            | 6.1    | 279                | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1591   | o-DICHLOROBENZENE  | 6.1   | T1                  | III           | 6.1    | 279                | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T4                                 | TP1                        |
| 1593   | DICHLOROMETHANE  | 6.1   | T1                  | III           | 6.1    | 516                | LQ7                             | E1      | P001 IBC03 LP01 R001       | B8                               | MP19                            | T7                                 | TP2                        |
| 1594   | DIETHYL SULPHATE   | 6.1   | T1                  | II            | 6.1    |                    | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1595   | DIMETHYL SULPHATE  | 6.1   | TC1                 | I             | 6.1 +8 |                    | LQ0                             | E5      | P602                       |                                  | MP8 MP17                        | T20                                | TP2 TP35                   |
| 1596   | DINITROANILINES  | 6.1   | T2                  | II            | 6.1    |                    | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1597   | DINITROBENZENES, LIQUID  | 6.1   | T1                  | II            | 6.1    |                    | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1597   | DINITROBENZENES, LIQUID  | 6.1   | T1                  | III           | 6.1    |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T7                                 | TP2                        |



| ADR tank     |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|--------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code    | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3          | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)         | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| S10AH        | TU15 TE19              | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1575   | CALCIUM CYANIDE  |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1577   | CHLORODINITRO-BENZENES, LIQUID   |
| SGAH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1578   | CHLORONITROBENZENES, SOLID   |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1579   | 4-CHLORO-o-TOLUIDINE HYDROCHLORIDE, SOLID                              |
| L10CH        | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1580   | CHLOROPICRIN   |
| PxBH(M)      | TA4<br>TT9             | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 26                        | 1581   | CHLOROPICRIN AND METHYL BROMIDE MIXTURE with more than 2% chloropicrin |
| PxBH(M)      | TA4<br>TT9             | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 26                        | 1582   | CHLOROPICRIN AND METHYL CHLORIDE MIXTURE                               |
| L10CH        | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1583   | CHLOROPICRIN MIXTURE, N.O.S.   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1583   | CHLOROPICRIN MIXTURE, N.O.S.   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 1583   | CHLOROPICRIN MIXTURE, N.O.S.   |
| SGAH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1585   | COPPER ACETOARSENITE   |
| SGAH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1586   | COPPER ARSENITE  |
| SGAH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1587   | COPPER CYANIDE   |
| S10AH        | TU15 TE19              | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1588   | CYANIDES, INORGANIC, SOLID, N.O.S.                                     |
| SGAH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1588   | CYANIDES, INORGANIC, SOLID, N.O.S.                                     |
| SGAH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1588   | CYANIDES, INORGANIC, SOLID, N.O.S.                                     |
|              |                        |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S14       |                           | 1589   | CYANOGEN CHLORIDE, STABILIZED  |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1590   | DICHLOROANILINES, LIQUID   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 1591   | o-DICHLOROBENZENE  |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 1593   | DICHLOROMETHANE  |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1594   | DIETHYL SULPHATE   |
| L10CH        | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 668                       | 1595   | DIMETHYL SULPHATE  |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1596   | DINITROANILINES  |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1597   | DINITROBENZENES, LIQUID  |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 1597   | DINITROBENZENES, LIQUID  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |      | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    |                                 |      | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b) | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1598   | DINITRO- <i>o</i> -CRESOL   | 6.1   | T2                  | II            | 6.1       | 43                 | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1599   | DINITROPHENOL SOLUTION  | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1599   | DINITROPHENOL SOLUTION  | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1600   | DINITROTOLUENES, MOLTEN   | 6.1   | T1                  | II            | 6.1       |                    | LQ0                             | E0   |                               |                                  |                                 | T7                                 | TP3                        |
| 1601   | DISINFECTANT, SOLID, TOXIC, N.O.S.  | 6.1   | T2                  | I             | 6.1       | 274                | LQ0                             | E5   | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 1601   | DISINFECTANT, SOLID, TOXIC, N.O.S.  | 6.1   | T2                  | II            | 6.1       | 274                | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1601   | DISINFECTANT, SOLID, TOXIC, N.O.S.  | 6.1   | T2                  | III           | 6.1       | 274                | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1602   | DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.   | 6.1   | T1                  | I             | 6.1       | 274                | LQ0                             | E5   | P001                          |                                  | MP8<br>MP17                     |                                    |                            |
| 1602   | DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.   | 6.1   | T1                  | II            | 6.1       | 274                | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            |                                    |                            |
| 1602   | DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.   | 6.1   | T1                  | III           | 6.1       | 274                | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            |                                    |                            |
| 1603   | ETHYL BROMOACETATE  | 6.1   | TF1                 | II            | 6.1<br>+3 |                    | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1604   | ETHYLENEDIAMINE   | 8     | CF1                 | II            | 8<br>+3   |                    | LQ22                            | E2   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1605   | ETHYLENE DIBROMIDE  | 6.1   | T1                  | I             | 6.1       |                    | LQ0                             | E5   | P602                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1606   | FERRIC ARSENATE   | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1607   | FERRIC ARSENITE   | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1608   | FEROUS ARSENATE   | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1611   | HEXAETHYL TETRAPHOSPHATE  | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1612   | HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE   | 2     | 1T                  |               | 2.3       |                    | LQ0                             | E0   | P200                          |                                  | MP9                             | (M)                                |                            |
| 1613   | HYDROCYANIC ACID, AQUEOUS SOLUTION (HYDROGEN CYANIDE, AQUEOUS SOLUTION) with not more than 20% hydrogen cyanide | 6.1   | TF1                 | I             | 6.1<br>+3 | 48                 | LQ0                             | E5   | P601                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1614   | HYDROGEN CYANIDE, STABILIZED, containing less than 3% water and absorbed in a porous inert material             | 6.1   | TF1                 | I             | 6.1<br>+3 | 603                | LQ0                             | E5   | P099<br>P601                  | RR10                             | MP2                             |                                    |                            |
| 1616   | LEAD ACETATE  | 6.1   | T5                  | III           | 6.1       |                    | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1617   | LEAD ARSENATES  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1618   | LEAD ARSENITES  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1620   | LEAD CYANIDE  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1621   | LONDON PURPLE   | 6.1   | T5                  | II            | 6.1       | 43                 | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1622   | MAGNESIUM ARSENATE  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |

| ADR tank    |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |               | Hazard identification No. | UN No. | Name and description  |
|-------------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|---------------|---------------------------|--------|---|
| Tank code   | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation     |                           |        |   |
| 4.3         | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5           | 5.3.2.3                   |        | 3.1.2   |
| (12)        | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)          | (20)                      | (1)    | (2)   |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19        | 60                        | 1598   | DINITRO-o-CRESOL  |
| L4BH        | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19        | 60                        | 1599   | DINITROPHENOL SOLUTION  |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9            | 60                        | 1599   | DINITROPHENOL SOLUTION  |
| L4BH        | TU15 TE19           | AT                        | 0 (D/E)                                      |                                 |       | CV13                            | S9 S19        | 60                        | 1600   | DINITROTOLUENES, MOLTEN   |
| S10AH L10CH | TU15 TE19           | AT                        | 1 (C/E)                                      | V10 V12                         |       | CV1 CV13 CV28                   | S9 S14        | 66                        | 1601   | DISINFECTANT, SOLID, TOXIC, N.O.S.  |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19        | 60                        | 1601   | DISINFECTANT, SOLID, TOXIC, N.O.S.  |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9            | 60                        | 1601   | DISINFECTANT, SOLID, TOXIC, N.O.S.  |
| L10CH       | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14        | 66                        | 1602   | DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.   |
| L4BH        | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19        | 60                        | 1602   | DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.   |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9            | 60                        | 1602   | DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.   |
| L4BH        | TU15 TE19           | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S9 S19     | 63                        | 1603   | ETHYL BROMOACETATE  |
| L4BN        |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2            | 83                        | 1604   | ETHYLENEDIAMINE   |
| L10CH       | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14        | 66                        | 1605   | ETHYLENE DIBROMIDE  |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19        | 60                        | 1606   | FERRIC ARSENATE   |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19        | 60                        | 1607   | FERRIC ARSENITE   |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19        | 60                        | 1608   | FERROUS ARSENATE  |
| L4BH        | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19        | 60                        | 1611   | HEXAETHYL TETRAPHOSPHATE  |
| CxBH(M)     | TA4 TT9             | AT                        | 1 (C/D)                                      |                                 |       | CV9 CV10 CV36                   | S14           | 26                        | 1612   | HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE   |
| L15DH(+)    | TU14 TU15 TE19 TE21 | FL                        | 0 (C/D)                                      |                                 |       | CV1 CV13 CV28                   | S2 S9 S14     | 663                       | 1613   | HYDROCYANIC ACID, AQUEOUS SOLUTION (HYDROGEN CYANIDE, AQUEOUS SOLUTION) with not more than 20% hydrogen cyanide |
|             |                     |                           | 0 (D)  |                                 |       | CV1 CV13 CV28                   | S2 S9 S10 S14 |                           | 1614   | HYDROGEN CYANIDE, STABILIZED, containing less than 3% water and absorbed in a porous inert material             |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9            | 60                        | 1616   | LEAD ACETATE  |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19        | 60                        | 1617   | LEAD ARSENATES  |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19        | 60                        | 1618   | LEAD ARSENITES  |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19        | 60                        | 1620   | LEAD CYANIDE  |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19        | 60                        | 1621   | LONDON PURPLE   |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19        | 60                        | 1622   | MAGNESIUM ARSENATE  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |      | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    |                                 |      | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b) | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1623   | MERCURIC ARSENATE   | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1624   | MERCURIC CHLORIDE   | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1625   | MERCURIC NITRATE  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1626   | MERCURIC POTASSIUM CYANIDE  | 6.1   | T5                  | I             | 6.1       |                    | LQ0                             | E5   | P002<br>IBC07              |                                  | MP18                            | T6                                 | TP33                       |
| 1627   | MERCUROUS NITRATE   | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1629   | MERCURY ACETATE   | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1630   | MERCURY AMMONIUM CHLORIDE   | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1631   | MERCURY BENZOATE  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1634   | MERCURY BROMIDES  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1636   | MERCURY CYANIDE   | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1637   | MERCURY GLUCONATE   | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1638   | MERCURY IODIDE  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1639   | MERCURY NUCLEATE  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1640   | MERCURY OLEATE  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1641   | MERCURY OXIDE   | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1642   | MERCURY OXYCYANIDE, DESENSITIZED  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1643   | MERCURY POTASSIUM IODIDE  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1644   | MERCURY SALICYLATE  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1645   | MERCURY SULPHATE  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1646   | MERCURY THIOCYANATE   | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1647   | METHYL BROMIDE AND ETHYLENE DIBROMIDE MIXTURE, LIQUID                     | 6.1   | T1                  | I             | 6.1       |                    | LQ0                             | E5   | P602                       |                                  | MP8<br>MP17                     | T20                                | TP2                        |
| 1648   | ACETONITRILE  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001      |                                  | MP19                            | T7                                 | TP2                        |
| 1649   | MOTOR FUEL ANTI-KNOCK MIXTURE having a flash-point above 60 °C            | 6.1   | T3                  | I             | 6.1       |                    | LQ0                             | E5   | P602                       |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1649   | MOTOR FUEL ANTI-KNOCK MIXTURE having a flash-point of not more than 60 °C | 6.1   | TF1                 | I             | 6.1<br>+3 |                    | LQ0                             | E5   | P602                       |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1650   | beta-NAPHTHYLAMINE, SOLID   | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1651   | NAPHTHYLTHIOUREA  | 6.1   | T2                  | II            | 6.1       | 43                 | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1652   | NAPHTHYLUREA  | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1653   | NICKEL CYANIDE  | 6.1   | T5                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 1654   | NICOTINE  | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4   | P001<br>IBC02              |                                  | MP15                            |                                    |                            |
| 1655   | NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.   | 6.1   | T2                  | I             | 6.1       | 43<br>274          | LQ0                             | E5   | P002<br>IBC07              |                                  | MP18                            | T6                                 | TP33                       |
| 1655   | NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.   | 6.1   | T2                  | II            | 6.1       | 43<br>274          | LQ18                            | E4   | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |

| ADR tank    |                         | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-------------|-------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code   | Special provisions      |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3         | 4.3.5, 6.8.4            | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)        | (13)                    | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1623   | MERCURIC ARSENATE   |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1624   | MERCURIC CHLORIDE   |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1625   | MERCURIC NITRATE  |
| S10AH       | TU15 TE19               | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1626   | MERCURIC POTASSIUM CYANIDE  |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1627   | MERCUROUS NITRATE   |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1629   | MERCURY ACETATE   |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1630   | MERCURY AMMONIUM CHLORIDE   |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1631   | MERCURY BENZOATE  |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1634   | MERCURY BROMIDES  |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1636   | MERCURY CYANIDE   |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1637   | MERCURY GLUCONATE   |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1638   | MERCURY IODIDE  |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1639   | MERCURY NUCLEATE  |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1640   | MERCURY OLEATE  |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1641   | MERCURY OXIDE   |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1642   | MERCURY OXYCYANIDE, DESENSITIZED  |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1643   | MERCURY POTASSIUM IODIDE  |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1644   | MERCURY SALICYLATE  |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1645   | MERCURY SULPHATE  |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1646   | MERCURY THIOCYANATE   |
| L10CH       | TU14 TU15 TE19 TE21     | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1647   | METHYL BROMIDE AND ETHYLENE DIBROMIDE MIXTURE, LIQUID                     |
| LGBF        |                         | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1648   | ACETONITRILE  |
| L10CH       | TU14 TU15 TE19 TE21 TT6 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1649   | MOTOR FUEL ANTI-KNOCK MIXTURE having a flash-point above 60 °C            |
| L10CH       | TU14 TU15 TE19 TE21 TT6 | FL                        | 1 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 1649   | MOTOR FUEL ANTI-KNOCK MIXTURE having a flash-point of not more than 60 °C |
| SGAH L4BH   | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1650   | beta-NAPHTHYLAMINE, SOLID   |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1651   | NAPHTHYLTHIOUREA  |
| SGAH        | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1652   | NAPHTHYLUREA  |
| SGAH L4BH   | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1653   | NICKEL CYANIDE  |
| L4BH        | TU15 TE19               | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1654   | NICOTINE  |
| S10AH L10CH | TU15 TE19               | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1655   | NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.   |
| SGAH L4BH   | TU15 TE19               | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1655   | NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.   |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |                   |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1655   | NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S. | 6.1   | T2                  | III           | 6.1               | 43<br>274          | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1656   | NICOTINE HYDROCHLORIDE, LIQUID or SOLUTION                              | 6.1   | T1                  | II            | 6.1               | 43                 | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            |                                    |                            |
| 1656   | NICOTINE HYDROCHLORIDE, LIQUID or SOLUTION                              | 6.1   | T1                  | III           | 6.1               | 43                 | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            |                                    |                            |
| 1657   | NICOTINE SALICYLATE   | 6.1   | T2                  | II            | 6.1               |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1658   | NICOTINE SULPHATE, SOLUTION   | 6.1   | T1                  | II            | 6.1               |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1658   | NICOTINE SULPHATE, SOLUTION   | 6.1   | T1                  | III           | 6.1               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP2                        |
| 1659   | NICOTINE TARTRATE   | 6.1   | T2                  | II            | 6.1               |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1660   | NITRIC OXIDE, COMPRESSED  | 2     | 1TOC                |               | 2.3<br>+5.1<br>+8 |                    | LQ0                             | E0      | P200                          |                                  | MP9                             |                                    |                            |
| 1661   | NITROANILINES (o-, m-, p-)  | 6.1   | T2                  | II            | 6.1               | 279                | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1662   | NITROBENZENE  | 6.1   | T1                  | II            | 6.1               | 279                | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1663   | NITROPHENOLS (o-, m-, p-)   | 6.1   | T2                  | III           | 6.1               | 279                | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1664   | NITROTOLUENES, LIQUID   | 6.1   | T1                  | II            | 6.1               |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1665   | NITROXYLENES, LIQUID  | 6.1   | T1                  | II            | 6.1               |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1669   | PENTACHLOROETHANE   | 6.1   | T1                  | II            | 6.1               |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1670   | PERCHLOROMETHYL MERCAPTAN   | 6.1   | T1                  | I             | 6.1               |                    | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1671   | PHENOL, SOLID   | 6.1   | T2                  | II            | 6.1               | 279                | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1672   | PHENYL CARBYLAMINE CHLORIDE   | 6.1   | T1                  | I             | 6.1               |                    | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1673   | PHENYLENEDIAMINES (o-, m-, p-)  | 6.1   | T2                  | III           | 6.1               | 279                | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1674   | PHENYLMERCURIC ACETATE  | 6.1   | T3                  | II            | 6.1               | 43                 | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1677   | POTASSIUM ARSENATE  | 6.1   | T5                  | II            | 6.1               |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1678   | POTASSIUM ARSENITE  | 6.1   | T5                  | II            | 6.1               |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1679   | POTASSIUM CUPROCYANIDE  | 6.1   | T5                  | II            | 6.1               |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1680   | POTASSIUM CYANIDE, SOLID  | 6.1   | T5                  | I             | 6.1               |                    | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 1683   | SILVER ARSENITE   | 6.1   | T5                  | II            | 6.1               |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1684   | SILVER CYANIDE  | 6.1   | T5                  | II            | 6.1               |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1685   | SODIUM ARSENATE   | 6.1   | T5                  | II            | 6.1               |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1686   | SODIUM ARSENITE, AQUEOUS SOLUTION                                       | 6.1   | T4                  | II            | 6.1               | 43                 | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |

| ADR tank  |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAH L4BH | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 1655   | NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S. |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 1656   | NICOTINE HYDROCHLORIDE, LIQUID or SOLUTION                              |
| L4BH      | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 1656   | NICOTINE HYDROCHLORIDE, LIQUID or SOLUTION                              |
| SGAH L4BH | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1657   | NICOTINE SALICYLATE   |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 1658   | NICOTINE SULPHATE, SOLUTION   |
| L4BH      | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 1658   | NICOTINE SULPHATE, SOLUTION   |
| SGAH L4BH | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1659   | NICOTINE TARTRATE   |
|           |                     |                           | 1 (D)  |                                 |       | CV9 CV10 CV36                   | S14       |                           | 1660   | NITRIC OXIDE, COMPRESSED  |
| SGAH L4BH | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1661   | NITROANILINES (o-, m-, p-)  |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 1662   | NITROBENZENE  |
| SGAH L4BH | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 1663   | NITROPHENOLS (o-, m-, p-)   |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 1664   | NITROTOLUENES, LIQUID   |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 1665   | NITROXYLENES, LIQUID  |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 1669   | PENTACHLOROETHANE   |
| L10CH     | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 1670   | PERCHLOROMETHYL MERCAPTAN   |
| SGAH      | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1671   | PHENOL, SOLID   |
| L10CH     | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 1672   | PHENYL CARBYLAMINE CHLORIDE   |
| SGAH L4BH | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 1673   | PHENYLENEDIAMINES (o-, m-, p-)  |
| SGAH L4BH | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1674   | PHENYLMERCURIC ACETATE  |
| SGAH      | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1677   | POTASSIUM ARSENATE  |
| SGAH      | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1678   | POTASSIUM ARSENITE  |
| SGAH      | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1679   | POTASSIUM CUPROCYANIDE  |
| S10AH     | TU15 TE19           | AT                        | 1 (C/E)                                      | V10 V12                         |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 1680   | POTASSIUM CYANIDE, SOLID  |
| SGAH      | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1683   | SILVER ARSENITE   |
| SGAH      | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1684   | SILVER CYANIDE  |
| SGAH      | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1685   | SODIUM ARSENATE   |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 1686   | SODIUM ARSENITE, AQUEOUS SOLUTION                                       |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels          | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |                 |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1686   | SODIUM ARSENITE, AQUEOUS SOLUTION                                       | 6.1   | T4                  | III           | 6.1             | 43                 | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP2                        |
| 1687   | SODIUM AZIDE  | 6.1   | T5                  | II            | 6.1             |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            |                                    |                            |
| 1688   | SODIUM CACODYLATE   | 6.1   | T5                  | II            | 6.1             |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1689   | SODIUM CYANIDE, SOLID   | 6.1   | T5                  | I             | 6.1             |                    | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 1690   | SODIUM FLUORIDE, SOLID  | 6.1   | T5                  | III           | 6.1             |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1691   | STRONTIUM ARSENITE  | 6.1   | T5                  | II            | 6.1             |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1692   | STRYCHNINE or STRYCHNINE SALTS  | 6.1   | T2                  | I             | 6.1             |                    | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 1693   | TEAR GAS SUBSTANCE, LIQUID, N.O.S.                                      | 6.1   | T1                  | I             | 6.1             | 274                | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     |                                    |                            |
| 1693   | TEAR GAS SUBSTANCE, LIQUID, N.O.S.                                      | 6.1   | T1                  | II            | 6.1             | 274                | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            |                                    |                            |
| 1694   | BROMOBENZYL CYANIDES, LIQUID  | 6.1   | T1                  | I             | 6.1             | 138                | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1695   | CHLOROACETONE, STABILIZED   | 6.1   | TFC                 | I             | 6.1<br>+3<br>+8 |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T20                                | TP2<br>TP35                |
| 1697   | CHLOROACETOPHENONE, SOLID   | 6.1   | T2                  | II            | 6.1             |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1698   | DIPHENYLAMINE CHLOROARSINE  | 6.1   | T3                  | I             | 6.1             |                    | LQ0                             | E5      | P002                          |                                  | MP18                            | T6                                 | TP33                       |
| 1699   | DIPHENYLCHLORO-ARSINE, LIQUID   | 6.1   | T3                  | I             | 6.1             |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     |                                    |                            |
| 1700   | TEAR GAS CANDLES  | 6.1   | TF3                 | II            | 6.1<br>+4.1     |                    | LQ18                            | E0      | P600                          |                                  |                                 |                                    |                            |
| 1701   | XYLYL BROMIDE, LIQUID   | 6.1   | T1                  | II            | 6.1             |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1702   | 1,1,2,2-TETRACHLOROETHANE   | 6.1   | T1                  | II            | 6.1             |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1704   | TETRAETHYL DITHIOPYROPHOSPHATE  | 6.1   | T2                  | II            | 6.1             | 43                 | LQ18                            | E4      | P001<br>IBC02                 |                                  | MP10                            | T7                                 | TP2                        |
| 1707   | THALLIUM COMPOUND, N.O.S.   | 6.1   | T5                  | II            | 6.1             | 43<br>274          | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1708   | TOLUIDINES, LIQUID  | 6.1   | T1                  | II            | 6.1             | 279                | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1709   | 2,4-TOLUYLENEDIAMINE, SOLID   | 6.1   | T2                  | III           | 6.1             |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1710   | TRICHLOROETHYLENE   | 6.1   | T1                  | III           | 6.1             |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1711   | XYLIDINES, LIQUID   | 6.1   | T1                  | II            | 6.1             |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1712   | ZINC ARSENATE, ZINC ARSENITE or ZINC ARSENATE AND ZINC ARSENITE MIXTURE | 6.1   | T5                  | II            | 6.1             |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1713   | ZINC CYANIDE  | 6.1   | T5                  | I             | 6.1             |                    | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 1714   | ZINC PHOSPHIDE  | 4.3   | WT2                 | I             | 4.3<br>+6.1     |                    | LQ0                             | E0      | P403                          |                                  | MP2                             |                                    |                            |



| ADR tank     |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|--------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code    | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3          | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   | (1)    | (2)   |
| (12)         | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 1686   | SODIUM ARSENITE, AQUEOUS SOLUTION                                       |
|              |                        |                           | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    |                           | 1687   | SODIUM AZIDE  |
| SGAH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1688   | SODIUM CACODYLATE   |
| S10AH        | TU15 TE19              | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1689   | SODIUM CYANIDE, SOLID   |
| SGAH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1690   | SODIUM FLUORIDE, SOLID  |
| SGAH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1691   | STRONTIUM ARSENITE  |
| S10AH        | TU15 TE19              | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1692   | STRYCHNINE or STRYCHNINE SALTS  |
| L10CH        | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1693   | TEAR GAS SUBSTANCE, LIQUID, N.O.S.                                      |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1693   | TEAR GAS SUBSTANCE, LIQUID, N.O.S.                                      |
| L10CH        | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1694   | BROMOBENZYL CYANIDES, LIQUID  |
| L10CH        | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 1695   | CHLOROACETONE, STABILIZED   |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1697   | CHLOROACETOPHENONE, SOLID   |
| S10AH        | TU15 TE19              | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1698   | DIPHENYLAMINE CHLOROARSINE  |
| L10CH        | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1699   | DIPHENYLCHLORO-ARSINE, LIQUID   |
|              |                        |                           | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    |                           | 1700   | TEAR GAS CANDLES  |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1701   | XYLYL BROMIDE, LIQUID   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1702   | 1,1,2,2-TETRACHLOROETHANE   |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1704   | TETRAETHYL DITHIOPYROPHOSPHATE  |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1707   | THALLIUM COMPOUND, N.O.S.   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1708   | TOLUIDINES, LIQUID  |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1709   | 2,4-TOLUYLENEDIAMINE, SOLID   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 1710   | TRICHLOROETHYLENE   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 1711   | XYLIDINES, LIQUID   |
| SGAH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 1712   | ZINC ARSENATE, ZINC ARSENITE or ZINC ARSENATE AND ZINC ARSENITE MIXTURE |
| S10AH        | TU15 TE19              | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 1713   | ZINC CYANIDE  |
|              |                        |                           | 1<br>(E)                                     | V1                              |       | CV23<br>CV28                    | S14       |                           | 1714   | ZINC PHOSPHIDE  |

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|--------|--|-------|---------------------|---------------|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |                 |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1715   | ACETIC ANHYDRIDE                                 | 8     | CF1                 | II            | 8<br>+3         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1716   | ACETYL BROMIDE                                   | 8     | C3                  | II            | 8               |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1717   | ACETYL CHLORIDE                                  | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T8                                 | TP2                        |
| 1718   | BUTYL ACID PHOSPHATE                             | 8     | C3                  | III           | 8               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1719   | CAUSTIC ALKALI LIQUID, N.O.S.                    | 8     | C5                  | II            | 8               | 274                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 1719   | CAUSTIC ALKALI LIQUID, N.O.S.                    | 8     | C5                  | III           | 8               | 274                | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 1722   | ALLYL CHLOROFORMATE                              | 6.1   | TFC                 | I             | 6.1<br>+3<br>+8 |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1723   | ALLYL IODIDE                                     | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP2                        |
| 1724   | ALLYLTRICHLOROSILANE, STABILIZED                 | 8     | CF1                 | II            | 8<br>+3         |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1725   | ALUMINIUM BROMIDE, ANHYDROUS                     | 8     | C2                  | II            | 8               | 588                | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1726   | ALUMINIUM CHLORIDE, ANHYDROUS                    | 8     | C2                  | II            | 8               | 588                | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1727   | AMMONIUM HYDROGENDIFLUORIDE, SOLID               | 8     | C2                  | II            | 8               |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1728   | AMYLTRICHLOROSILANE                              | 8     | C3                  | II            | 8               |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1729   | ANISOYL CHLORIDE                                 | 8     | C4                  | II            | 8               |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1730   | ANTIMONY PENTACHLORIDE, LIQUID                   | 8     | C1                  | II            | 8               |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1731   | ANTIMONY PENTACHLORIDE SOLUTION                  | 8     | C1                  | II            | 8               |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1731   | ANTIMONY PENTACHLORIDE SOLUTION                  | 8     | C1                  | III           | 8               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1732   | ANTIMONY PENTAFLUORIDE                           | 8     | CT1                 | II            | 8<br>+6.1       |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1733   | ANTIMONY TRICHLORIDE                             | 8     | C2                  | II            | 8               |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1736   | BENZOYL CHLORIDE                                 | 8     | C3                  | II            | 8               |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1737   | BENZYL BROMIDE                                   | 6.1   | TC1                 | II            | 6.1<br>+8       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1738   | BENZYL CHLORIDE                                  | 6.1   | TC1                 | II            | 6.1<br>+8       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1739   | BENZYL CHLOROFORMATE                             | 8     | C9                  | I             | 8               |                    | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T10                                | TP2                        |
| 1740   | HYDROGENDIFLUORIDES, SOLID, N.O.S.               | 8     | C2                  | II            | 8               | 274<br>517         | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1740   | HYDROGENDIFLUORIDES, SOLID, N.O.S.               | 8     | C2                  | III           | 8               | 274<br>517         | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1741   | BORON TRICHLORIDE                                | 2     | 2TC                 |               | 2.3<br>+8       |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 1742   | BORON TRIFLUORIDE ACETIC ACID COMPLEX, LIQUID    | 8     | C3                  | II            | 8               |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1743   | BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, LIQUID | 8     | C3                  | II            | 8               |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |

| ADR tank     |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                             |
|--------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code    | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3          | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)         | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BN         |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2        | 83                        | 1715   | ACETIC ANHYDRIDE                                 |
| L4BN         |                        | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1716   | ACETYL BROMIDE                                   |
| L4BH         |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | X338                      | 1717   | ACETYL CHLORIDE                                  |
| L4BN         |                        | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1718   | BUTYL ACID PHOSPHATE                             |
| L4BN         |                        | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1719   | CAUSTIC ALKALI LIQUID, N.O.S.                    |
| L4BN         |                        | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1719   | CAUSTIC ALKALI LIQUID, N.O.S.                    |
| L10CH        | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 668                       | 1722   | ALLYL CHLOROFORMATE                              |
| L4BH         |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 1723   | ALLYL IODIDE                                     |
| L4BN         |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2        | X839                      | 1724   | ALLYLTRICHLOROSILANE, STABILIZED                 |
| SGAN         |                        | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1725   | ALUMINIUM BROMIDE, ANHYDROUS                     |
| SGAN         |                        | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1726   | ALUMINIUM CHLORIDE, ANHYDROUS                    |
| SGAN         |                        | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1727   | AMMONIUM HYDROGENDIFLUORIDE, SOLID               |
| L4BN         |                        | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1728   | AMYLTRICHLOROSILANE                              |
| SGAN<br>L4BN |                        | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1729   | ANISOYL CHLORIDE                                 |
| L4BN         |                        | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1730   | ANTIMONY PENTACHLORIDE, LIQUID                   |
| L4BN         |                        | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1731   | ANTIMONY PENTACHLORIDE SOLUTION                  |
| L4BN         |                        | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1731   | ANTIMONY PENTACHLORIDE SOLUTION                  |
| L4BN         |                        | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    |           | 86                        | 1732   | ANTIMONY PENTAFLUORIDE                           |
| SGAN<br>L4BN |                        | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1733   | ANTIMONY TRICHLORIDE                             |
| L4BN         |                        | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1736   | BENZOYL CHLORIDE                                 |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 68                        | 1737   | BENZYL BROMIDE                                   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 68                        | 1738   | BENZYL CHLORIDE                                  |
| L10BH        |                        | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | 88                        | 1739   | BENZYL CHLOROFORMATE                             |
| SGAN         |                        | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1740   | HYDROGENDIFLUORIDES, SOLID, N.O.S.               |
| SGAV         |                        | AT                        | 3<br>(E)                                     |                                 | VV9   |                                 |           | 80                        | 1740   | HYDROGENDIFLUORIDES, SOLID, N.O.S.               |
|              |                        | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 268                       | 1741   | BORON TRICHLORIDE                                |
| L4BN         |                        | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1742   | BORON TRIFLUORIDE ACETIC ACID COMPLEX, LIQUID    |
| L4BN         |                        | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1743   | BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, LIQUID |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |                   |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1744   | BROMINE or BROMINE SOLUTION  | 8     | CT1                 | I             | 8<br>+6.1         |                    | LQ0                             | E0      | P804                          |                                  | MP2                             | T22                                | TP2<br>TP10                |
| 1745   | BROMINE PENTAFLUORIDE  | 5.1   | OTC                 | I             | 5.1<br>+6.1<br>+8 |                    | LQ0                             | E0      | P200                          |                                  | MP2                             | T22                                | TP2                        |
| 1746   | BROMINE TRIFLUORIDE  | 5.1   | OTC                 | I             | 5.1<br>+6.1<br>+8 |                    | LQ0                             | E0      | P200                          |                                  | MP2                             | T22                                | TP2                        |
| 1747   | BUTYLTRICHLOROSILANE   | 8     | CF1                 | II            | 8<br>+3           |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1748   | CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 39% available chlorine (8.8% available oxygen) | 5.1   | O2                  | II            | 5.1               | 313<br>314<br>589  | LQ11                            | E2      | P002<br>IBC08                 | B4 B13                           | MP10                            |                                    |                            |
| 1748   | CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 39% available chlorine (8.8% available oxygen) | 5.1   | O2                  | III           | 5.1               | 316<br>589         | LQ12                            | E1      | P002<br>IBC08<br>R001         | B4                               | MP10                            |                                    |                            |
| 1749   | CHLORINE TRIFLUORIDE   | 2     | 2TOC                |               | 2.3<br>+5.1<br>+8 |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 1750   | CHLOROACETIC ACID SOLUTION   | 6.1   | TC1                 | II            | 6.1<br>+8         |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1751   | CHLOROACETIC ACID, SOLID   | 6.1   | TC2                 | II            | 6.1<br>+8         |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1752   | CHLOROACETYL CHLORIDE  | 6.1   | TC1                 | I             | 6.1<br>+8         |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T20                                | TP2<br>TP35                |
| 1753   | CHLOROPHENYL-TRICHLOROSILANE   | 8     | C3                  | II            | 8                 |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1754   | CHLOROSULPHONIC ACID (with or without sulphur trioxide)  | 8     | C1                  | I             | 8                 |                    | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T20                                | TP2                        |
| 1755   | CHROMIC ACID SOLUTION  | 8     | C1                  | II            | 8                 | 518                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1755   | CHROMIC ACID SOLUTION  | 8     | C1                  | III           | 8                 | 518                | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1756   | CHROMIC FLUORIDE, SOLID  | 8     | C2                  | II            | 8                 |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1757   | CHROMIC FLUORIDE SOLUTION  | 8     | C1                  | II            | 8                 |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1757   | CHROMIC FLUORIDE SOLUTION  | 8     | C1                  | III           | 8                 |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1758   | CHROMIUM OXYCHLORIDE   | 8     | C1                  | I             | 8                 |                    | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T10                                | TP2                        |
| 1759   | CORROSIVE SOLID, N.O.S.  | 8     | C10                 | I             | 8                 | 274                | LQ0                             | E0      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 1759   | CORROSIVE SOLID, N.O.S.  | 8     | C10                 | II            | 8                 | 274                | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1759   | CORROSIVE SOLID, N.O.S.  | 8     | C10                 | III           | 8                 | 274                | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1760   | CORROSIVE LIQUID, N.O.S.   | 8     | C9                  | I             | 8                 | 274                | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 1760   | CORROSIVE LIQUID, N.O.S.   | 8     | C9                  | II            | 8                 | 274                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 1760   | CORROSIVE LIQUID, N.O.S.   | 8     | C9                  | III           | 8                 | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |

| ADR tank       |                                      | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|----------------|--------------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code      | Special provisions                   |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3            | 4.3.5, 6.8.4                         | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)           | (13)                                 | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L21DH(+)       | TU14 TU33<br>TC5 TE21 TT2<br>TM3 TM5 | AT                        | 1<br>(C/D)                                   |                                 |       | CV13<br>CV28                    | S14       | 886                       | 1744   | BROMINE or BROMINE SOLUTION  |
| L10DH          | TU3                                  | AT                        | 1<br>(B/E)                                   |                                 |       | CV24<br>CV28                    | S14       | 568                       | 1745   | BROMINE PENTAFLUORIDE  |
| L10DH          | TU3                                  | AT                        | 1<br>(B/E)                                   |                                 |       | CV24<br>CV28                    | S14       | 568                       | 1746   | BROMINE TRIFLUORIDE  |
| L4BN           |                                      | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2        | X83                       | 1747   | BUTYLTRICHLOROSILANE   |
| SGAN           | TU3                                  | AT                        | 2<br>(E)                                     | V11                             |       | CV24<br>CV35                    |           | 50                        | 1748   | CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 39% available chlorine (8.8% available oxygen) |
| SGAV           | TU3                                  | AT                        | 3<br>(E)                                     |                                 |       | CV24<br>CV35                    |           | 50                        | 1748   | CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 39% available chlorine (8.8% available oxygen) |
| PxBH(M)        | TA4<br>TT9                           | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 265                       | 1749   | CHLORINE TRIFLUORIDE   |
| L4BH           | TU15 TE19                            | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 68                        | 1750   | CHLOROACETIC ACID SOLUTION   |
| SGAH           | TU15 TE19                            | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 68                        | 1751   | CHLOROACETIC ACID, SOLID   |
| L10CH          | TU14 TU15<br>TE19 TE21               | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 668                       | 1752   | CHLOROACETYL CHLORIDE  |
| L4BN           |                                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1753   | CHLOROPHENYL-TRICHLOROSILANE   |
| L10BH          |                                      | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | X88                       | 1754   | CHLOROSULPHONIC ACID (with or without sulphur trioxide)  |
| L4BN           |                                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1755   | CHROMIC ACID SOLUTION  |
| L4BN           |                                      | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1755   | CHROMIC ACID SOLUTION  |
| SGAN           |                                      | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1756   | CHROMIC FLUORIDE, SOLID  |
| L4BN           |                                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1757   | CHROMIC FLUORIDE SOLUTION  |
| L4BN           |                                      | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1757   | CHROMIC FLUORIDE SOLUTION  |
| L10BH          |                                      | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | X88                       | 1758   | CHROMIUM OXYCHLORIDE   |
| S10AN<br>L10BH |                                      | AT                        | 1<br>(E)                                     | V10<br>V12                      |       |                                 | S20       | 88                        | 1759   | CORROSIVE SOLID, N.O.S.  |
| SGAN<br>L4BN   |                                      | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1759   | CORROSIVE SOLID, N.O.S.  |
| SGAV<br>L4BN   |                                      | AT                        | 3<br>(E)                                     |                                 | VV9   |                                 |           | 80                        | 1759   | CORROSIVE SOLID, N.O.S.  |
| L10BH          |                                      | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | 88                        | 1760   | CORROSIVE LIQUID, N.O.S.   |
| L4BN           |                                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1760   | CORROSIVE LIQUID, N.O.S.   |
| L4BN           |                                      | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1760   | CORROSIVE LIQUID, N.O.S.   |

| UN No. | Name and description                         | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1761   | CUPRIETHYLENEDIAMINE SOLUTION                | 8     | CT1                 | II            | 8<br>+6.1 |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1761   | CUPRIETHYLENEDIAMINE SOLUTION                | 8     | CT1                 | III           | 8<br>+6.1 |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 1762   | CYCLOHEXYL-TRICHLOROSILANE                   | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1763   | CYCLOHEXYLTRICHLOROSILANE                    | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1764   | DICHLOROACETIC ACID                          | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1765   | DICHLOROACETYL CHLORIDE                      | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1766   | DICHLOROPHENYL-TRICHLOROSILANE               | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1767   | DIETHYLDICHLOROSILANE                        | 8     | CF1                 | II            | 8<br>+3   |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1768   | DIFLUOROPHOSPHORIC ACID, ANHYDROUS           | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1769   | DIPHENYLDICHLOROSILANE                       | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1770   | DIPHENYLMETHYL BROMIDE                       | 8     | C10                 | II            | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1771   | DODECYLTRICHLOROSILANE                       | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1773   | FERRIC CHLORIDE, ANHYDROUS                   | 8     | C2                  | III           | 8         | 590                | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1774   | FIRE EXTINGUISHER CHARGES, corrosive liquid  | 8     | C11                 | II            | 8         |                    | LQ22                            | E0      | P001                          | PP4                              |                                 |                                    |                            |
| 1775   | FLUOROBORIC ACID                             | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1776   | FLUOROPHOSPHORIC ACID, ANHYDROUS             | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1777   | FLUOROSULPHONIC ACID                         | 8     | C1                  | I             | 8         |                    | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T10                                | TP2                        |
| 1778   | FLUROSILICIC ACID                            | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1779   | FORMIC ACID with more than 85% acid by mass  | 8     | CF1                 | II            | 8<br>+3   |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1780   | FUMARYL CHLORIDE                             | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1781   | HEXADECYLTRICHLOROSILANE                     | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1782   | HEXAFLUORO-PHOSPHORIC ACID                   | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1783   | HEXAMETHYLENE-DIAMINE SOLUTION               | 8     | C7                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1783   | HEXAMETHYLENE-DIAMINE SOLUTION               | 8     | C7                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1784   | HEXYLTRICHLOROSILANE                         | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1786   | HYDROFLUORIC ACID AND SULPHURIC ACID MIXTURE | 8     | CT1                 | I             | 8<br>+6.1 |                    | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T10                                | TP2                        |
| 1787   | HYDRIODIC ACID                               | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1787   | HYDRIODIC ACID                               | 8     | C1                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1788   | HYDROBROMIC ACID                             | 8     | C1                  | II            | 8         | 519                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1788   | HYDROBROMIC ACID                             | 8     | C1                  | III           | 8         | 519                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1789   | HYDROCHLORIC ACID                            | 8     | C1                  | II            | 8         | 520                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |

| ADR tank     |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                         |
|--------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code    | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3          | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)         | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    |           | 86                        | 1761   | CUPRIETHYLENEDIAMINE SOLUTION                |
| L4BN         |                    | AT                        | 3<br>(E)                                     |                                 |       | CV13<br>CV28                    |           | 86                        | 1761   | CUPRIETHYLENEDIAMINE SOLUTION                |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1762   | CYCLOHEXENYL-TRICHLOROSILANE                 |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1763   | CYCLOHEXYLTRICHLOROSILANE                    |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1764   | DICHLOROACETIC ACID                          |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1765   | DICHLOROACETYL CHLORIDE                      |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1766   | DICHLOROPHENYL-TRICHLOROSILANE               |
| L4BN         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2        | X83                       | 1767   | DIETHYLDICHLOROSILANE                        |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1768   | DIFLUOROPHOSPHORIC ACID, ANHYDROUS           |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1769   | DIPHENYLDICHLOROSILANE                       |
| SGAN<br>L4BN |                    | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1770   | DIPHENYLMETHYL BROMIDE                       |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1771   | DODECYLTRICHLOROSILANE                       |
| SGAV         |                    | AT                        | 3<br>(E)                                     |                                 | VV9   |                                 |           | 80                        | 1773   | FERRIC CHLORIDE, ANHYDROUS                   |
|              |                    |                           | 2<br>(E)                                     |                                 |       |                                 |           |                           | 1774   | FIRE EXTINGUISHER CHARGES, corrosive liquid  |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1775   | FLUOROBORIC ACID                             |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1776   | FLUOROPHOSPHORIC ACID, ANHYDROUS             |
| L10BH        |                    | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | 88                        | 1777   | FLUOROSULPHONIC ACID                         |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1778   | FLUOROSILICIC ACID                           |
| L4BN         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2        | 83                        | 1779   | FORMIC ACID with more than 85% acid by mass  |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1780   | FUMARYL CHLORIDE                             |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1781   | HEXADECYLTRICHLOROSILANE                     |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1782   | HEXAFLUOROPHOSPHORIC ACID                    |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1783   | HEXAMETHYLENEDIAMINE SOLUTION                |
| L4BN         |                    | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1783   | HEXAMETHYLENEDIAMINE SOLUTION                |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1784   | HEXYLTRICHLOROSILANE                         |
| L10DH        | TU14 TE21          | AT                        | 1<br>(C/D)                                   |                                 |       | CV13<br>CV28                    | S14       | 886                       | 1786   | HYDROFLUORIC ACID AND SULPHURIC ACID MIXTURE |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1787   | HYDRIODIC ACID                               |
| L4BN         |                    | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1787   | HYDRIODIC ACID                               |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1788   | HYDROBROMIC ACID                             |
| L4BN         |                    | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1788   | HYDROBROMIC ACID                             |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1789   | HYDROCHLORIC ACID                            |

| UN No. | Name and description   | Class | Classification code | Packing group       | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |                     |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)                 | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1789   | HYDROCHLORIC ACID  | 8     | C1                  | III                 | 8         | 520                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1790   | HYDROFLUORIC ACID with more than 85% hydrogen fluoride                       | 8     | CT1                 | I                   | 8<br>+6.1 | 640I               | LQ0                             | E0      | P802                          |                                  | MP2                             | T10                                | TP2                        |
| 1790   | HYDROFLUORIC ACID with more than 60% but not more than 85% hydrogen fluoride | 8     | CT1                 | I                   | 8<br>+6.1 | 640J               | LQ0                             | E0      | P001                          | PP81                             | MP8<br>MP17                     | T10                                | TP2                        |
| 1790   | HYDROFLUORIC ACID with not more than 60% hydrogen fluoride                   | 8     | CT1                 | II                  | 8<br>+6.1 |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1791   | HYPOCHLORITE SOLUTION  | 8     | C9                  | II                  | 8         | 521                | LQ22                            | E2      | P001<br>IBC02                 | PP10<br>B5                       | MP15                            | T7                                 | TP2<br>TP24                |
| 1791   | HYPOCHLORITE SOLUTION  | 8     | C9                  | III                 | 8         | 521                | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 | B5                               | MP19                            | T4                                 | TP2<br>TP24                |
| 1792   | IODINE MONOCHLORIDE  | 8     | C1                  | II                  | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1793   | ISOPROPYL ACID PHOSPHATE   | 8     | C3                  | III                 | 8         |                    | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1794   | LEAD SULPHATE with more than 3% free acid                                    | 8     | C2                  | II                  | 8         | 591                | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1796   | NITRATING ACID MIXTURE with more than 50% nitric acid                        | 8     | CO1                 | I                   | 8<br>+5.1 |                    | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T10                                | TP2                        |
| 1796   | NITRATING ACID MIXTURE with not more than 50% nitric acid                    | 8     | C1                  | II                  | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1798   | NITROHYDROCHLORIC ACID   | 8     | COT                 | CARRIAGE PROHIBITED |           |                    |                                 |         |                               |                                  |                                 |                                    |                            |
| 1799   | NONYLTRICHLOROSILANE   | 8     | C3                  | II                  | 8         |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1800   | OCTADECYLTRICHLOROSILANE   | 8     | C3                  | II                  | 8         |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1801   | OCTYLTRICHLOROSILANE   | 8     | C3                  | II                  | 8         |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1802   | PERCHLORIC ACID with not more than 50% acid, by mass                         | 8     | CO1                 | II                  | 8<br>+5.1 | 522                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP3                             | T7                                 | TP2                        |
| 1803   | PHENOLSULPHONIC ACID, LIQUID   | 8     | C3                  | II                  | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1804   | PHENYLTRICHLOROSILANE  | 8     | C3                  | II                  | 8         |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1805   | PHOSPHORIC ACID, SOLUTION  | 8     | C1                  | III                 | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1806   | PHOSPHORUS PENTACHLORIDE   | 8     | C2                  | II                  | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1807   | PHOSPHORUS PENTOXIDE   | 8     | C2                  | II                  | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1808   | PHOSPHORUS TRIBROMIDE  | 8     | C1                  | II                  | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1809   | PHOSPHORUS TRICHLORIDE   | 6.1   | TC3                 | I                   | 6.1<br>+8 |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T20                                | TP2<br>TP35                |
| 1810   | PHOSPHORUS OXYCHLORIDE   | 8     | C1                  | II                  | 8         |                    | LQ22                            | E2      | P001                          |                                  | MP15                            | T7                                 | TP2                        |
| 1811   | POTASSIUM HYDROGENDIFLUORIDE, SOLID  | 8     | CT2                 | II                  | 8<br>+6.1 |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1812   | POTASSIUM FLUORIDE, SOLID  | 6.1   | T5                  | III                 | 6.1       |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |



| ADR tank            |                                      | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|---------------------|--------------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code           | Special provisions                   |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3                 | 4.3.5, 6.8.4                         | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)                | (13)                                 | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BN                |                                      | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 1789   | HYDROCHLORIC ACID  |
| L21DH(+)            | TU14 TU34<br>TC1 TE21 TA4<br>TT9 TM3 | AT                        | 1 (C/D)                                      |                                 |       | CV13<br>CV28                    | S14       | 886                       | 1790   | HYDROFLUORIC ACID with more than 85% hydrogen fluoride                       |
| L10DH               | TU14 TE21                            | AT                        | 1 (C/D)                                      |                                 |       | CV13<br>CV28                    | S14       | 886                       | 1790   | HYDROFLUORIC ACID with more than 60% but not more than 85% hydrogen fluoride |
| L4DH                | TU14 TE21                            | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    |           | 86                        | 1790   | HYDROFLUORIC ACID with not more than 60% hydrogen fluoride                   |
| L4BV(+)             | TE11                                 | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 1791   | HYPOCHLORITE SOLUTION  |
| L4BV(+)             | TE11                                 | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 1791   | HYPOCHLORITE SOLUTION  |
| L4BN                |                                      | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 1792   | IODINE MONOCHLORIDE  |
| L4BN                |                                      | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 1793   | ISOPROPYL ACID PHOSPHATE   |
| SGAN                |                                      | AT                        | 2 (E)  | V11                             | VV9   |                                 |           | 80                        | 1794   | LEAD SULPHATE with more than 3% free acid                                    |
| L10BH               | TC6 TT1                              | AT                        | 1 (E)  |                                 |       | CV24                            | S14       | 885                       | 1796   | NITRATING ACID MIXTURE with more than 50% nitric acid                        |
| L4BN                |                                      | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 1796   | NITRATING ACID MIXTURE with not more than 50% nitric acid                    |
| CARRIAGE PROHIBITED |                                      |                           |  |                                 |       |                                 |           |                           | 1798   | NITROHYDROCHLORIC ACID   |
| L4BN                |                                      | AT                        | 2 (E)  |                                 |       |                                 |           | X80                       | 1799   | NONYLTRICHLOROSILANE   |
| L4BN                |                                      | AT                        | 2 (E)  |                                 |       |                                 |           | X80                       | 1800   | OCTADECYLTRICHLOROSILANE   |
| L4BN                |                                      | AT                        | 2 (E)  |                                 |       |                                 |           | X80                       | 1801   | OCTYLTRICHLOROSILANE   |
| L4BN                |                                      | AT                        | 2 (E)  |                                 |       | CV24                            |           | 85                        | 1802   | PERCHLORIC ACID with not more than 50% acid, by mass                         |
| L4BN                |                                      | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 1803   | PHENOLSULPHONIC ACID, LIQUID   |
| L4BN                |                                      | AT                        | 2 (E)  |                                 |       |                                 |           | X80                       | 1804   | PHENYLTRICHLOROSILANE  |
| L4BN                |                                      | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 1805   | PHOSPHORIC ACID, SOLUTION  |
| SGAN                |                                      | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 1806   | PHOSPHORUS PENTACHLORIDE   |
| SGAN                |                                      | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 1807   | PHOSPHORUS PENTOXIDE   |
| L4BN                |                                      | AT                        | 2 (E)  |                                 |       |                                 |           | X80                       | 1808   | PHOSPHORUS TRIBROMIDE  |
| L10CH               | TU14 TU15<br>TE19 TE21               | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 668                       | 1809   | PHOSPHORUS TRICHLORIDE   |
| L4BN                |                                      | AT                        | 2 (E)  |                                 |       |                                 |           | X80                       | 1810   | PHOSPHORUS OXYCHLORIDE   |
| SGAN                |                                      | AT                        | 2 (E)  | V11                             |       | CV13<br>CV28                    |           | 86                        | 1811   | POTASSIUM HYDROGENDIFLUORIDE, SOLID  |
| SGAH                | TU15 TE19                            | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 1812   | POTASSIUM FLUORIDE, SOLID  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1813   | POTASSIUM HYDROXIDE, SOLID  | 8     | C6                  | II            | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1814   | POTASSIUM HYDROXIDE SOLUTION                                      | 8     | C5                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1814   | POTASSIUM HYDROXIDE SOLUTION                                      | 8     | C5                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1815   | PROPIONYL CHLORIDE  | 3     | FC                  | II            | 3<br>+8   |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 1816   | PROPYLTRICHLORO-SILANE  | 8     | CF1                 | II            | 8<br>+3   |                    | LQ22                            | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1817   | PYROSULPHURYL CHLORIDE  | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1818   | SILICON TETRACHLORIDE   | 8     | C1                  | II            | 8         |                    | LQ0                             | E2      | P010                          |                                  | MP15                            | T10                                | TP2<br>TP7                 |
| 1819   | SODIUM ALUMINATE SOLUTION   | 8     | C5                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1819   | SODIUM ALUMINATE SOLUTION   | 8     | C5                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1823   | SODIUM HYDROXIDE, SOLID   | 8     | C6                  | II            | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1824   | SODIUM HYDROXIDE SOLUTION   | 8     | C5                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1824   | SODIUM HYDROXIDE SOLUTION   | 8     | C5                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1825   | SODIUM MONOXIDE   | 8     | C6                  | II            | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1826   | NITRATING ACID MIXTURE, SPENT, with more than 50% nitric acid     | 8     | CO1                 | I             | 8<br>+5.1 | 113                | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T10                                | TP2                        |
| 1826   | NITRATING ACID MIXTURE, SPENT, with not more than 50% nitric acid | 8     | C1                  | II            | 8         | 113                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1827   | STANNIC CHLORIDE, ANHYDROUS                                       | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1828   | SULPHUR CHLORIDES   | 8     | C1                  | I             | 8         |                    | LQ0                             | E0      | P602                          |                                  | MP8<br>MP17                     | T20                                | TP2                        |
| 1829   | SULPHUR TRIOXIDE, STABILIZED                                      | 8     | C1                  | I             | 8         | 623                | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T20                                | TP4 TP25<br>TP26           |
| 1830   | SULPHURIC ACID with more than 51% acid                            | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1831   | SULPHURIC ACID, FUMING  | 8     | CT1                 | I             | 8<br>+6.1 |                    | LQ0                             | E0      | P602                          |                                  | MP8<br>MP17                     | T20                                | TP2                        |
| 1832   | SULPHURIC ACID, SPENT   | 8     | C1                  | II            | 8         | 113                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 1833   | SULPHUROUS ACID   | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1834   | SULPHURYL CHLORIDE  | 8     | C1                  | I             | 8         |                    | LQ0                             | E0      | P602                          |                                  | MP8<br>MP17                     | T20                                | TP2                        |
| 1835   | TETRAMETHYL-AMMONIUM HYDROXIDE SOLUTION                           | 8     | C7                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1835   | TETRAMETHYL-AMMONIUM HYDROXIDE SOLUTION                           | 8     | C7                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP2                        |
| 1836   | THIONYL CHLORIDE  | 8     | C1                  | I             | 8         |                    | LQ0                             | E0      | P802                          |                                  | MP8<br>MP17                     | T10                                | TP2                        |
| 1837   | THIOPHOSPHORYL CHLORIDE   | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1838   | TITANIUM TETRACHLORIDE  | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T10                                | TP2                        |
| 1839   | TRICHLOROACETIC ACID  | 8     | C4                  | II            | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |

| ADR tank     |                      | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|--------------|----------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code    | Special provisions   |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3          | 4.3.5, 6.8.4         | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)         | (13)                 | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAN         |                      | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1813   | POTASSIUM HYDROXIDE, SOLID  |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1814   | POTASSIUM HYDROXIDE SOLUTION                                      |
| L4BN         |                      | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1814   | POTASSIUM HYDROXIDE SOLUTION                                      |
| L4BH         |                      | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 1815   | PROPIONYL CHLORIDE  |
| L4BN         |                      | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2        | X83                       | 1816   | PROPYLTRICHLORO-SILANE  |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1817   | PYROSULPHURYL CHLORIDE  |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1818   | SILICON TETRACHLORIDE   |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1819   | SODIUM ALUMINATE SOLUTION   |
| L4BN         |                      | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1819   | SODIUM ALUMINATE SOLUTION   |
| SGAN         |                      | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1823   | SODIUM HYDROXIDE, SOLID   |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1824   | SODIUM HYDROXIDE SOLUTION   |
| L4BN         |                      | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1824   | SODIUM HYDROXIDE SOLUTION   |
| SGAN         |                      | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1825   | SODIUM MONOXIDE   |
| L10BH        |                      | AT                        | 1<br>(E)                                     |                                 |       | CV24                            | S14       | 885                       | 1826   | NITRATING ACID MIXTURE, SPENT, with more than 50% nitric acid     |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1826   | NITRATING ACID MIXTURE, SPENT, with not more than 50% nitric acid |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1827   | STANNIC CHLORIDE, ANHYDROUS                                       |
| L10BH        |                      | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | X88                       | 1828   | SULPHUR CHLORIDES   |
| L10BH        | TU32 TE13<br>TT5 TM3 | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | X88                       | 1829   | SULPHUR TRIOXIDE, STABILIZED                                      |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1830   | SULPHURIC ACID with more than 51% acid                            |
| L10BH        |                      | AT                        | 1<br>(C/D)                                   |                                 |       | CV13<br>CV28                    | S14       | X886                      | 1831   | SULPHURIC ACID, FUMING  |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1832   | SULPHURIC ACID, SPENT   |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1833   | SULPHUROUS ACID   |
| L10BH        |                      | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | X88                       | 1834   | SULPHURYL CHLORIDE  |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 1835   | TETRAMETHYL-AMMONIUM HYDROXIDE SOLUTION                           |
| L4BN         |                      | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 1835   | TETRAMETHYL-AMMONIUM HYDROXIDE SOLUTION                           |
| L10BH        |                      | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | X88                       | 1836   | THIONYL CHLORIDE  |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1837   | THIOPHOSPHORYL CHLORIDE   |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 1838   | TITANIUM TETRACHLORIDE  |
| SGAN<br>L4BN |                      | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 1839   | TRICHLOROACETIC ACID  |

| UN No. | Name and description  | Class | Classification code | Packing group      | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                            |                          | Portable tanks and bulk containers |                    |
|--------|---|-------|---------------------|--------------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |   |       |                     |                    |           |                    |                                 |         | Packing instructions          | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3            | 5.2.2     | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                         | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)   | (3a)  | (3b)                | (4)                | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                       | (9b)                     | (10)                               | (11)               |
| 1840   | ZINC CHLORIDE SOLUTION  | 8     | C1                  | III                | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T4                                 | TP1                |
| 1841   | ACETALDEHYDE AMMONIA  | 9     | M11                 | III                | 9         |                    | LQ27                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3 B6                      | MP10                     | T1                                 | TP33               |
| 1843   | AMMONIUM DINITRO-o-CRESOLATE, SOLID   | 6.1   | T2                  | II                 | 6.1       |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                         | MP10                     | T3                                 | TP33               |
| 1845   | Carbon dioxide, solid (Dry ice)   | 9     | M11                 | NOT SUBJECT TO ADR |           |                    |                                 |         |                               |                            |                          |                                    |                    |
| 1846   | CARBON TETRACHLORIDE  | 6.1   | T1                  | II                 | 6.1       |                    | LQ17                            | E4      | P001<br>IBC02                 |                            | MP15                     | T7                                 | TP2                |
| 1847   | POTASSIUM SULPHIDE, HYDRATED with not less than 30% water of crystallization    | 8     | C6                  | II                 | 8         | 523                | LQ23                            | E2      | P002<br>IBC08                 | B4                         | MP10                     | T3                                 | TP33               |
| 1848   | PROPIONIC ACID with not less than 10% and less than 90% acid by mass            | 8     | C3                  | III                | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T4                                 | TP1                |
| 1849   | SODIUM SULPHIDE, HYDRATED with not less than 30% water                          | 8     | C6                  | II                 | 8         | 523                | LQ23                            | E2      | P002<br>IBC08                 | B4                         | MP10                     | T3                                 | TP33               |
| 1851   | MEDICINE, LIQUID, TOXIC, N.O.S.   | 6.1   | T1                  | II                 | 6.1       | 221<br>274<br>601  | LQ17                            | E4      | P001                          |                            | MP15                     |                                    |                    |
| 1851   | MEDICINE, LIQUID, TOXIC, N.O.S.   | 6.1   | T1                  | III                | 6.1       | 221<br>274<br>601  | LQ7                             | E1      | P001<br>LP01<br>R001          |                            | MP19                     |                                    |                    |
| 1854   | BARIUM ALLOYS, PYROPHORIC   | 4.2   | S4                  | I                  | 4.2       |                    | LQ0                             | E0      | P404                          |                            | MP13                     | T21                                | TP7<br>TP33        |
| 1855   | CALCIUM, PYROPHORIC or CALCIUM ALLOYS, PYROPHORIC                               | 4.2   | S4                  | I                  | 4.2       |                    | LQ0                             | E0      | P404                          |                            | MP13                     |                                    |                    |
| 1856   | Rags, oily  | 4.2   | S2                  | NOT SUBJECT TO ADR |           |                    |                                 |         |                               |                            |                          |                                    |                    |
| 1857   | Textile waste, wet  | 4.2   | S2                  | NOT SUBJECT TO ADR |           |                    |                                 |         |                               |                            |                          |                                    |                    |
| 1858   | HEXAFLUOROPROPYLENE (REFRIGERANT GAS R 1216)                                    | 2     | 2A                  |                    | 2.2       |                    | LQ1                             | E1      | P200                          |                            | MP9                      | (M)<br>T50                         |                    |
| 1859   | SILICON TETRAFLUORIDE   | 2     | 2TC                 |                    | 2.3<br>+8 |                    | LQ0                             | E0      | P200                          |                            | MP9                      | (M)                                |                    |
| 1860   | VINYL FLUORIDE, STABILIZED  | 2     | 2F                  |                    | 2.1       |                    | LQ0                             | E0      | P200                          |                            | MP9                      | (M)                                |                    |
| 1862   | ETHYL CROTONATE   | 3     | F1                  | II                 | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                            | MP19                     | T4                                 | TP2                |
| 1863   | FUEL, AVIATION, TURBINE ENGINE  | 3     | F1                  | I                  | 3         |                    | LQ3                             | E3      | P001                          |                            | MP7<br>MP17              | T11                                | TP1<br>TP8<br>TP28 |
| 1863   | FUEL, AVIATION, TURBINE ENGINE (vapour pressure at 50 °C more than 110 kPa)     | 3     | F1                  | II                 | 3         | 640C               | LQ4                             | E2      | P001                          |                            | MP19                     | T4                                 | TP1<br>TP8         |
| 1863   | FUEL, AVIATION, TURBINE ENGINE (vapour pressure at 50 °C not more than 110 kPa) | 3     | F1                  | II                 | 3         | 640D               | LQ4                             | E2      | P001<br>IBC02<br>R001         |                            | MP19                     | T4                                 | TP1<br>TP8         |
| 1863   | FUEL, AVIATION, TURBINE ENGINE  | 3     | F1                  | III                | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T2                                 | TP1                |
| 1865   | n-PROPYL NITRATE  | 3     | F1                  | II                 | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         | B7                         | MP19                     |                                    |                    |
| 1866   | RESIN SOLUTION, flammable   | 3     | F1                  | I                  | 3         |                    | LQ3                             | E3      | P001                          |                            | MP7<br>MP17              | T11                                | TP1<br>TP8<br>TP28 |
| 1866   | RESIN SOLUTION, flammable (vapour pressure at 50 °C more than 110 kPa)          | 3     | F1                  | II                 | 3         | 640C               | LQ6                             | E2      | P001                          | PP1                        | MP19                     | T4                                 | TP1<br>TP8         |

| ADR tank           |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|--------------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code          | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3                | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)               | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BN               |                    | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 1840   | ZINC CHLORIDE SOLUTION  |
| SGAV               |                    | AT                        | 3 (E)  |                                 | VV3   |                                 |           | 90                        | 1841   | ACETALDEHYDE AMMONIA  |
| SGAH               | TU15 TE19          | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1843   | AMMONIUM DINITRO-o-CRESOLATE, SOLID   |
| NOT SUBJECT TO ADR |                    |                           |  |                                 |       |                                 |           |                           | 1845   | Carbon dioxide, solid (Dry ice)   |
| L4BH               | TU15 TE19          | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 1846   | CARBON TETRACHLORIDE  |
| SGAN L4BN          |                    | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 1847   | POTASSIUM SULPHIDE, HYDRATED with not less than 30% water of crystallization    |
| L4BN               |                    | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 1848   | PROPIONIC ACID with not less than 10% and less than 90% acid by mass            |
| SGAN L4BN          |                    | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 1849   | SODIUM SULPHIDE, HYDRATED with not less than 30% water                          |
| L4BH               | TU15 TE19          | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 1851   | MEDICINE, LIQUID, TOXIC, N.O.S.   |
| L4BH               | TU15 TE19          | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 1851   | MEDICINE, LIQUID, TOXIC, N.O.S.   |
|                    |                    | AT                        | 0 (B/E)                                      | V1                              |       |                                 | S20       | 43                        | 1854   | BARIUM ALLOYS, PYROPHORIC   |
|                    |                    |                           | 0 (E)  | V1                              |       |                                 | S20       |                           | 1855   | CALCIUM, PYROPHORIC or CALCIUM ALLOYS, PYROPHORIC                               |
| NOT SUBJECT TO ADR |                    |                           |  |                                 |       |                                 |           |                           | 1856   | Rags, oily  |
| NOT SUBJECT TO ADR |                    |                           |  |                                 |       |                                 |           |                           | 1857   | Textile waste, wet  |
| PxBN(M)            | TA4 TT9            | AT                        | 3 (C/E)                                      |                                 |       | CV9 CV10 CV36                   |           | 20                        | 1858   | HEXAFLUOROPROPYLENE (REFRIGERANT GAS R 1216)                                    |
| PxBH(M)            | TA4 TT9            | AT                        | 1 (C/D)                                      |                                 |       | CV9 CV10 CV36                   | S14       | 268                       | 1859   | SILICON TETRAFLUORIDE   |
| PxBN(M)            | TA4 TT9            | FL                        | 2 (B/D)                                      |                                 |       | CV9 CV10 CV36                   | S2 S20    | 239                       | 1860   | VINYL FLUORIDE, STABILIZED  |
| LGBF               |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1862   | ETHYL CROTONATE   |
| L4BN               |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1863   | FUEL, AVIATION, TURBINE ENGINE  |
| L1.5BN             |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1863   | FUEL, AVIATION, TURBINE ENGINE (vapour pressure at 50 °C more than 110 kPa)     |
| LGBF               |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1863   | FUEL, AVIATION, TURBINE ENGINE (vapour pressure at 50 °C not more than 110 kPa) |
| LGBF               |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1863   | FUEL, AVIATION, TURBINE ENGINE  |
|                    |                    |                           | 2 (E)  |                                 |       |                                 | S2 S20    |                           | 1865   | n-PROPYL NITRATE  |
| L4BN               |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1866   | RESIN SOLUTION, flammable   |
| L1.5BN             |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1866   | RESIN SOLUTION, flammable (vapour pressure at 50 °C more than 110 kPa)          |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1866   | RESIN SOLUTION, flammable (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | II            | 3           | 640D               | LQ6                             | E2      | P001<br>IBC02<br>R001         | PP1                              | MP19                            | T4                                 | TP1<br>TP8                 |
| 1866   | RESIN SOLUTION, flammable  | 3     | F1                  | III           | 3           | 640E               | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 | PP1                              | MP19                            | T2                                 | TP1                        |
| 1866   | RESIN SOLUTION, flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  | 3     | F1                  | III           | 3           | 640F               | LQ7                             | E1      | P001<br>LP01<br>R001          | PP1                              | MP19                            | T2                                 | TP1                        |
| 1866   | RESIN SOLUTION, flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) | 3     | F1                  | III           | 3           | 640G               | LQ7                             | E1      | P001<br>LP01<br>R001          | PP1                              | MP19                            | T2                                 | TP1                        |
| 1866   | RESIN SOLUTION, flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               | 3     | F1                  | III           | 3           | 640H               | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 | PP1                              | MP19                            | T2                                 | TP1                        |
| 1868   | DECABORANE   | 4.1   | FT2                 | II            | 4.1<br>+6.1 |                    | LQ0                             | E2      | P002<br>IBC06                 |                                  | MP10                            | T3                                 | TP33                       |
| 1869   | MAGNESIUM or MAGNESIUM ALLOYS with more than 50% magnesium in pellets, turnings or ribbons   | 4.1   | F3                  | III           | 4.1         | 59                 | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP11                            | T1                                 | TP33                       |
| 1870   | POTASSIUM BOROHYDRIDE  | 4.3   | W2                  | I             | 4.3         |                    | LQ0                             | E0      | P403                          |                                  | MP2                             |                                    |                            |
| 1871   | TITANIUM HYDRIDE   | 4.1   | F3                  | II            | 4.1         |                    | LQ8                             | E2      | P410<br>IBC04                 | PP40                             | MP11                            | T3                                 | TP33                       |
| 1872   | LEAD DIOXIDE   | 5.1   | OT2                 | III           | 5.1<br>+6.1 |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP2                             | T1                                 | TP33                       |
| 1873   | PERCHLORIC ACID with more than 50% but not more than 72% acid, by mass   | 5.1   | OC1                 | I             | 5.1<br>+8   | 60                 | LQ0                             | E0      | P502                          | PP28                             | MP3                             | T10                                | TP1                        |
| 1884   | BARIUM OXIDE   | 6.1   | T5                  | III           | 6.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 1885   | BENZIDINE  | 6.1   | T2                  | II            | 6.1         |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1886   | BENZYLIDENE CHLORIDE   | 6.1   | T1                  | II            | 6.1         |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1887   | BROMOCHLOROMETHANE   | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 1888   | CHLOROFORM   | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP2                        |
| 1889   | CYANOGEN BROMIDE   | 6.1   | TC2                 | I             | 6.1<br>+8   |                    | LQ0                             | E5      | P002                          |                                  | MP18                            | T6                                 | TP33                       |
| 1891   | ETHYL BROMIDE  | 6.1   | T1                  | II            | 6.1         |                    | LQ17                            | E4      | P001<br>IBC02                 | B8                               | MP15                            | T7                                 | TP2                        |
| 1892   | ETHYLDICHLOROARSINE  | 6.1   | T3                  | I             | 6.1         |                    | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 1894   | PHENYLMERCURIC HYDROXIDE   | 6.1   | T3                  | II            | 6.1         |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1895   | PHENYLMERCURIC NITRATE   | 6.1   | T3                  | II            | 6.1         |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |

| ADR tank    |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-------------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code   | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3         | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)        | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| LGBF        |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1866   | RESIN SOLUTION, flammable (vapour pressure at 50 °C not more than 110 kPa)   |
| LGBF        |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1866   | RESIN SOLUTION, flammable  |
| L4BN        |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1866   | RESIN SOLUTION, flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  |
| L1.5BN      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1866   | RESIN SOLUTION, flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) |
| LGBF        |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1866   | RESIN SOLUTION, flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               |
| SGAN        |                     | AT                        | 2 (E)  | V11 V12                         |       | CV28                            |           | 46                        | 1868   | DECABORANE   |
| SGAV        |                     | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 1869   | MAGNESIUM or MAGNESIUM ALLOYS with more than 50% magnesium in pellets, turnings or ribbons   |
|             |                     |                           | 1 (E)  | V1                              |       | CV23                            | S20       |                           | 1870   | POTASSIUM BOROHYDRIDE  |
| SGAN        |                     | AT                        | 2 (E)  |                                 |       |                                 |           | 40                        | 1871   | TITANIUM HYDRIDE   |
| SGAN        | TU3                 | AT                        | 3 (E)  |                                 |       | CV24 CV28                       |           | 56                        | 1872   | LEAD DIOXIDE   |
| L4DN(+)     | TU3 TU28            | AT                        | 1 (B/E)                                      |                                 |       | CV24                            | S20       | 558                       | 1873   | PERCHLORIC ACID with more than 50% but not more than 72% acid, by mass   |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 1884   | BARIUM OXIDE   |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1885   | BENZIDINE  |
| L4BH        | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 1886   | BENZYLIDENE CHLORIDE   |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 1887   | BROMOCHLOROMETHANE   |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 1888   | CHLOROFORM   |
| S10AH L10CH | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 668                       | 1889   | CYANOGEN BROMIDE   |
| L4BH        | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 1891   | ETHYL BROMIDE  |
| L10CH       | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 1892   | ETHYLDICHLOROARSINE  |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1894   | PHENYLMERCURIC HYDROXIDE   |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 1895   | PHENYLMERCURIC NITRATE   |

| UN No. | Name and description                           | Class | Classification code | Packing group      | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                            |                          | Portable tanks and bulk containers |                    |
|--------|--|-------|---------------------|--------------------|-------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |  |       |                     |                    |             |                    |                                 |         | Packing instructions          | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2  | 2.2   | 2.2                 | 2.1.1.3            | 5.2.2       | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                         | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)  | (3a)  | (3b)                | (4)                | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                       | (9b)                     | (10)                               | (11)               |
| 1897   | TETRACHLOROETHYLENE                            | 6.1   | T1                  | III                | 6.1         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T4                                 | TP1                |
| 1898   | ACETYL IODIDE                                  | 8     | C3                  | II                 | 8           |                    | LQ22                            | E2      | P001<br>IBC02                 |                            | MP15                     | T7                                 | TP2                |
| 1902   | DIISOCTYL ACID PHOSPHATE                       | 8     | C3                  | III                | 8           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T4                                 | TP1                |
| 1903   | DISINFECTANT, LIQUID, CORROSIVE, N.O.S.        | 8     | C9                  | I                  | 8           | 274                | LQ0                             | E0      | P001                          |                            | MP8<br>MP17              |                                    |                    |
| 1903   | DISINFECTANT, LIQUID, CORROSIVE, N.O.S.        | 8     | C9                  | II                 | 8           | 274                | LQ22                            | E2      | P001<br>IBC02                 |                            | MP15                     |                                    |                    |
| 1903   | DISINFECTANT, LIQUID, CORROSIVE, N.O.S.        | 8     | C9                  | III                | 8           | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     |                                    |                    |
| 1905   | SELENIC ACID                                   | 8     | C2                  | I                  | 8           |                    | LQ0                             | E0      | P002<br>IBC07                 |                            | MP18                     | T6                                 | TP33               |
| 1906   | SLUDGE ACID                                    | 8     | C1                  | II                 | 8           |                    | LQ22                            | E2      | P001<br>IBC02                 |                            | MP15                     | T8                                 | TP2<br>TP28        |
| 1907   | SODA LIME with more than 4% sodium hydroxide   | 8     | C6                  | III                | 8           | 62                 | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                         | MP10                     | T1                                 | TP33               |
| 1908   | CHLORITE SOLUTION                              | 8     | C9                  | II                 | 8           | 521                | LQ22                            | E2      | P001<br>IBC02                 |                            | MP15                     | T7                                 | TP2<br>TP24        |
| 1908   | CHLORITE SOLUTION                              | 8     | C9                  | III                | 8           | 521                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T4                                 | TP2<br>TP24        |
| 1910   | Calcium oxide                                  | 8     | C6                  | NOT SUBJECT TO ADR |             |                    |                                 |         |                               |                            |                          |                                    |                    |
| 1911   | DIBORANE                                       | 2     | 2TF                 |                    | 2.3<br>+2.1 |                    | LQ0                             | E0      | P200                          |                            | MP9                      |                                    |                    |
| 1912   | METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE | 2     | 2F                  |                    | 2.1         | 228                | LQ0                             | E0      | P200                          |                            | MP9                      | (M)<br>T50                         |                    |
| 1913   | NEON, REFRIGERATED LIQUID                      | 2     | 3A                  |                    | 2.2         | 593                | LQ1                             | E1      | P203                          |                            | MP9                      | T75                                | TP5                |
| 1914   | BUTYL PROPIONATES                              | 3     | F1                  | III                | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T2                                 | TP1                |
| 1915   | CYCLOHEXANONE                                  | 3     | F1                  | III                | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T2                                 | TP1                |
| 1916   | 2,2'-DICHLORODIETHYL ETHER                     | 6.1   | TF1                 | II                 | 6.1<br>+3   |                    | LQ17                            | E4      | P001<br>IBC02                 |                            | MP15                     | T7                                 | TP2                |
| 1917   | ETHYL ACRYLATE, STABILIZED                     | 3     | F1                  | II                 | 3           |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                            | MP19                     | T4                                 | TP1                |
| 1918   | ISOPROPYLBENZENE                               | 3     | F1                  | III                | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T2                                 | TP1                |
| 1919   | METHYL ACRYLATE, STABILIZED                    | 3     | F1                  | II                 | 3           |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                            | MP19                     | T4                                 | TP1                |
| 1920   | NONANES  | 3     | F1                  | III                | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T2                                 | TP1                |
| 1921   | PROPYLENEIMINE, STABILIZED                     | 3     | FT1                 | I                  | 3<br>+6.1   |                    | LQ0                             | E0      | P001                          |                            | MP2                      | T14                                | TP2                |
| 1922   | PYRROLIDINE                                    | 3     | FC                  | II                 | 3<br>+8     |                    | LQ4                             | E2      | P001<br>IBC02                 |                            | MP19                     | T7                                 | TP1                |



| ADR tank           |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                           |
|--------------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code          | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3                | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)               | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BH               | TU15 TE19          | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 1897   | TETRACHLOROETHYLENE                            |
| L4BN               |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 1898   | ACETYL IODIDE                                  |
| L4BN               |                    | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 1902   | DIISOCTYL ACID PHOSPHATE                       |
| L10BH              |                    | AT                        | 1 (E)  |                                 |       |                                 | S20       | 88                        | 1903   | DISINFECTANT, LIQUID, CORROSIVE, N.O.S.        |
| L4BN               |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 1903   | DISINFECTANT, LIQUID, CORROSIVE, N.O.S.        |
| L4BN               |                    | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 1903   | DISINFECTANT, LIQUID, CORROSIVE, N.O.S.        |
| S10AN              |                    | AT                        | 1 (E)  | V10<br>V12                      |       |                                 | S20       | 88                        | 1905   | SELENIC ACID                                   |
| L4BN               |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 1906   | SLUDGE ACID                                    |
| SGAV               |                    | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 1907   | SODA LIME with more than 4% sodium hydroxide   |
| L4BV(+)            | TE11               | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 1908   | CHLORITE SOLUTION                              |
| L4BV(+)            | TE11               | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 1908   | CHLORITE SOLUTION                              |
| NOT SUBJECT TO ADR |                    |                           |  |                                 |       |                                 |           |                           | 1910   | Calcium oxide                                  |
|                    |                    |                           | 1 (D)  |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    |                           | 1911   | DIBORANE                                       |
| PxBN(M)            | TA4<br>TT9         | FL                        | 2 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1912   | METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE |
| RxBN               | TU19<br>TA4<br>TT9 | AT                        | 3 (C/E)                                      | V5                              |       | CV9<br>CV11<br>CV36             | S20       | 22                        | 1913   | NEON, REFRIGERATED LIQUID                      |
| LGBF               |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1914   | BUTYL PROPIONATES                              |
| LGBF               |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1915   | CYCLOHEXANONE                                  |
| L4BH               | TU15 TE19          | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 1916   | 2,2'-DICHLORODIETHYL ETHER                     |
| LGBF               |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 1917   | ETHYL ACRYLATE, STABILIZED                     |
| LGBF               |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1918   | ISOPROPYLBENZENE                               |
| LGBF               |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 1919   | METHYL ACRYLATE, STABILIZED                    |
| LGBF               |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1920   | NONANES  |
| L15CH              | TU14 TU15<br>TE21  | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 1921   | PROPYLENEIMINE, STABILIZED                     |
| L4BH               |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 1922   | PYRROLIDINE                                    |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1923   | CALCIUM DITHIONITE (CALCIUM HYDROSULPHITE)   | 4.2   | S4                  | II            | 4.2         |                    | LQ0                             | E2      | P410 IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 1928   | METHYL MAGNESIUM BROMIDE IN ETHYL ETHER  | 4.3   | WF1                 | I             | 4.3 +3      |                    | LQ0                             | E0      | P402                       | RR8                              | MP2                             |                                    |                            |
| 1929   | POTASSIUM DITHIONITE (POTASSIUM HYDROSULPHITE)   | 4.2   | S4                  | II            | 4.2         |                    | LQ0                             | E2      | P410 IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 1931   | ZINC DITHIONITE (ZINC HYDROSULPHITE)   | 9     | M11                 | III           | 9           |                    | LQ27                            | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1                                 | TP33                       |
| 1932   | ZIRCONIUM SCRAP  | 4.2   | S4                  | III           | 4.2         | 524 592            | LQ0                             | E1      | P002 IBC08 LP02 R001       | B3                               | MP14                            | T1                                 | TP33                       |
| 1935   | CYANIDE SOLUTION, N.O.S.   | 6.1   | T4                  | I             | 6.1         | 274 525            | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        | T14                                | TP2 TP27                   |
| 1935   | CYANIDE SOLUTION, N.O.S.   | 6.1   | T4                  | II            | 6.1         | 274 525            | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |
| 1935   | CYANIDE SOLUTION, N.O.S.   | 6.1   | T4                  | III           | 6.1         | 274 525            | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T7                                 | TP2 TP28                   |
| 1938   | BROMOACETIC ACID SOLUTION  | 8     | C3                  | II            | 8           |                    | LQ22                            | E2      | P001 IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1938   | BROMOACETIC ACID SOLUTION  | 8     | C3                  | III           | 8           |                    | LQ7                             | E1      | P001 IBC02 LP01 R001       |                                  | MP19                            | T7                                 | TP2                        |
| 1939   | PHOSPHORUS OXYBROMIDE  | 8     | C2                  | II            | 8           |                    | LQ23                            | E2      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 1940   | THIOGLYCOLIC ACID  | 8     | C3                  | II            | 8           |                    | LQ22                            | E2      | P001 IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 1941   | DIBROMODIFLUOROMETHANE   | 9     | M11                 | III           | 9           |                    | LQ28                            | E1      | P001 LP01 R001             |                                  | MP15                            | T11                                | TP2                        |
| 1942   | AMMONIUM NITRATE with not more than 0.2% total combustible material, including any organic substance calculated as carbon, to the exclusion of any other added substance | 5.1   | O2                  | III           | 5.1         | 306 611            | LQ12                            | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1 BK1 BK2                         | TP33                       |
| 1944   | MATCHES, SAFETY (book, card or strike on box)  | 4.1   | F1                  | III           | 4.1         | 293                | LQ9                             | E1      | P407 R001                  |                                  | MP11                            |                                    |                            |
| 1945   | MATCHES, WAX 'VESTA'   | 4.1   | F1                  | III           | 4.1         | 293                | LQ9                             | E1      | P407 R001                  |                                  | MP11                            |                                    |                            |
| 1950   | AEROSOLS, asphyxiant   | 2     | 5A                  |               | 2.2         | 190 327 625        | LQ2                             | E0      | P003 LP02                  | PP17 PP87 RR6 L2                 | MP9                             |                                    |                            |
| 1950   | AEROSOLS, corrosive  | 2     | 5C                  |               | 2.2 +8      | 190 327 625        | LQ2                             | E0      | P003 LP02                  | PP17 PP87 RR6 L2                 | MP9                             |                                    |                            |
| 1950   | AEROSOLS, corrosive, oxidizing   | 2     | 5CO                 |               | 2.2 +5.1 +8 | 190 327 625        | LQ2                             | E0      | P003 LP02                  | PP17 PP87 RR6 L2                 | MP9                             |                                    |                            |
| 1950   | AEROSOLS, flammable  | 2     | 5F                  |               | 2.1         | 190 327 625        | LQ2                             | E0      | P003 LP02                  | PP17 PP87 RR6 L2                 | MP9                             |                                    |                            |
| 1950   | AEROSOLS, flammable, corrosive   | 2     | 5FC                 |               | 2.1 +8      | 190 327 625        | LQ2                             | E0      | P003 LP02                  | PP17 PP87 RR6 L2                 | MP9                             |                                    |                            |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| SGAN      |                        | AT                        | 2 (D/E)                                      | V1 V12                          |       |                                 |           | 40                        | 1923   | CALCIUM DITHIONITE (CALCIUM HYDROSULPHITE)   |
| L10DH     | TU4 TU14 TU22 TE21 TM2 | FL                        | 0 (B/E)                                      | V1                              |       | CV23                            | S2 S20    | X323                      | 1928   | METHYL MAGNESIUM BROMIDE IN ETHYL ETHER  |
| SGAN      |                        | AT                        | 2 (D/E)                                      | V1 V12                          |       |                                 |           | 40                        | 1929   | POTASSIUM DITHIONITE (POTASSIUM HYDROSULPHITE)   |
| SGAV      |                        | AT                        | 3 (E)  |                                 | VV3   |                                 |           | 90                        | 1931   | ZINC DITHIONITE (ZINC HYDROSULPHITE)   |
| SGAN      |                        | AT                        | 3 (E)  | V1                              | VV4   |                                 |           | 40                        | 1932   | ZIRCONIUM SCRAP  |
| L10CH     | TU14 TU15 TE19 TE21    | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 1935   | CYANIDE SOLUTION, N.O.S.   |
| L4BH      | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 1935   | CYANIDE SOLUTION, N.O.S.   |
| L4BH      | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 1935   | CYANIDE SOLUTION, N.O.S.   |
| L4BN      |                        | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 1938   | BROMOACETIC ACID SOLUTION  |
| L4BN      |                        | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 1938   | BROMOACETIC ACID SOLUTION  |
| SGAN      |                        | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 1939   | PHOSPHORUS OXYBROMIDE  |
| L4BN      |                        | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 1940   | THIOGLYCOLIC ACID  |
| L4BN      |                        | AT                        | 3 (E)  |                                 |       |                                 |           | 90                        | 1941   | DIBROMODIFLUORO-METHANE  |
| SGAV      | TU3                    | AT                        | 3 (E)  |                                 | VV8   | CV24                            | S23       | 50                        | 1942   | AMMONIUM NITRATE with not more than 0.2% total combustible material, including any organic substance calculated as carbon, to the exclusion of any other added substance |
|           |                        |                           | 4 (E)  |                                 |       |                                 |           |                           | 1944   | MATCHES, SAFETY (book, card or strike on box)  |
|           |                        |                           | 4 (E)  |                                 |       |                                 |           |                           | 1945   | MATCHES, WAX 'VESTA'   |
|           |                        |                           | 3 (E)  | V14                             |       | CV9 CV12                        |           |                           | 1950   | AEROSOLS, asphyxiant   |
|           |                        |                           | 1 (E)  | V14                             |       | CV9 CV12                        |           |                           | 1950   | AEROSOLS, corrosive  |
|           |                        |                           | 1 (E)  | V14                             |       | CV9 CV12                        |           |                           | 1950   | AEROSOLS, corrosive, oxidizing   |
|           |                        |                           | 2 (D)  | V14                             |       | CV9 CV12                        | S2        |                           | 1950   | AEROSOLS, flammable  |
|           |                        |                           | 1 (D)  | V14                             |       | CV9 CV12                        | S2        |                           | 1950   | AEROSOLS, flammable, corrosive   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels                    | Special provisions | Limited and excepted quantities |      | Packaging                     |                                     |                                    | Portable tanks and bulk containers |                               |
|--------|--|-------|---------------------|---------------|---------------------------|--------------------|---------------------------------|------|-------------------------------|-------------------------------------|------------------------------------|------------------------------------|-------------------------------|
|        |  |       |                     |               |                           |                    |                                 |      | Packing instructions<br>4.1.4 | Special packing provisions<br>4.1.4 | Mixed packing provisions<br>4.1.10 | Instructions<br>4.2.5.2<br>7.3.2   | Special provisions<br>4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)                       | (6)                | (7a)                            | (7b) | (8)                           | (9a)                                | (9b)                               | (10)                               | (11)                          |
| 1950   | AEROSOLS, oxidizing  | 2     | 5O                  |               | 2.2<br>+5.1               | 190<br>327<br>625  | LQ2                             | E0   | P003<br><br>LP02              | PP17<br>PP87<br>RR6<br>L2           | MP9                                |                                    |                               |
| 1950   | AEROSOLS, toxic  | 2     | 5T                  |               | 2.2<br>+6.1               | 190<br>327<br>625  | LQ1                             | E0   | P003<br><br>LP02              | PP17<br>PP87<br>RR6<br>L2           | MP9                                |                                    |                               |
| 1950   | AEROSOLS, toxic, corrosive   | 2     | 5TC                 |               | 2.2<br>+6.1<br>+8         | 190<br>327<br>625  | LQ1                             | E0   | P003<br><br>LP02              | PP17<br>PP87<br>RR6<br>L2           | MP9                                |                                    |                               |
| 1950   | AEROSOLS, toxic, flammable   | 2     | 5TF                 |               | 2.1<br>+6.1               | 190<br>327<br>625  | LQ1                             | E0   | P003<br><br>LP02              | PP17<br>PP87<br>RR6<br>L2           | MP9                                |                                    |                               |
| 1950   | AEROSOLS, toxic, flammable, corrosive  | 2     | 5TFC                |               | 2.1<br>+6.1<br>+8         | 190<br>327<br>625  | LQ1                             | E0   | P003<br><br>LP02              | PP17<br>PP87<br>RR6<br>L2           | MP9                                |                                    |                               |
| 1950   | AEROSOLS, toxic, oxidizing   | 2     | 5TO                 |               | 2.2<br>+5.1<br>+6.1       | 190<br>327<br>625  | LQ1                             | E0   | P003<br><br>LP02              | PP17<br>PP87<br>RR6<br>L2           | MP9                                |                                    |                               |
| 1950   | AEROSOLS, toxic, oxidizing, corrosive  | 2     | 5TOC                |               | 2.2<br>+5.1<br>+6.1<br>+8 | 190<br>327<br>625  | LQ1                             | E0   | P003<br><br>LP02              | PP17<br>PP87<br>RR6<br>L2           | MP9                                |                                    |                               |
| 1951   | ARGON, REFRIGERATED LIQUID   | 2     | 3A                  |               | 2.2                       | 593                | LQ1                             | E1   | P203                          |                                     | MP9                                | T75                                | TP5                           |
| 1952   | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with not more than 9% ethylene oxide | 2     | 2A                  |               | 2.2                       |                    | LQ1                             | E1   | P200                          |                                     | MP9                                | (M)                                |                               |
| 1953   | COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.                                       | 2     | 1TF                 |               | 2.3<br>+2.1               | 274                | LQ0                             | E0   | P200                          |                                     | MP9                                | (M)                                |                               |
| 1954   | COMPRESSED GAS, FLAMMABLE, N.O.S.  | 2     | 1F                  |               | 2.1                       | 274                | LQ0                             | E0   | P200                          |                                     | MP9                                | (M)                                |                               |
| 1955   | COMPRESSED GAS, TOXIC, N.O.S.  | 2     | 1T                  |               | 2.3                       | 274                | LQ0                             | E0   | P200                          |                                     | MP9                                | (M)                                |                               |
| 1956   | COMPRESSED GAS, N.O.S.   | 2     | 1A                  |               | 2.2                       | 274<br>292<br>567  | LQ1                             | E1   | P200                          |                                     | MP9                                | (M)                                |                               |
| 1957   | DEUTERIUM, COMPRESSED  | 2     | 1F                  |               | 2.1                       |                    | LQ0                             | E0   | P200                          |                                     | MP9                                | (M)                                |                               |
| 1958   | 1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 114)                 | 2     | 2A                  |               | 2.2                       |                    | LQ1                             | E1   | P200                          |                                     | MP9                                | (M)<br>T50                         |                               |
| 1959   | 1,1-DIFLUOROETHYLENE (REFRIGERANT GAS R 1132a)                                 | 2     | 2F                  |               | 2.1                       |                    | LQ0                             | E0   | P200                          |                                     | MP9                                | (M)                                |                               |
| 1961   | ETHANE, REFRIGERATED LIQUID  | 2     | 3F                  |               | 2.1                       |                    | LQ0                             | E0   | P203                          |                                     | MP9                                | T75                                | TP5                           |
| 1962   | ETHYLENE   | 2     | 2F                  |               | 2.1                       |                    | LQ0                             | E0   | P200                          |                                     | MP9                                | (M)                                |                               |
| 1963   | HELIUM, REFRIGERATED LIQUID  | 2     | 3A                  |               | 2.2                       | 593                | LQ1                             | E1   | P203                          |                                     | MP9                                | T75                                | TP5<br>TP34                   |
| 1964   | HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.                                    | 2     | 1F                  |               | 2.1                       | 274                | LQ0                             | E0   | P200                          |                                     | MP9                                | (M)                                |                               |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 3 (E)  | V14                             |       | CV9<br>CV12                     |           |                           | 1950   | AEROSOLS, oxidizing  |
|           |                    |                           | 1 (D)  | V14                             |       | CV9<br>CV12<br>CV28             |           |                           | 1950   | AEROSOLS, toxic  |
|           |                    |                           | 1 (D)  | V14                             |       | CV9<br>CV12<br>CV28             |           |                           | 1950   | AEROSOLS, toxic, corrosive   |
|           |                    |                           | 1 (D)  | V14                             |       | CV9<br>CV12<br>CV28             | S2        |                           | 1950   | AEROSOLS, toxic, flammable   |
|           |                    |                           | 1 (D)  | V14                             |       | CV9<br>CV12<br>CV28             | S2        |                           | 1950   | AEROSOLS, toxic, flammable, corrosive  |
|           |                    |                           | 1 (D)  | V14                             |       | CV9<br>CV12<br>CV28             |           |                           | 1950   | AEROSOLS, toxic, oxidizing   |
|           |                    |                           | 1 (D)  | V14                             |       | CV9<br>CV12<br>CV28             |           |                           | 1950   | AEROSOLS, toxic, oxidizing, corrosive  |
| RxBN      | TU19<br>TA4<br>TT9 | AT                        | 3 (C/E)                                      | V5                              |       | CV9<br>CV11<br>CV36             | S20       | 22                        | 1951   | ARGON, REFRIGERATED LIQUID   |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3 (C/E)                                      |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1952   | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with not more than 9% ethylene oxide |
| CxBH(M)   | TU6<br>TA4<br>TT9  | FL                        | 1 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 1953   | COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.                                       |
| CxBN(M)   | TA4<br>TT9         | FL                        | 2 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1954   | COMPRESSED GAS, FLAMMABLE, N.O.S.  |
| CxBH(M)   | TU6<br>TA4<br>TT9  | AT                        | 1 (C/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S14       | 26                        | 1955   | COMPRESSED GAS, TOXIC, N.O.S.  |
| CxBN(M)   | TA4<br>TT9         | AT                        | 3 (E)  |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1956   | COMPRESSED GAS, N.O.S.   |
| CxBN(M)   | TA4<br>TT9         | FL                        | 2 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1957   | DEUTERIUM, COMPRESSED  |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3 (C/E)                                      |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1958   | 1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 114)                 |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 239                       | 1959   | 1,1-DIFLUOROETHYLENE (REFRIGERANT GAS R 1132a)                                 |
| RxBN      | TU18<br>TA4<br>TT9 | FL                        | 2 (B/D)                                      | V5                              |       | CV9<br>CV11<br>CV36             | S2 S17    | 223                       | 1961   | ETHANE, REFRIGERATED LIQUID  |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1962   | ETHYLENE   |
| RxBN      | TU19<br>TA4<br>TT9 | AT                        | 3 (C/E)                                      | V5                              |       | CV9<br>CV11<br>CV36             | S20       | 22                        | 1963   | HELIUM, REFRIGERATED LIQUID  |
| CxBN(M)   | TA4<br>TT9         | FL                        | 2 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1964   | HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.                                    |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |                   |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1965   | HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. such as mixtures A, A01, A02, A0, A1, B1, B2, B or C  | 2     | 2F                  |               | 2.1               | 274<br>583<br>652  | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1966   | HYDROGEN, REFRIGERATED LIQUID  | 2     | 3F                  |               | 2.1               |                    | LQ0                             | E0      | P203                       |                                  | MP9                             | T75                                | TP5<br>TP23<br>TP34        |
| 1967   | INSECTICIDE GAS, TOXIC, N.O.S.   | 2     | 2T                  |               | 2.3               | 274                | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1968   | INSECTICIDE GAS, N.O.S.  | 2     | 2A                  |               | 2.2               | 274                | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1969   | ISOBUTANE  | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1970   | KRYPTON, REFRIGERATED LIQUID   | 2     | 3A                  |               | 2.2               | 593                | LQ1                             | E1      | P203                       |                                  | MP9                             | T75                                | TP5                        |
| 1971   | METHANE, COMPRESSED or NATURAL GAS, COMPRESSED with high methane content   | 2     | 1F                  |               | 2.1               |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1972   | METHANE, REFRIGERATED LIQUID or NATURAL GAS, REFRIGERATED LIQUID with high methane content   | 2     | 3F                  |               | 2.1               |                    | LQ0                             | E0      | P203                       |                                  | MP9                             | T75                                | TP5                        |
| 1973   | CHLORODIFLUORO-METHANE AND CHLOROPENTAFLUORO-ETHANE MIXTURE with fixed boiling point, with approximately 49% chlorodifluoromethane (REFRIGERANT GAS R 502) | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1974   | CHLORODIFLUOROBROMO-METHANE (REFRIGERANT GAS R 12B1)   | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1975   | NITRIC OXIDE AND DINITROGEN TETROXIDE MIXTURE (NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE)  | 2     | 2TOC                |               | 2.3<br>+5.1<br>+8 |                    | LQ0                             | E0      | P200                       |                                  | MP9                             |                                    |                            |
| 1976   | OCTAFLUOROCYCLO-BUTANE (REFRIGERANT GAS RC 318)  | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1977   | NITROGEN, REFRIGERATED LIQUID  | 2     | 3A                  |               | 2.2               | 593                | LQ1                             | E1      | P203                       |                                  | MP9                             | T75                                | TP5                        |
| 1978   | PROPANE  | 2     | 2F                  |               | 2.1               | 652                | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1982   | TETRAFLUOROMETHANE (REFRIGERANT GAS R 14)  | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1983   | 1-CHLORO-2,2,2-TRIFLUOROETHANE (REFRIGERANT GAS R 133a)  | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)<br>T50                         |                            |
| 1984   | TRIFLUOROMETHANE (REFRIGERANT GAS R 23)  | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M)                                |                            |
| 1986   | ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.   | 3     | FT1                 | I             | 3<br>+6.1         | 274                | LQ0                             | E0      | P001                       |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 1986   | ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.   | 3     | FT1                 | II            | 3<br>+6.1         | 274                | LQ0                             | E2      | P001<br>IBC02              |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 1986   | ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.   | 3     | FT1                 | III           | 3<br>+6.1         | 274                | LQ7                             | E1      | P001<br>IBC03<br>R001      |                                  | MP19                            | T7                                 | TP1<br>TP28                |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1965   | HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. such as mixtures A, A01, A02, A0, A1, B1, B2, B or C  |
| RxBN      | TU18<br>TA4<br>TT9 | FL                        | 2<br>(B/D)                                   | V5                              |       | CV9<br>CV11<br>CV36             | S2 S17    | 223                       | 1966   | HYDROGEN, REFRIGERATED LIQUID  |
| PxBH(M)   | TU6<br>TA4<br>TT9  | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 26                        | 1967   | INSECTICIDE GAS, TOXIC, N.O.S.   |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1968   | INSECTICIDE GAS, N.O.S.  |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1969   | ISOBUTANE  |
| RxBN      | TU19<br>TA4<br>TT9 | AT                        | 3<br>(C/E)                                   | V5                              |       | CV9<br>CV11<br>CV36             | S20       | 22                        | 1970   | KRYPTON, REFRIGERATED LIQUID   |
| CxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1971   | METHANE, COMPRESSED or NATURAL GAS, COMPRESSED with high methane content   |
| RxBN      | TU18<br>TA4<br>TT9 | FL                        | 2<br>(B/D)                                   | V5                              |       | CV9<br>CV11<br>CV36             | S2 S17    | 223                       | 1972   | METHANE, REFRIGERATED LIQUID or NATURAL GAS, REFRIGERATED LIQUID with high methane content   |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1973   | CHLORODIFLUORO-METHANE AND CHLOROPENTAFLUORO-ETHANE MIXTURE with fixed boiling point, with approximately 49% chlorodifluoromethane (REFRIGERANT GAS R 502) |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1974   | CHLORODIFLUOROBROMO-METHANE (REFRIGERANT GAS R 12B1)   |
|           |                    |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S14       |                           | 1975   | NITRIC OXIDE AND DINITROGEN TETROXIDE MIXTURE (NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE)  |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1976   | OCTAFLUOROCYCLO-BUTANE (REFRIGERANT GAS RC 318)  |
| RxBN      | TU19<br>TA4<br>TT9 | AT                        | 3<br>(C/E)                                   | V5                              |       | CV9<br>CV11<br>CV36             | S20       | 22                        | 1977   | NITROGEN, REFRIGERATED LIQUID  |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 1978   | PROPANE  |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1982   | TETRAFLUOROMETHANE (REFRIGERANT GAS R 14)  |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1983   | 1-CHLORO-2,2,2-TRIFLUOROETHANE (REFRIGERANT GAS R 133a)  |
| PxBN(M)   | TA4<br>TT9         | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 1984   | TRIFLUOROMETHANE (REFRIGERANT GAS R 23)  |
| L10CH     | TU14 TU15<br>TE21  | FL                        | 1<br>(C/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 1986   | ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.   |
| L4BH      | TU15               | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 1986   | ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.   |
| L4BH      | TU15               | FL                        | 3<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2        | 36                        | 1986   | ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.   |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1987   | ALCOHOLS, N.O.S. (vapour pressure at 50 °C more than 110 kPa)   | 3     | F1                  | II            | 3         | 274<br>601<br>640C | LQ4                             | E2      | P001                          |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 1987   | ALCOHOLS, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | II            | 3         | 274<br>601<br>640D | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 1987   | ALCOHOLS, N.O.S.  | 3     | F1                  | III           | 3         | 274<br>601         | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 1988   | ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.   | 3     | FT1                 | I             | 3<br>+6.1 | 274                | LQ0                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 1988   | ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.   | 3     | FT1                 | II            | 3<br>+6.1 | 274                | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 1988   | ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.   | 3     | FT1                 | III           | 3<br>+6.1 | 274                | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 1989   | ALDEHYDES, N.O.S.   | 3     | F1                  | I             | 3         | 274                | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP1<br>TP27                |
| 1989   | ALDEHYDES, N.O.S. (vapour pressure at 50 °C more than 110 kPa)  | 3     | F1                  | II            | 3         | 274<br>640C        | LQ4                             | E2      | P001                          |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 1989   | ALDEHYDES, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)  | 3     | F1                  | II            | 3         | 274<br>640D        | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 1989   | ALDEHYDES, N.O.S.   | 3     | F1                  | III           | 3         | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 1990   | BENZALDEHYDE  | 9     | M11                 | III           | 9         |                    | LQ28                            | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP15                            | T2                                 | TP1                        |
| 1991   | CHLOROPRENE, STABILIZED   | 3     | FT1                 | I             | 3<br>+6.1 |                    | LQ0                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP6                 |
| 1992   | FLAMMABLE LIQUID, TOXIC, N.O.S.   | 3     | FT1                 | I             | 3<br>+6.1 | 274                | LQ0                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 1992   | FLAMMABLE LIQUID, TOXIC, N.O.S.   | 3     | FT1                 | II            | 3<br>+6.1 | 274                | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP2                        |
| 1992   | FLAMMABLE LIQUID, TOXIC, N.O.S.   | 3     | FT1                 | III           | 3<br>+6.1 | 274                | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 1993   | FLAMMABLE LIQUID, N.O.S.  | 3     | F1                  | I             | 3         | 274                | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP1<br>TP27                |
| 1993   | FLAMMABLE LIQUID, N.O.S. (vapour pressure at 50 °C more than 110 kPa)   | 3     | F1                  | II            | 3         | 274<br>601<br>640C | LQ4                             | E2      | P001                          |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 1993   | FLAMMABLE LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | II            | 3         | 274<br>601<br>640D | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 1993   | FLAMMABLE LIQUID, N.O.S.  | 3     | F1                  | III           | 3         | 274<br>601<br>640E | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 1993   | FLAMMABLE LIQUID, N.O.S. (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  | 3     | F1                  | III           | 3         | 274<br>601<br>640F | LQ7                             | E1      | P001<br>LP01<br>R001          |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 1993   | FLAMMABLE LIQUID, N.O.S. (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) | 3     | F1                  | III           | 3         | 274<br>601<br>640G | LQ7                             | E1      | P001<br>LP01<br>R001          |                                  | MP19                            | T4                                 | TP1<br>TP29                |



| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L1.5BN    |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1987   | ALCOHOLS, N.O.S. (vapour pressure at 50 °C more than 110 kPa)   |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1987   | ALCOHOLS, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)   |
| LGBF      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1987   | ALCOHOLS, N.O.S.  |
| L10CH     | TU14 TU15<br>TE21  | FL                        | 1<br>(C/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 1988   | ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.   |
| L4BH      | TU15               | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 1988   | ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.   |
| L4BH      | TU15               | FL                        | 3<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2        | 36                        | 1988   | ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.   |
| L4BN      |                    | FL                        | 1<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1989   | ALDEHYDES, N.O.S.   |
| L1.5BN    |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1989   | ALDEHYDES, N.O.S. (vapour pressure at 50 °C more than 110 kPa)  |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1989   | ALDEHYDES, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)  |
| LGBF      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1989   | ALDEHYDES, N.O.S.   |
| LGBV      |                    | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 90                        | 1990   | BENZALDEHYDE  |
| L10CH     | TU14 TU15<br>TE21  | FL                        | 1<br>(C/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 1991   | CHLOROPRENE, STABILIZED   |
| L10CH     | TU14 TU15<br>TE21  | FL                        | 1<br>(C/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 1992   | FLAMMABLE LIQUID, TOXIC, N.O.S.   |
| L4BH      | TU15               | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 1992   | FLAMMABLE LIQUID, TOXIC, N.O.S.   |
| L4BH      | TU15               | FL                        | 3<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2        | 36                        | 1992   | FLAMMABLE LIQUID, TOXIC, N.O.S.   |
| L4BN      |                    | FL                        | 1<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1993   | FLAMMABLE LIQUID, N.O.S.  |
| L1.5BN    |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1993   | FLAMMABLE LIQUID, N.O.S. (vapour pressure at 50 °C more than 110 kPa)   |
| LGBF      |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 1993   | FLAMMABLE LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)   |
| LGBF      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 1993   | FLAMMABLE LIQUID, N.O.S.  |
| L4BN      |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 33                        | 1993   | FLAMMABLE LIQUID, N.O.S. (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  |
| L1.5BN    |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 33                        | 1993   | FLAMMABLE LIQUID, N.O.S. (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 1993   | FLAMMABLE LIQUID, N.O.S. (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | III           | 3         | 274<br>601<br>640H | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 1994   | IRON PENTACARBONYL  | 6.1   | TF1                 | I             | 6.1<br>+3 |                    | LQ0                             | E5      | P601                          |                                  | MP2                             | T22                                | TP2                        |
| 1999   | TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (vapour pressure at 50 °C more than 110 kPa)   | 3     | F1                  | II            | 3         | 640C               | LQ6                             | E2      | P001                          |                                  | MP19                            | T3                                 | TP3 TP29                   |
| 1999   | TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (vapour pressure at 50 °C not more than 110 kPa)   | 3     | F1                  | II            | 3         | 640D               | LQ6                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T3                                 | TP3 TP29                   |
| 1999   | TARS, LIQUID, including road asphalt and oils, bitumen and cut backs  | 3     | F1                  | III           | 3         | 640E               | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T1                                 | TP3                        |
| 1999   | TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  | 3     | F1                  | III           | 3         | 640F               | LQ7                             | E1      | P001<br>LP01<br>R001          |                                  | MP19                            | T1                                 | TP3                        |
| 1999   | TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) | 3     | F1                  | III           | 3         | 640G               | LQ7                             | E1      | P001<br>LP01<br>R001          |                                  | MP19                            | T1                                 | TP3                        |
| 1999   | TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               | 3     | F1                  | III           | 3         | 640H               | LQ7                             | E1      | P001<br>IBC02<br>LP01<br>R001 |                                  | MP19                            | T1                                 | TP3                        |
| 2000   | CELLULOID in block, rods, rolls, sheets, tubes, etc., except scrap  | 4.1   | F1                  | III           | 4.1       | 502                | LQ9                             | E1      | P002<br>LP02<br>R001          | PP7                              | MP11                            |                                    |                            |
| 2001   | COBALT NAPHTHENATES, POWDER   | 4.1   | F3                  | III           | 4.1       |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP11                            | T1                                 | TP33                       |
| 2002   | CELLULOID, SCRAP  | 4.2   | S2                  | III           | 4.2       | 526<br>592         | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | PP8<br>B3                        | MP14                            |                                    |                            |
| 2004   | MAGNESIUM DIAMIDE   | 4.2   | S4                  | II            | 4.2       |                    | LQ0                             | E2      | P410<br>IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 2006   | PLASTICS, NITROCELLULOSE-BASED, SELF-HEATING, N.O.S.  | 4.2   | S2                  | III           | 4.2       | 274<br>528         | LQ0                             | E1      | P002<br>R001                  |                                  | MP14                            |                                    |                            |
| 2008   | ZIRCONIUM POWDER, DRY   | 4.2   | S4                  | I             | 4.2       | 524<br>540         | LQ0                             | E0      | P404                          |                                  | MP13                            | T21                                | TP7<br>TP33                |
| 2008   | ZIRCONIUM POWDER, DRY   | 4.2   | S4                  | II            | 4.2       | 524<br>540         | LQ0                             | E2      | P410<br>IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 2008   | ZIRCONIUM POWDER, DRY   | 4.2   | S4                  | III           | 4.2       | 524<br>540         | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP14                            | T1                                 | TP33                       |
| 2009   | ZIRCONIUM, DRY, finished sheets, strip or coiled wire   | 4.2   | S4                  | III           | 4.2       | 524<br>592         | LQ0                             | E1      | P002<br>LP02<br>R001          |                                  | MP14                            |                                    |                            |
| 2010   | MAGNESIUM HYDRIDE   | 4.3   | W2                  | I             | 4.3       |                    | LQ0                             | E0      | P403                          |                                  | MP2                             |                                    |                            |

| ADR tank  |                                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|------------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions                 |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4                       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)                               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| LGBF      |                                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1993   | FLAMMABLE LIQUID, N.O.S. (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)   |
| L15CH     | TU14 TU15<br>TU31 TE19<br>TE21 TM3 | FL                        | 1 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 1994   | IRON PENTACARBONYL  |
| L1.5BN    |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1999   | TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (vapour pressure at 50 °C more than 110 kPa)   |
| LGBF      |                                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 1999   | TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (vapour pressure at 50 °C not more than 110 kPa)   |
| LGBF      |                                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 1999   | TARS, LIQUID, including road asphalt and oils, bitumen and cut backs  |
| L4BN      |                                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1999   | TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)  |
| L1.5BN    |                                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1999   | TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C) |
| LGBF      |                                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 33                        | 1999   | TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)                               |
|           |                                    |                           | 3 (E)  |                                 |       |                                 |           |                           | 2000   | CELLULOID in block, rods, rolls, sheets, tubes, etc., except scrap  |
| SGAV      |                                    | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 2001   | COBALT NAPHTHENATES, POWDER   |
|           |                                    |                           | 3 (E)  | V1                              |       |                                 |           |                           | 2002   | CELLULOID, SCRAP  |
| SGAN      |                                    | AT                        | 2 (D/E)                                      | V1<br>V12                       |       |                                 |           | 40                        | 2004   | MAGNESIUM DIAMIDE   |
|           |                                    |                           | 3 (E)  | V1                              |       |                                 |           |                           | 2006   | PLASTICS, NITROCELLULOSE-BASED, SELF-HEATING, N.O.S.  |
|           |                                    | AT                        | 0 (B/E)                                      | V1                              |       |                                 | S20       | 43                        | 2008   | ZIRCONIUM POWDER, DRY   |
| SGAN      |                                    | AT                        | 2 (D/E)                                      | V1<br>V12                       |       |                                 |           | 40                        | 2008   | ZIRCONIUM POWDER, DRY   |
| SGAN      |                                    | AT                        | 3 (E)  | V1                              | VV4   |                                 |           | 40                        | 2008   | ZIRCONIUM POWDER, DRY   |
|           |                                    |                           | 3 (E)  | V1                              | VV4   |                                 |           | 40                        | 2009   | ZIRCONIUM, DRY, finished sheets, strip or coiled wire   |
|           |                                    |                           | 1 (E)  | V1                              |       | CV23                            | S20       |                           | 2010   | MAGNESIUM HYDRIDE   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels      | Special provisions      | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------|-------------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |             |                         | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)         | (6)                     | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2011   | MAGNESIUM PHOSPHIDE  | 4.3   | WT2                 | I             | 4.3<br>+6.1 |                         | LQ0                             | E0      | P403                          |                                  | MP2                             |                                    |                            |
| 2012   | POTASSIUM PHOSPHIDE  | 4.3   | WT2                 | I             | 4.3<br>+6.1 |                         | LQ0                             | E0      | P403                          |                                  | MP2                             |                                    |                            |
| 2013   | STRONTIUM PHOSPHIDE  | 4.3   | WT2                 | I             | 4.3<br>+6.1 |                         | LQ0                             | E0      | P403                          |                                  | MP2                             |                                    |                            |
| 2014   | HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary) | 5.1   | OC1                 | II            | 5.1<br>+8   |                         | LQ10                            | E2      | P504<br>IBC02                 | PP10<br>B5                       | MP15                            | T7                                 | TP2<br>TP6<br>TP24         |
| 2015   | HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 70% hydrogen peroxide   | 5.1   | OC1                 | I             | 5.1<br>+8   | 640N                    | LQ0                             | E0      | P501                          |                                  | MP2                             | T9                                 | TP2<br>TP6<br>TP24         |
| 2015   | HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 60% hydrogen peroxide and not more than 70% hydrogen peroxide | 5.1   | OC1                 | I             | 5.1<br>+8   | 640O                    | LQ0                             | E0      | P501                          |                                  | MP2                             | T9                                 | TP2<br>TP6<br>TP24         |
| 2016   | AMMUNITION, TOXIC, NON-EXPLOSIVE without burster or expelling charge, non-fuzed  | 6.1   | T2                  | II            | 6.1         |                         | LQ0                             | E0      | P600                          |                                  | MP10                            |                                    |                            |
| 2017   | AMMUNITION, TEAR-PRODUCING, NON-EXPLOSIVE without burster or expelling charge, non-fuzed                                     | 6.1   | TC2                 | II            | 6.1<br>+8   |                         | LQ0                             | E0      | P600                          |                                  |                                 |                                    |                            |
| 2018   | CHLOROANILINES, SOLID  | 6.1   | T2                  | II            | 6.1         |                         | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2019   | CHLOROANILINES, LIQUID   | 6.1   | T1                  | II            | 6.1         |                         | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2020   | CHLOROPHENOLS, SOLID   | 6.1   | T2                  | III           | 6.1         | 205                     | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2021   | CHLOROPHENOLS, LIQUID  | 6.1   | T1                  | III           | 6.1         |                         | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2022   | CRESYLIC ACID  | 6.1   | TC1                 | II            | 6.1<br>+8   |                         | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2023   | EPICHLOROHYDRIN  | 6.1   | TF1                 | II            | 6.1<br>+3   | 279                     | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2024   | MERCURY COMPOUND, LIQUID, N.O.S.   | 6.1   | T4                  | I             | 6.1         | 43<br>274               | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     |                                    |                            |
| 2024   | MERCURY COMPOUND, LIQUID, N.O.S.   | 6.1   | T4                  | II            | 6.1         | 43<br>274               | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            |                                    |                            |
| 2024   | MERCURY COMPOUND, LIQUID, N.O.S.   | 6.1   | T4                  | III           | 6.1         | 43<br>274               | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            |                                    |                            |
| 2025   | MERCURY COMPOUND, SOLID, N.O.S.  | 6.1   | T5                  | I             | 6.1         | 43<br>274<br>529<br>585 | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2025   | MERCURY COMPOUND, SOLID, N.O.S.  | 6.1   | T5                  | II            | 6.1         | 43<br>274<br>529<br>585 | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2025   | MERCURY COMPOUND, SOLID, N.O.S.  | 6.1   | T5                  | III           | 6.1         | 43<br>274<br>529<br>585 | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2026   | PHENYLMERCURIC COMPOUND, N.O.S.  | 6.1   | T3                  | I             | 6.1         | 43<br>274               | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2026   | PHENYLMERCURIC COMPOUND, N.O.S.  | 6.1   | T3                  | II            | 6.1         | 43<br>274               | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |

| ADR tank       |                                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|----------------|------------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code      | Special provisions                 |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3            | 4.3.5, 6.8.4                       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)           | (13)                               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|                |                                    |                           | 1 (E)  | V1                              |       | CV23<br>CV28                    | S20       |                           | 2011   | MAGNESIUM PHOSPHIDE  |
|                |                                    |                           | 1 (E)  | V1                              |       | CV23<br>CV28                    | S20       |                           | 2012   | POTASSIUM PHOSPHIDE  |
|                |                                    |                           | 1 (E)  | V1                              |       | CV23<br>CV28                    | S20       |                           | 2013   | STRONTIUM PHOSPHIDE  |
| L4BV(+)        | TU3 TC2 TE8<br>TE11 TT1            | AT                        | 2 (E)  |                                 |       | CV24                            |           | 58                        | 2014   | HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary) |
| L4DV(+)        | TU3 TU28<br>TC2 TE8 TE9<br>TT1     | OX                        | 1 (B/E)                                      | V5                              |       | CV24                            | S20       | 559                       | 2015   | HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 70% hydrogen peroxide   |
| L4BV(+)        | TU3 TU28<br>TC2 TE7 TE8<br>TE9 TT1 | OX                        | 1 (B/E)                                      | V5                              |       | CV24                            | S20       | 559                       | 2015   | HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 60% hydrogen peroxide and not more than 70% hydrogen peroxide |
|                |                                    |                           | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    |                           | 2016   | AMMUNITION, TOXIC, NON-EXPLOSIVE without burster or expelling charge, non-fuzed  |
|                |                                    |                           | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    |                           | 2017   | AMMUNITION, TEAR-PRODUCING, NON-EXPLOSIVE without burster or expelling charge, non-fuzed                                     |
| SGAH<br>L4BH   | TU15 TE19                          | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2018   | CHLOROANILINES, SOLID  |
| L4BH           | TU15 TE19                          | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2019   | CHLOROANILINES, LIQUID   |
| SGAH           | TU15 TE19                          | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2020   | CHLOROPHENOLS, SOLID   |
| L4BH           | TU15 TE19                          | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2021   | CHLOROPHENOLS, LIQUID  |
| L4BH           | TU15 TE19                          | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 68                        | 2022   | CRESYLIC ACID  |
| L4BH           | TU15 TE19                          | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 2023   | EPICHLOROHYDRIN  |
| L10CH          | TU14 TU15<br>TE19 TE21             | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2024   | MERCURY COMPOUND, LIQUID, N.O.S.   |
| L4BH           | TU15 TE19                          | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2024   | MERCURY COMPOUND, LIQUID, N.O.S.   |
| L4BH           | TU15 TE19                          | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2024   | MERCURY COMPOUND, LIQUID, N.O.S.   |
| S10AH          | TU15 TE19                          | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2025   | MERCURY COMPOUND, SOLID, N.O.S.  |
| SGAH           | TU15 TE19                          | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2025   | MERCURY COMPOUND, SOLID, N.O.S.  |
| SGAH           | TU15 TE19                          | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2025   | MERCURY COMPOUND, SOLID, N.O.S.  |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21             | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2026   | PHENYLMERCURIC COMPOUND, N.O.S.  |
| SGAH<br>L4BH   | TU15 TE19                          | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2026   | PHENYLMERCURIC COMPOUND, N.O.S.  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging                     |                                     |                                    | Portable tanks and bulk containers |                               |
|--------|---|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|-------------------------------|-------------------------------------|------------------------------------|------------------------------------|-------------------------------|
|        |   |       |                     |               |                   |                    |                                 |         | Packing instructions<br>4.1.4 | Special packing provisions<br>4.1.4 | Mixed packing provisions<br>4.1.10 | Instructions<br>4.2.5.2<br>7.3.2   | Special provisions<br>4.2.5.3 |
|        | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2             | 3.3                | 3.4.6                           | 3.5.1.2 |                               |                                     |                                    |                                    |                               |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                                | (9b)                               | (10)                               | (11)                          |
| 2026   | PHENYLMERCURIC COMPOUND, N.O.S.   | 6.1   | T3                  | III           | 6.1               | 43<br>274          | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                  | MP10                               | T1                                 | TP33                          |
| 2027   | SODIUM ARSENITE, SOLID  | 6.1   | T5                  | II            | 6.1               | 43                 | LQ18                            | E4      | P002<br>IBC08                 | B4                                  | MP10                               | T3                                 | TP33                          |
| 2028   | BOMBS, SMOKE, NON-EXPLOSIVE with corrosive liquid, without initiating device                                  | 8     | C11                 | II            | 8                 |                    | LQ0                             | E0      | P803                          |                                     |                                    |                                    |                               |
| 2029   | HYDRAZINE, ANHYDROUS  | 8     | CFT                 | I             | 8<br>+3<br>+6.1   |                    | LQ0                             | E0      | P001                          |                                     | MP8<br>MP17                        |                                    |                               |
| 2030   | HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass, having a flash-point above 60 °C            | 8     | CT1                 | I             | 8<br>+6.1         | 530                | LQ0                             | E0      | P001                          |                                     | MP8<br>MP17                        | T10                                | TP2                           |
| 2030   | HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass, having a flash-point of not more than 60 °C | 8     | CFT                 | I             | 8<br>+3<br>+6.1   | 530                | LQ0                             | E0      | P001                          |                                     | MP8<br>MP17                        | T10                                | TP2                           |
| 2030   | HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass  | 8     | CT1                 | II            | 8<br>+6.1         | 530                | LQ22                            | E2      | P001<br>IBC02                 |                                     | MP15                               | T7                                 | TP2                           |
| 2030   | HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass  | 8     | CT1                 | III           | 8<br>+6.1         | 530                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T4                                 | TP1                           |
| 2031   | NITRIC ACID, other than red fuming, with more than 70% nitric acid  | 8     | CO1                 | I             | 8<br>+5.1         |                    | LQ0                             | E0      | P001                          | PP81                                | MP8<br>MP17                        | T10                                | TP2                           |
| 2031   | NITRIC ACID, other than red fuming, with at least 65%, but not more than 70% nitric acid                      | 8     | CO1                 | II            | 8<br>+5.1         |                    | LQ22                            | E2      | P001<br>IBC02                 | PP81<br>B15                         | MP15                               | T8                                 | TP2                           |
| 2031   | NITRIC ACID, other than red fuming, with less than 65% nitric acid  | 8     | C1                  | II            | 8                 |                    | LQ22                            | E2      | P001<br>IBC02                 | PP81<br>B15                         | MP15                               | T8                                 | TP2                           |
| 2032   | NITRIC ACID, RED FUMING   | 8     | COT                 | I             | 8<br>+5.1<br>+6.1 |                    | LQ0                             | E0      | P602                          |                                     | MP8<br>MP17                        | T20                                | TP2                           |
| 2033   | POTASSIUM MONOXIDE  | 8     | C6                  | II            | 8                 |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                                  | MP10                               | T3                                 | TP33                          |
| 2034   | HYDROGEN AND METHANE MIXTURE, COMPRESSED  | 2     | 1F                  |               | 2.1               |                    | LQ0                             | E0      | P200                          |                                     | MP9                                | (M)                                |                               |
| 2035   | 1,1,1-TRIFLUOROETHANE (REFRIGERANT GAS R 143a)  | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                          |                                     | MP9                                | (M)<br>T50                         |                               |
| 2036   | XENON   | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                          |                                     | MP9                                | (M)                                |                               |
| 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable                  | 2     | 5A                  |               | 2.2               | 191<br>303         | LQ2                             | E0      | P003                          | PP17<br>RR6                         | MP9                                |                                    |                               |
| 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable                  | 2     | 5F                  |               | 2.1               | 191<br>303         | LQ2                             | E0      | P003                          | PP17<br>RR6                         | MP9                                |                                    |                               |
| 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable                  | 2     | 5O                  |               | 2.2<br>+5.1       | 191<br>303         | LQ2                             | E0      | P003                          | PP17<br>RR6                         | MP9                                |                                    |                               |
| 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable                  | 2     | 5T                  |               | 2.3               | 303                | LQ1                             | E0      | P003                          | PP17<br>RR6                         | MP9                                |                                    |                               |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAH L4BH | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2026   | PHENYLMERCURIC COMPOUND, N.O.S.   |
| SGAH      | TU15 TE19          | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2027   | SODIUM ARSENITE, SOLID  |
|           |                    |                           | 2 (E)  |                                 |       |                                 |           |                           | 2028   | BOMBS, SMOKE, NON-EXPLOSIVE with corrosive liquid, without initiating device                                  |
|           |                    |                           | 1 (E)  |                                 |       | CV13<br>CV28                    | S2 S14    |                           | 2029   | HYDRAZINE, ANHYDROUS  |
| L10BH     |                    | AT                        | 1 (C/D)                                      |                                 |       | CV13<br>CV28                    | S14       | 886                       | 2030   | HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass, having a flash-point above 60 °C            |
| L10BH     |                    | FL                        | 1 (C/D)                                      |                                 |       | CV13<br>CV28                    | S2 S14    | 886                       | 2030   | HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass, having a flash-point of not more than 60 °C |
| L4BN      |                    | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    |           | 86                        | 2030   | HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass  |
| L4BN      |                    | AT                        | 3 (E)  |                                 |       | CV13<br>CV28                    |           | 86                        | 2030   | HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass  |
| L10BH     | TC6 TT1            | AT                        | 1 (E)  |                                 |       | CV24                            | S14       | 885                       | 2031   | NITRIC ACID, other than red fuming, with more than 70% nitric acid  |
| L4BN      |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 85                        | 2031   | NITRIC ACID, other than red fuming, with at least 65%, but not more than 70% nitric acid                      |
| L4BN      |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2031   | NITRIC ACID, other than red fuming, with less than 65% nitric acid  |
| L10BH     | TC6 TT1            | AT                        | 1 (C/D)                                      |                                 |       | CV13<br>CV24<br>CV28            | S14       | 856                       | 2032   | NITRIC ACID, RED FUMING   |
| SGAN      |                    | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 2033   | POTASSIUM MONOXIDE  |
| CxBN(M)   | TA4 TT9            | FL                        | 2 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 2034   | HYDROGEN AND METHANE MIXTURE, COMPRESSED  |
| PxBN(M)   | TA4 TT9            | FL                        | 2 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 2035   | 1,1,1-TRIFLUOROETHANE (REFRIGERANT GAS R 143a)  |
| PxBN(M)   | TA4 TT9            | AT                        | 3 (C/E)                                      |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 2036   | XENON   |
|           |                    |                           | 3 (E)  |                                 |       | CV9<br>CV12                     |           |                           | 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable                  |
|           |                    |                           | 2 (D)  |                                 |       | CV9<br>CV12                     | S2        |                           | 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable                  |
|           |                    |                           | 3 (E)  |                                 |       | CV9<br>CV12                     |           |                           | 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable                  |
|           |                    |                           | 1 (D)  |                                 |       | CV9<br>CV12                     |           |                           | 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable                  |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |             |                    |                                 |         | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
|        | 3.1.2  | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2       | 3.3                | 3.4.6                           | 3.5.1.2 |                            |                                  |                                 |                                    |                            |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable | 2     | 5TC                 |               | 2.3 +8      | 303                | LQ1                             | E0      | P003                       | PP17 RR6                         | MP9                             |                                    |                            |
| 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable | 2     | 5TF                 |               | 2.3 +2.1    | 303                | LQ1                             | E0      | P003                       | PP17 RR6                         | MP9                             |                                    |                            |
| 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable | 2     | 5TFC                |               | 2.3 +2.1 +8 | 303                | LQ1                             | E0      | P003                       | PP17 RR6                         | MP9                             |                                    |                            |
| 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable | 2     | 5TO                 |               | 2.3 +5.1    | 303                | LQ1                             | E0      | P003                       | PP17 RR6                         | MP9                             |                                    |                            |
| 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable | 2     | 5TOC                |               | 2.3 +5.1 +8 | 303                | LQ1                             | E0      | P003                       | PP17 RR6                         | MP9                             |                                    |                            |
| 2038   | DINITROTOLUENES, LIQUID  | 6.1   | T1                  | II            | 6.1         |                    | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2044   | 2,2-DIMETHYLPROPANE  | 2     | 2F                  |               | 2.1         |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 2045   | ISOBUTYRALDEHYDE (ISOBUTYL ALDEHYDE)   | 3     | F1                  | II            | 3           |                    | LQ4                             | E2      | P001 IBC02 R001            |                                  | MP19                            | T4                                 | TP1                        |
| 2046   | CYMENES  | 3     | F1                  | III           | 3           |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T2                                 | TP1                        |
| 2047   | DICHLOROPROPENES   | 3     | F1                  | II            | 3           |                    | LQ4                             | E2      | P001 IBC02 R001            |                                  | MP19                            | T4                                 | TP1                        |
| 2047   | DICHLOROPROPENES   | 3     | F1                  | III           | 3           |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T2                                 | TP1                        |
| 2048   | DICYCLOPENTADIENE  | 3     | F1                  | III           | 3           |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T2                                 | TP1                        |
| 2049   | DIETHYLBENZENE   | 3     | F1                  | III           | 3           |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T2                                 | TP1                        |
| 2050   | DIISOBUTYLENE, ISOMERIC COMPOUNDS  | 3     | F1                  | II            | 3           |                    | LQ4                             | E2      | P001 IBC02 R001            |                                  | MP19                            | T4                                 | TP1                        |
| 2051   | 2-DIMETHYLAMINO-ETHANOL  | 8     | CF1                 | II            | 8 +3        |                    | LQ22                            | E2      | P001 IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2052   | DIPENTENE  | 3     | F1                  | III           | 3           |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T2                                 | TP1                        |
| 2053   | METHYL ISOBUTYL CARBINOL   | 3     | F1                  | III           | 3           |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T2                                 | TP1                        |
| 2054   | MORPHOLINE   | 8     | CF1                 | I             | 8 +3        |                    | LQ0                             | E0      | P001                       |                                  | MP8 MP17                        | T10                                | TP2                        |
| 2055   | STYRENE MONOMER, STABILIZED  | 3     | F1                  | III           | 3           |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T2                                 | TP1                        |
| 2056   | TETRAHYDROFURAN  | 3     | F1                  | II            | 3           |                    | LQ4                             | E2      | P001 IBC02 R001            |                                  | MP19                            | T4                                 | TP1                        |
| 2057   | TRIPROPYLENE   | 3     | F1                  | II            | 3           |                    | LQ4                             | E2      | P001 IBC02 R001            |                                  | MP19                            | T4                                 | TP1                        |



| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                    |                           | 1 (D)  |                                 |       | CV9<br>CV12                     |           |                           | 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable |
|           |                    |                           | 1 (D)  |                                 |       | CV9<br>CV12                     | S2        |                           | 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable |
|           |                    |                           | 1 (D)  |                                 |       | CV9<br>CV12                     | S2        |                           | 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable |
|           |                    |                           | 1 (D)  |                                 |       | CV9<br>CV12                     |           |                           | 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable |
|           |                    |                           | 1 (D)  |                                 |       | CV9<br>CV12                     |           |                           | 2037   | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable |
| L4BH      | TU15 TE19          | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2038   | DINITROTOLUENES, LIQUID  |
| PxBN(M)   | TA4<br>TT9         | FL                        | 2 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 2044   | 2,2-DIMETHYLPROPANE  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2045   | ISOBUTYRALDEHYDE (ISOBUTYL ALDEHYDE)   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2046   | CYMENES  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2047   | DICHLOROPROPENES   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2047   | DICHLOROPROPENES   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2048   | DICYCLOPENTADIENE  |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2049   | DIETHYLBENZENE   |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2050   | DIISOBUTYLENE, ISOMERIC COMPOUNDS  |
| L4BN      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2        | 83                        | 2051   | 2-DIMETHYLAMINO-ETHANOL  |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2052   | DIPENTENE  |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2053   | METHYL ISOBUTYL CARBINOL   |
| L10BH     |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S14    | 883                       | 2054   | MORPHOLINE   |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 39                        | 2055   | STYRENE MONOMER, STABILIZED  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2056   | TETRAHYDROFURAN  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2057   | TRIPROPYLENE   |

[illegible]

| ADR tank            |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|---------------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code           | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3                 | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)                | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| LGBF                |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2057   | TRIPROPYLENE  |
| LGBF                |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2058   | VALERALDEHYDE   |
| L4BN                |                    | FL                        | 1 (B)  |                                 |       |                                 | S2 S14    | 33                        | 2059   | NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose   |
| L1.5BN              |                    | FL                        | 2 (B)  |                                 |       |                                 | S2 S14    | 33                        | 2059   | NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose (vapour pressure at 50 °C more than 110 kPa)  |
| LGBF                |                    | FL                        | 2 (B)  |                                 |       |                                 | S2 S14    | 33                        | 2059   | NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose (vapour pressure at 50 °C not more than 110 kPa)  |
| LGBF                |                    | FL                        | 3 (B)  |                                 |       |                                 | S2 S14    | 30                        | 2059   | NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose   |
| SGAV                | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            | S23       | 50                        | 2067   | AMMONIUM NITRATE BASED FERTILIZER   |
| NOT SUBJECT TO ADR  |                    |                           |  |                                 |       |                                 |           |                           | 2071   | Ammonium nitrate based fertilizer, uniform mixtures of the nitrogen/phosphate, nitrogen/potash or nitrogen/phosphate/potash type, containing not more than 70% ammonium nitrate and not more than 0.4% total combustible/organic material calculated as carbon or with not more than 45% ammonium nitrate and unrestricted combustible material |
| PxBN(M)             | TA4 TT9            | AT                        | 3 (E)  |                                 |       | CV9 CV10                        |           | 20                        | 2073   | AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 35% but not more than 50% ammonia  |
| SGAH L4BH           | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2074   | ACRYLAMIDE, SOLID   |
| L4BH                | TU15 TE19          | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 69                        | 2075   | CHLORAL, ANHYDROUS, STABILIZED  |
| L4BH                | TU15 TE19          | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 68                        | 2076   | CRESOLS, LIQUID   |
| SGAH L4BH           | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2077   | alpha-NAPHTHYLAMINE   |
| L4BH                | TU15 TE19          | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 2078   | TOLUENE DIISOCYANATE  |
| L4BN                |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2079   | DIETHYLENETRIAMINE  |
| CARRIAGE PROHIBITED |                    |                           |  |                                 |       |                                 |           |                           | 2186   | HYDROGEN CHLORIDE, REFRIGERATED LIQUID  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |                   |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2187   | CARBON DIOXIDE, REFRIGERATED LIQUID   | 2     | 3A                  |               | 2.2               | 593                | LQ1                             | E1      | P203                          |                                  | MP9                             | T75                                | TP5                        |
| 2188   | ARSINE  | 2     | 2TF                 |               | 2.3<br>+2.1       |                    | LQ0                             | E0      | P200                          |                                  | MP9                             |                                    |                            |
| 2189   | DICHLOROSILANE  | 2     | 2TFC                |               | 2.3<br>+2.1<br>+8 |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2190   | OXYGEN DIFLUORIDE, COMPRESSED   | 2     | 1TOC                |               | 2.3<br>+5.1<br>+8 |                    | LQ0                             | E0      | P200                          |                                  | MP9                             |                                    |                            |
| 2191   | SULPHURY FLUORIDE   | 2     | 2T                  |               | 2.3               |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2192   | GERMANE   | 2     | 2TF                 |               | 2.3<br>+2.1       | 632                | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2193   | HEXAFLUOROETHANE (REFRIGERANT GAS R 116)  | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2194   | SELENIUM HEXAFLUORIDE   | 2     | 2TC                 |               | 2.3<br>+8         |                    | LQ0                             | E0      | P200                          |                                  | MP9                             |                                    |                            |
| 2195   | TELLURIUM HEXAFLUORIDE  | 2     | 2TC                 |               | 2.3<br>+8         |                    | LQ0                             | E0      | P200                          |                                  | MP9                             |                                    |                            |
| 2196   | TUNGSTEN HEXAFLUORIDE   | 2     | 2TC                 |               | 2.3<br>+8         |                    | LQ0                             | E0      | P200                          |                                  | MP9                             |                                    |                            |
| 2197   | HYDROGEN IODIDE, ANHYDROUS  | 2     | 2TC                 |               | 2.3<br>+8         |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2198   | PHOSPHORUS PENTAFLUORIDE  | 2     | 2TC                 |               | 2.3<br>+8         |                    | LQ0                             | E0      | P200                          |                                  | MP9                             |                                    |                            |
| 2199   | PHOSPHINE   | 2     | 2TF                 |               | 2.3<br>+2.1       | 632                | LQ0                             | E0      | P200                          |                                  | MP9                             |                                    |                            |
| 2200   | PROPADIENE, STABILIZED  | 2     | 2F                  |               | 2.1               |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2201   | NITROUS OXIDE, REFRIGERATED LIQUID  | 2     | 3O                  |               | 2.2<br>+5.1       |                    | LQ0                             | E0      | P203                          |                                  | MP9                             | T75                                | TP5<br>TP22                |
| 2202   | HYDROGEN SELENIDE, ANHYDROUS  | 2     | 2TF                 |               | 2.3<br>+2.1       |                    | LQ0                             | E0      | P200                          |                                  | MP9                             |                                    |                            |
| 2203   | SILANE  | 2     | 2F                  |               | 2.1               | 632                | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2204   | CARBONYL SULPHIDE   | 2     | 2TF                 |               | 2.3<br>+2.1       |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2205   | ADIPONITRILE  | 6.1   | T1                  | III           | 6.1               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T3                                 | TP1                        |
| 2206   | ISOCYANATES, TOXIC, N.O.S. or ISOCYANATE SOLUTION, TOXIC, N.O.S.                              | 6.1   | T1                  | II            | 6.1               | 274<br>551         | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 2206   | ISOCYANATES, TOXIC, N.O.S. or ISOCYANATE SOLUTION, TOXIC, N.O.S.                              | 6.1   | T1                  | III           | 6.1               | 274<br>551         | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 2208   | CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 10% but not more than 39% available chlorine | 5.1   | O2                  | III           | 5.1               | 313<br>314         | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3 B13                           | MP10                            |                                    |                            |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| RxBN      | TU19<br>TA4<br>TT9     | AT                        | 3<br>(C/E)                                   | V5                              |       | CV9<br>CV11<br>CV36             | S20       | 22                        | 2187   | CARBON DIOXIDE, REFRIGERATED LIQUID   |
|           |                        |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    |                           | 2188   | ARSINE  |
| PxBH(M)   | TA4<br>TT9             | FL                        | 1<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 2189   | DICHLOROSILANE  |
|           |                        |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S14       |                           | 2190   | OXYGEN DIFLUORIDE, COMPRESSED   |
| PxBH(M)   | TA4<br>TT9             | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 26                        | 2191   | SULPHURYL FLUORIDE  |
|           |                        | FL                        | 1<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 2192   | GERMANE   |
| PxBN(M)   | TA4<br>TT9             | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 2193   | HEXAFLUOROETHANE (REFRIGERANT GAS R 116)  |
|           |                        |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S14       |                           | 2194   | SELENIUM HEXAFLUORIDE   |
|           |                        |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S14       |                           | 2195   | TELLURIUM HEXAFLUORIDE  |
|           |                        |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S14       |                           | 2196   | TUNGSTEN HEXAFLUORIDE   |
| PxBH(M)   | TA4<br>TT9             | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 268                       | 2197   | HYDROGEN IODIDE, ANHYDROUS  |
|           |                        |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S14       |                           | 2198   | PHOSPHORUS PENTAFLUORIDE  |
|           |                        |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    |                           | 2199   | PHOSPHINE   |
| PxBN(M)   | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 239                       | 2200   | PROPADIENE, STABILIZED  |
| RxBN      | TU7 TU19<br>TA4<br>TT9 | AT                        | 3<br>(C/E)                                   | V5                              |       | CV9<br>CV11<br>CV36             | S20       | 225                       | 2201   | NITROUS OXIDE, REFRIGERATED LIQUID  |
|           |                        |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    |                           | 2202   | HYDROGEN SELENIDE, ANHYDROUS  |
| PxBN(M)   | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 2203   | SILANE  |
| PxBH(M)   | TA4<br>TT9             | FL                        | 1<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 2204   | CARBONYL SULPHIDE   |
| L4BH      | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2205   | ADIPONITRILE  |
| L4BH      | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2206   | ISOCYANATES, TOXIC, N.O.S. or ISOCYANATE SOLUTION, TOXIC, N.O.S.                              |
| L4BH      | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2206   | ISOCYANATES, TOXIC, N.O.S. or ISOCYANATE SOLUTION, TOXIC, N.O.S.                              |
| SGAN      | TU3                    | AT                        | 3<br>(E)                                     |                                 |       | CV24<br>CV35                    |           | 50                        | 2208   | CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 10% but not more than 39% available chlorine |

| UN No. | Name and description   | Class | Classification code | Packing group      | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                     |                                    | Portable tanks and bulk containers |                               |
|--------|--|-------|---------------------|--------------------|-------------|--------------------|---------------------------------|---------|-------------------------------|-------------------------------------|------------------------------------|------------------------------------|-------------------------------|
|        |  |       |                     |                    |             |                    |                                 |         | Packing instructions<br>4.1.4 | Special packing provisions<br>4.1.4 | Mixed packing provisions<br>4.1.10 | Instructions<br>4.2.5.2<br>7.3.2   | Special provisions<br>4.2.5.3 |
|        | 3.1.2  | 2.2   | 2.2                 | 2.1.1.3            | 5.2.2       | 3.3                | 3.4.6                           | 3.5.1.2 |                               |                                     |                                    |                                    |                               |
| (1)    | (2)  | (3a)  | (3b)                | (4)                | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                                | (9b)                               | (10)                               | (11)                          |
| 2209   | FORMALDEHYDE SOLUTION with not less than 25% formaldehyde            | 8     | C9                  | III                | 8           | 533                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T4                                 | TP1                           |
| 2210   | MANEB or MANEB PREPARATION with not less than 60% maneb              | 4.2   | SW                  | III                | 4.2<br>+4.3 | 273                | LQ0                             | E1      | P002<br>IBC06<br>R001         |                                     | MP14                               | T1                                 | TP33                          |
| 2211   | POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour               | 9     | M3                  | III                | None        | 207<br>633         | LQ27                            | E1      | P002<br>IBC08<br>R001         | PP14<br>B3 B6                       | MP10                               | T1                                 | TP33                          |
| 2212   | BLUE ASBESTOS (crocidolite) or BROWN ASBESTOS (amosite, mysorite)    | 9     | M1                  | II                 | 9           | 168                | LQ25                            | E2      | P002<br>IBC08                 | PP37<br>B4                          | MP10                               | T3                                 | TP33                          |
| 2213   | PARAFORMALDEHYDE   | 4.1   | F1                  | III                | 4.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | PP12<br>B3                          | MP10                               | T1<br>BK1 BK2                      | TP33                          |
| 2214   | PHTHALIC ANHYDRIDE with more than 0.05% of maleic anhydride          | 8     | C4                  | III                | 8           | 169                | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                  | MP10                               | T1                                 | TP33                          |
| 2215   | MALEIC ANHYDRIDE, MOLTEN   | 8     | C3                  | III                | 8           |                    | LQ0                             | E0      |                               |                                     |                                    | T4                                 | TP3                           |
| 2215   | MALEIC ANHYDRIDE   | 8     | C4                  | III                | 8           |                    | LQ24                            | E1      | P002<br>IBC08<br>R001         | B3                                  | MP10                               | T1                                 | TP33                          |
| 2216   | Fish meal (Fish scrap), stabilized                                   | 9     | M11                 | NOT SUBJECT TO ADR |             |                    |                                 |         |                               |                                     |                                    |                                    |                               |
| 2217   | SEED CAKE with not more than 1.5% oil and not more than 11% moisture | 4.2   | S2                  | III                | 4.2         | 142                | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | PP20<br>B3 B6                       | MP14                               |                                    |                               |
| 2218   | ACRYLIC ACID, STABILIZED   | 8     | CF1                 | II                 | 8<br>+3     |                    | LQ22                            | E2      | P001<br>IBC02                 |                                     | MP15                               | T7                                 | TP2                           |
| 2219   | ALLYL GLYCIDYL ETHER   | 3     | F1                  | III                | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T2                                 | TP1                           |
| 2222   | ANISOLE  | 3     | F1                  | III                | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T2                                 | TP1                           |
| 2224   | BENZONITRILE   | 6.1   | T1                  | II                 | 6.1         |                    | LQ17                            | E4      | P001<br>IBC02                 |                                     | MP15                               | T7                                 | TP2                           |
| 2225   | BENZENESULPHONYL CHLORIDE  | 8     | C3                  | III                | 8           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T4                                 | TP1                           |
| 2226   | BENZOTRICHLORIDE   | 8     | C9                  | II                 | 8           |                    | LQ22                            | E2      | P001<br>IBC02                 |                                     | MP15                               | T7                                 | TP2                           |
| 2227   | n-BUTYL METHACRYLATE, STABILIZED                                     | 3     | F1                  | III                | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T2                                 | TP1                           |
| 2232   | 2-CHLOROETHANAL  | 6.1   | T1                  | I                  | 6.1         |                    | LQ0                             | E5      | P001                          |                                     | MP8<br>MP17                        | T14                                | TP2                           |
| 2233   | CHLOROANISIDINES   | 6.1   | T2                  | III                | 6.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                  | MP10                               | T1                                 | TP33                          |
| 2234   | CHLOROBENZOTRI-FLUORIDES   | 3     | F1                  | III                | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T2                                 | TP1                           |
| 2235   | CHLOROBENZYL CHLORIDES, LIQUID                                       | 6.1   | T1                  | III                | 6.1         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T4                                 | TP1                           |

| ADR tank           |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|--------------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code          | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3                | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)               | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BN               |                        | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2209   | FORMALDEHYDE SOLUTION with not less than 25% formaldehyde            |
| SGAN               |                        | AT                        | 3 (E)  | V1<br>V12                       | VV4   |                                 |           | 40                        | 2210   | MANEB or MANEB PREPARATION with not less than 60% maneb              |
| SGAN               | TE20                   | AT                        | 3 (D/E)                                      |                                 | VV3   |                                 |           | 90                        | 2211   | POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour               |
| SGAH               | TU15                   | AT                        | 2 (E)  | V11                             |       | CV1<br>CV13<br>CV28             | S19       | 90                        | 2212   | BLUE ASBESTOS (crocidolite) or BROWN ASBESTOS (amosite, mysorite)    |
| SGAV               |                        | AT                        | 3 (E)  | V13                             | VV1   |                                 |           | 40                        | 2213   | PARAFORMALDEHYDE   |
| SGAV<br>L4BN       |                        | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2214   | PHTHALIC ANHYDRIDE with more than 0.05% of maleic anhydride          |
| L4BN               |                        | AT                        | 0 (E)  |                                 |       |                                 |           | 80                        | 2215   | MALEIC ANHYDRIDE, MOLTEN   |
| SGAV               |                        | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2215   | MALEIC ANHYDRIDE   |
| NOT SUBJECT TO ADR |                        |                           |  |                                 |       |                                 |           |                           | 2216   | Fish meal (Fish scrap), stabilized                                   |
|                    |                        |                           | 3 (E)  | V1                              | VV4   |                                 |           | 40                        | 2217   | SEED CAKE with not more than 1.5% oil and not more than 11% moisture |
| L4BN               |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2        | 839                       | 2218   | ACRYLIC ACID, STABILIZED   |
| LGBF               |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2219   | ALLYL GLYCIDYL ETHER   |
| LGBF               |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2222   | ANISOLE  |
| L4BH               | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2224   | BENZONITRILE   |
| L4BN               |                        | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2225   | BENZENESULPHONYL CHLORIDE  |
| L4BN               |                        | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2226   | BENZOTRICHLORIDE   |
| LGBF               |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 39                        | 2227   | n-BUTYL METHACRYLATE, STABILIZED                                     |
| L10CH              | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2232   | 2-CHLOROETHANAL  |
| SGAH<br>L4BH       | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2233   | CHLOROANISIDINES   |
| LGBF               |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2234   | CHLOROBENZOTRI-FLUORIDES   |
| L4BH               | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2235   | CHLOROBENZYL CHLORIDES, LIQUID                                       |

| UN No. | Name and description  | Class | Classification code | Packing group       | Labels  | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------------|---------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |                     |         |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)                 | (5)     | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2236   | 3-CHLORO-4-METHYLPHENYL ISOCYANATE, LIQUID                                | 6.1   | T1                  | II                  | 6.1     |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            |                                    |                            |
| 2237   | CHLORONITROANILINES   | 6.1   | T2                  | III                 | 6.1     |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2238   | CHLOROTOLUENES  | 3     | F1                  | III                 | 3       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2239   | CHLOROTOLUIDINES, SOLID   | 6.1   | T2                  | III                 | 6.1     |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2240   | CHROMOSULPHURIC ACID  | 8     | C1                  | I                   | 8       |                    | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T10                                | TP2                        |
| 2241   | CYCLOHEPTANE  | 3     | F1                  | II                  | 3       |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2242   | CYCLOHEPTENE  | 3     | F1                  | II                  | 3       |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2243   | CYCLOHEXYL ACETATE  | 3     | F1                  | III                 | 3       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2244   | CYCLOPENTANOL   | 3     | F1                  | III                 | 3       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2245   | CYCLOPENTANONE  | 3     | F1                  | III                 | 3       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2246   | CYCLOPENTENE  | 3     | F1                  | II                  | 3       |                    | LQ4                             | E2      | P001<br>IBC02                 | B8                               | MP19                            | T7                                 | TP2                        |
| 2247   | n-DECANE  | 3     | F1                  | III                 | 3       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2248   | DI-n-BUTYLAMINE   | 8     | CF1                 | II                  | 8<br>+3 |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2249   | DICHLORODIMETHYL ETHER, SYMMETRICAL                                       | 6.1   | TF1                 | CARRIAGE PROHIBITED |         |                    |                                 |         |                               |                                  |                                 |                                    |                            |
| 2250   | DICHLOROPHENYL ISOCYANATES  | 6.1   | T2                  | II                  | 6.1     |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2251   | BICYCLO[2.2.1]HEPTA-2,5-DIENE, STABILIZED (2,5-NORBORNADIENE, STABILIZED) | 3     | F1                  | II                  | 3       |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP2                        |
| 2252   | 1,2-DIMETHOXYETHANE   | 3     | F1                  | II                  | 3       |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2253   | N,N-DIMETHYLANILINE   | 6.1   | T1                  | II                  | 6.1     |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2254   | MATCHES, FUSEE  | 4.1   | F1                  | III                 | 4.1     | 293                | LQ9                             | E1      | P407<br>R001                  |                                  | MP11                            |                                    |                            |
| 2256   | CYCLOHEXENE   | 3     | F1                  | II                  | 3       |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2257   | POTASSIUM   | 4.3   | W2                  | I                   | 4.3     |                    | LQ0                             | E0      | P403<br>IBC04                 |                                  | MP2                             | T9                                 | TP7<br>TP33                |
| 2258   | 1,2-PROPYLENEDIAMINE  | 8     | CF1                 | II                  | 8<br>+3 |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2259   | TRIETHYLENETETRAMINE  | 8     | C7                  | II                  | 8       |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2260   | TRIPROPYLAMINE  | 3     | FC                  | III                 | 3<br>+8 |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2261   | XYLENOLS, SOLID   | 6.1   | T2                  | II                  | 6.1     |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |



| ADR tank            |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|---------------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code           | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3                 | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)                | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BH                | TU15 TE19          | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2236   | 3-CHLORO-4-METHYLPHENYL ISOCYANATE, LIQUID                                |
| SGAH<br>L4BH        | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2237   | CHLORONITROANILINES   |
| LGBF                |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2238   | CHLOROTOLUENES  |
| SGAH<br>L4BH        | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2239   | CHLOROTOLUIDINES, SOLID   |
| L10BH               |                    | AT                        | 1 (E)  |                                 |       |                                 | S20       | 88                        | 2240   | CHROMOSULPHURIC ACID  |
| LGBF                |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2241   | CYCLOHEPTANE  |
| LGBF                |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2242   | CYCLOHEPTENE  |
| LGBF                |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2243   | CYCLOHEXYL ACETATE  |
| LGBF                |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2244   | CYCLOPENTANOL   |
| LGBF                |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2245   | CYCLOPENTANONE  |
| L1.5BN              |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2246   | CYCLOPENTENE  |
| LGBF                |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2247   | n-DECANE  |
| L4BN                |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2        | 83                        | 2248   | DI-n-BUTYLAMINE   |
| CARRIAGE PROHIBITED |                    |                           |  |                                 |       |                                 |           |                           | 2249   | DICHLORODIMETHYL ETHER, SYMMETRICAL                                       |
| SGAH<br>L4BH        | TU15 TE19          | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2250   | DICHLOROPHENYL ISOCYANATES  |
| LGBF                |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 2251   | BICYCLO[2.2.1]HEPTA-2,5-DIENE, STABILIZED (2,5-NORBORNADIENE, STABILIZED) |
| LGBF                |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2252   | 1,2-DIMETHOXYETHANE   |
| L4BH                | TU15 TE19          | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2253   | N,N-DIMETHYLANILINE   |
|                     |                    |                           | 4 (E)  |                                 |       |                                 |           |                           | 2254   | MATCHES, FUSEE  |
| LGBF                |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2256   | CYCLOHEXENE   |
| L10BN(+)            | TU1 TE5 TT3<br>TM2 | AT                        | 1 (B/E)                                      | V1                              |       | CV23                            | S20       | X423                      | 2257   | POTASSIUM   |
| L4BN                |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2        | 83                        | 2258   | 1,2-PROPYLENEDIAMINE  |
| L4BN                |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2259   | TRIETHYLENETETRAMINE  |
| L4BN                |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 38                        | 2260   | TRIPROPYLAMINE  |
| SGAH<br>L4BH        | TU15 TE19          | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2261   | XYLENOLS, SOLID   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2262   | DIMETHYLCARBAMOYL CHLORIDE   | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2263   | DIMETHYL-CYCLOHEXANES  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2264   | N,N-DIMETHYL-CYCLOHEXYLAMINE   | 8     | CF1                 | II            | 8<br>+3   |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2265   | N,N-DIMETHYL-FORMAMIDE   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP2                        |
| 2266   | DIMETHYL-N-PROPYLAMINE   | 3     | FC                  | II            | 3<br>+8   |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP2                        |
| 2267   | DIMETHYL THIOPHOSPHORYL CHLORIDE   | 6.1   | TC1                 | II            | 6.1<br>+8 |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2269   | 3,3'-IMINODIPROPYLAMINE  | 8     | C7                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP2                        |
| 2270   | ETHYLAMINE, AQUEOUS SOLUTION with not less than 50% but not more than 70% ethylamine | 3     | FC                  | II            | 3<br>+8   |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2271   | ETHYL AMYL KETONE  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2272   | N-ETHYLANILINE   | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2273   | 2-ETHYLANILINE   | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2274   | N-ETHYL-N-BENZYLANILINE  | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2275   | 2-ETHYLBUTANOL   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2276   | 2-ETHYLHEXYLAMINE  | 3     | FC                  | III           | 3<br>+8   |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2277   | ETHYL METHACRYLATE, STABILIZED   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2278   | n-HEPTENE  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2279   | HEXACHLOROBUTADIENE  | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2280   | HEXAMETHYLENE-DIAMINE, SOLID   | 8     | C8                  | III           | 8         |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2281   | HEXAMETHYLENE DIISOCYANATE   | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2282   | HEXANOLS   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2283   | ISOBUTYL METHACRYLATE, STABILIZED  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |

| ADR tank     |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|--------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code    | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3          | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)         | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 2262   | DIMETHYLCARBAMOYL CHLORIDE   |
| LGBF         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2263   | DIMETHYL-CYCLOHEXANES  |
| L4BN         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2        | 83                        | 2264   | N,N-DIMETHYL-CYCLOHEXYLAMINE   |
| LGBF         |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2265   | N,N-DIMETHYL-FORMAMIDE   |
| L4BH         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 2266   | DIMETHYL-N-PROPYLAMINE   |
| L4BH         | TU15 TE19          | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 68                        | 2267   | DIMETHYL THIOPHOSPHORYL CHLORIDE   |
| L4BN         |                    | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 2269   | 3,3'-IMINODIPROPYLAMINE  |
| L4BH         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 2270   | ETHYLAMINE, AQUEOUS SOLUTION with not less than 50% but not more than 70% ethylamine |
| LGBF         |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2271   | ETHYL AMYL KETONE  |
| L4BH         | TU15 TE19          | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2272   | N-ETHYLANILINE   |
| L4BH         | TU15 TE19          | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2273   | 2-ETHYLANILINE   |
| L4BH         | TU15 TE19          | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2274   | N-ETHYL-N-BENZYLANILINE  |
| LGBF         |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2275   | 2-ETHYLBUTANOL   |
| L4BN         |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 38                        | 2276   | 2-ETHYLHEXYLAMINE  |
| LGBF         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 339                       | 2277   | ETHYL METHACRYLATE, STABILIZED   |
| LGBF         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2278   | n-HEPTENE  |
| L4BH         | TU15 TE19          | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2279   | HEXACHLOROBUTADIENE  |
| SGAV<br>L4BN |                    | AT                        | 3<br>(E)                                     |                                 | VV9   |                                 |           | 80                        | 2280   | HEXAMETHYLENE-DIAMINE, SOLID   |
| L4BH         | TU15 TE19          | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2281   | HEXAMETHYLENE DIISOCYANATE   |
| LGBF         |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2282   | HEXANOLS   |
| LGBF         |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 39                        | 2283   | ISOBUTYL METHACRYLATE, STABILIZED  |

| UN No. | Name and description            | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---------------------------------|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |                                 |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)                             | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2284   | ISOBUTYRONITRILE                | 3     | FT1                 | II            | 3<br>+6.1 |                    | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP2                        |
| 2285   | ISOCYANATO BENZO-TRIFLUORIDES   | 6.1   | TF1                 | II            | 6.1<br>+3 |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2286   | PENTAMETHYLHEPTANE              | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2287   | ISOHEPTENE                      | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2288   | ISOHEXENE                       | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         | B8                               | MP19                            | T11                                | TP1                        |
| 2289   | ISOPHORONEDIAMINE               | 8     | C7                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2290   | ISOPHORONE DIISOCYANATE         | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP2                        |
| 2291   | LEAD COMPOUND, SOLUBLE, N.O.S.  | 6.1   | T5                  | III           | 6.1       | 199<br>274<br>535  | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2293   | 4-METHOXY-4-METHYLPENTAN-2-ONE  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2294   | N-METHYLANILINE                 | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2295   | METHYL CHLOROACETATE            | 6.1   | TF1                 | I             | 6.1<br>+3 |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 2296   | METHYLCYCLOHEXANE               | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2297   | METHYLCYCLO-HEXANONE            | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2298   | METHYLCYCLOPENTANE              | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2299   | METHYL DICHLOROACETATE          | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2300   | 2-METHYL-5-ETHYLPYRIDINE        | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2301   | 2-METHYLFURAN                   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2302   | 5-METHYLHEXAN-2-ONE             | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2303   | ISOPROPENYLBENZENE              | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2304   | NAPHTHALENE, MOLTEN             | 4.1   | F2                  | III           | 4.1       | 536                | LQ0                             | E0      |                               |                                  |                                 | T1                                 | TP3                        |
| 2305   | NITROBENZENE-SULPHONIC ACID     | 8     | C4                  | II            | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2306   | NITROBENZOTRI-FLUORIDES, LIQUID | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |

| ADR tank     |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description            |
|--------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---------------------------------|
| Tank code    | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |                                 |
| 4.3          | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2                           |
| (12)         | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)                             |
| L4BH         | TU15                   | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 2284   | ISOBUTYRONITRILE                |
| L4BH         | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 2285   | ISOCYANATO BENZO-TRIFLUORIDES   |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2286   | PENTAMETHYLHEPTANE              |
| LGBF         |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2287   | ISOHEPTENE                      |
| LGBF         |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2288   | ISOHEXENE                       |
| L4BN         |                        | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 2289   | ISOPHORONEDIAMINE               |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2290   | ISOPHORONE DIISOCYANATE         |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2291   | LEAD COMPOUND, SOLUBLE, N.O.S.  |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2293   | 4-METHOXY-4-METHYLPENTAN-2-ONE  |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2294   | N-METHYLANILINE                 |
| L10CH        | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2295   | METHYL CHLOROACETATE            |
| LGBF         |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2296   | METHYLCYCLOHEXANE               |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2297   | METHYLCYCLO-HEXANONE            |
| LGBF         |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2298   | METHYLCYCLOPENTANE              |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2299   | METHYL DICHLOROACETATE          |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2300   | 2-METHYL-5-ETHYLPYRIDINE        |
| LGBF         |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2301   | 2-METHYLFURAN                   |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2302   | 5-METHYLHEXAN-2-ONE             |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2303   | ISOPROPENYLBENZENE              |
| LGBV         | TU27 TE4 TE6           | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 44                        | 2304   | NAPHTHALENE, MOLTEN             |
| SGAN<br>L4BN |                        | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 2305   | NITROBENZENE-SULPHONIC ACID     |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2306   | NITROBENZOTRI-FLUORIDES, LIQUID |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2307   | 3-NITRO-4-CHLORO-BENZOTRIFLUORIDE                                | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP10                            | T7                                 | TP2                        |
| 2308   | NITROSYLSULPHURIC ACID, LIQUID                                   | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 2309   | OCTADIENES   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2310   | PENTANE-2,4-DIONE  | 3     | FT1                 | III           | 3<br>+6.1 |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2311   | PHENETIDINES   | 6.1   | T1                  | III           | 6.1       | 279                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2312   | PHENOL, MOLTEN   | 6.1   | T1                  | II            | 6.1       |                    | LQ0                             | E0      |                               |                                  |                                 | T7                                 | TP3                        |
| 2313   | PICOLINES  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2315   | POLYCHLORINATED BIPHENYLS, LIQUID                                | 9     | M2                  | II            | 9         | 305                | LQ26                            | E2      | P906<br>IBC02                 |                                  | MP15                            | T4                                 | TP1                        |
| 2316   | SODIUM CUPROCYANIDE, SOLID                                       | 6.1   | T5                  | I             | 6.1       |                    | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2317   | SODIUM CUPROCYANIDE SOLUTION                                     | 6.1   | T4                  | I             | 6.1       |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 2318   | SODIUM HYDROSULPHIDE with less than 25% water of crystallization | 4.2   | S4                  | II            | 4.2       | 504                | LQ0                             | E2      | P410<br>IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 2319   | TERPENE HYDROCARBONS, N.O.S.                                     | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 2320   | TETRAETHYLENE-PENTAMINE  | 8     | C7                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2321   | TRICHLOROBENZENES, LIQUID  | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2322   | TRICHLOROBUTENE  | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2323   | TRIETHYL PHOSPHITE   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2324   | TRIISOBUTYLENE   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2325   | 1,3,5-TRIMETHYLBENZENE   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2326   | TRIMETHYLCYCLO-HEXYLAMINE  | 8     | C7                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2327   | TRIMETHYLHEXA-METHYLENEDIAMINES                                  | 8     | C7                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2328   | TRIMETHYLHEXA-METHYLENE DIISOCYANATE                             | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP2                        |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BH      | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2307   | 3-NITRO-4-CHLORO-BENZOTRIFLUORIDE                                |
| L4BN      |                        | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 2308   | NITROSYLSULPHURIC ACID, LIQUID                                   |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2309   | OCTADIENES   |
| L4BH      | TU15                   | FL                        | 3<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2        | 36                        | 2310   | PENTANE-2,4-DIONE  |
| L4BH      | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2311   | PHENETIDINES   |
| L4BH      | TU15 TE19              | AT                        | 0<br>(D/E)                                   |                                 |       | CV13                            | S9 S19    | 60                        | 2312   | PHENOL, MOLTEN   |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2313   | PICOLINES  |
| L4BH      | TU15                   | AT                        | 0<br>(D/E)                                   |                                 | VV15  | CV1<br>CV13<br>CV28             | S19       | 90                        | 2315   | POLYCHLORINATED BIPHENYLS, LIQUID                                |
| S10AH     | TU15 TE19              | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2316   | SODIUM CUPROCYANIDE, SOLID                                       |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2317   | SODIUM CUPROCYANIDE SOLUTION                                     |
| SGAN      |                        | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |       |                                 |           | 40                        | 2318   | SODIUM HYDROSULPHIDE with less than 25% water of crystallization |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2319   | TERPENE HYDROCARBONS, N.O.S.                                     |
| L4BN      |                        | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 2320   | TETRAETHYLENE-PENTAMINE  |
| L4BH      | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2321   | TRICHLOROBENZENES, LIQUID  |
| L4BH      | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2322   | TRICHLOROBUTENE  |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2323   | TRIETHYL PHOSPHITE   |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2324   | TRISOBUTYLENE  |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2325   | 1,3,5-TRIMETHYLBENZENE   |
| L4BN      |                        | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 2326   | TRIMETHYLCYCLO-HEXYLAMINE  |
| L4BN      |                        | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 2327   | TRIMETHYLHEXA-METHYLENEDIAMINES                                  |
| L4BH      | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2328   | TRIMETHYLHEXA-METHYLENE DIISOCYANATE                             |

| UN No. | Name and description        | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |      | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|-----------------------------|-------|---------------------|---------------|-----------|--------------------|---------------------------------|------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |                             |       |                     |               |           |                    |                                 |      | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)                         | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b) | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2329   | TRIMETHYL PHOSPHITE         | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2330   | UNDECANE                    | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2331   | ZINC CHLORIDE, ANHYDROUS    | 8     | C2                  | III           | 8         |                    | LQ24                            | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2332   | ACETALDEHYDE OXIME          | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2333   | ALLYL ACETATE               | 3     | FT1                 | II            | 3<br>+6.1 |                    | LQ0                             | E2   | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2334   | ALLYLAMINE                  | 6.1   | TF1                 | I             | 6.1<br>+3 |                    | LQ0                             | E5   | P602                          |                                  | MP8<br>MP17                     | T20                                | TP2<br>TP35                |
| 2335   | ALLYL ETHYL ETHER           | 3     | FT1                 | II            | 3<br>+6.1 |                    | LQ0                             | E2   | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2336   | ALLYL FORMATE               | 3     | FT1                 | I             | 3<br>+6.1 |                    | LQ0                             | E0   | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2                        |
| 2337   | PHENYL MERCAPTAN            | 6.1   | TF1                 | I             | 6.1<br>+3 |                    | LQ0                             | E5   | P001                          |                                  | MP8<br>MP17                     | T20                                | TP2<br>TP35                |
| 2338   | BENZOTRIFLUORIDE            | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2339   | 2-BROMOBUTANE               | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2340   | 2-BROMOETHYL ETHYL ETHER    | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2341   | 1-BROMO-3-METHYLBUTANE      | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2342   | BROMOMETHYL-PROPANES        | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2343   | 2-BROMOPENTANE              | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2344   | BROMOPROPANES               | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2344   | BROMOPROPANES               | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2345   | 3-BROMOPROPYNE              | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2346   | BUTANEDIONE                 | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2347   | BUTYL MERCAPTAN             | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2348   | BUTYL ACRYLATES, STABILIZED | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2350   | BUTYL METHYL ETHER          | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |



| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description        |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|-----------------------------|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |                             |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2                       |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)                         |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2329   | TRIMETHYL PHOSPHITE         |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2330   | UNDECANE                    |
| SGAV      |                        | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2331   | ZINC CHLORIDE, ANHYDROUS    |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2332   | ACETALDEHYDE OXIME          |
| L4BH      | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 2333   | ALLYL ACETATE               |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2334   | ALLYLAMINE                  |
| L4BH      | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 2335   | ALLYL ETHYL ETHER           |
| L10CH     | TU14 TU15<br>TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2336   | ALLYL FORMATE               |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2337   | PHENYL MERCAPTAN            |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2338   | BENZOTRIFLUORIDE            |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2339   | 2-BROMOBUTANE               |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2340   | 2-BROMOETHYL ETHYL ETHER    |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2341   | 1-BROMO-3-METHYLBUTANE      |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2342   | BROMOMETHYL-PROPANES        |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2343   | 2-BROMOPENTANE              |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2344   | BROMOPROPANES               |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2344   | BROMOPROPANES               |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2345   | 3-BROMOPROPYNE              |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2346   | BUTANEDIONE                 |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2347   | BUTYL MERCAPTAN             |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 39                        | 2348   | BUTYL ACRYLATES, STABILIZED |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2350   | BUTYL METHYL ETHER          |

| UN No. | Name and description          | Class | Classification code | Packing group | Labels          | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|-------------------------------|-------|---------------------|---------------|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |                               |       |                     |               |                 |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)                           | (3a)  | (3b)                | (4)           | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2351   | BUTYL NITRITES                | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2351   | BUTYL NITRITES                | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2352   | BUTYL VINYL ETHER, STABILIZED | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2353   | BUTYRYL CHLORIDE              | 3     | FC                  | II            | 3<br>+8         |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T8                                 | TP2                        |
| 2354   | CHLOROMETHYL ETHYL ETHER      | 3     | FT1                 | II            | 3<br>+6.1       |                    | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2356   | 2-CHLOROPROPANE               | 3     | F1                  | I             | 3               |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 2357   | CYCLOHEXYLAMINE               | 8     | CF1                 | II            | 8<br>+3         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2358   | CYCLOOCTATETRAENE             | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2359   | DIALLYLAMINE                  | 3     | FTC                 | II            | 3<br>+6.1<br>+8 |                    | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2360   | DIALLYL ETHER                 | 3     | FT1                 | II            | 3<br>+6.1       |                    | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2361   | DIISOBUTYLAMINE               | 3     | FC                  | III           | 3<br>+8         |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2362   | 1,1-DICHLOROETHANE            | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2363   | ETHYL MERCAPTAN               | 3     | F1                  | I             | 3               |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 2364   | n-PROPYLBENZENE               | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2366   | DIETHYL CARBONATE             | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2367   | alpha-METHYL-VALERALDEHYDE    | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2368   | alpha-PINENE                  | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2370   | 1-HEXENE                      | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2371   | ISOPENTENES                   | 3     | F1                  | I             | 3               |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 2372   | 1,2-DI-(DIMETHYLAMINO) ETHANE | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2373   | DIETHOXYMETHANE               | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2374   | 3,3-DIETHOXYPROPENE           | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2375   | DIETHYL SULPHIDE              | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1                        |
| 2376   | 2,3-DIHYDROPYRAN              | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2377   | 1,1-DIMETHOXYETHANE           | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1                        |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description          |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|-------------------------------|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |                               |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2                         |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)                           |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2351   | BUTYL NITRITES                |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2351   | BUTYL NITRITES                |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 2352   | BUTYL VINYL ETHER, STABILIZED |
| L4BH      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 2353   | BUTYRYL CHLORIDE              |
| L4BH      | TU15               | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 2354   | CHLOROMETHYL ETHYL ETHER      |
| L4BN      |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2356   | 2-CHLOROPROPANE               |
| L4BN      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2        | 83                        | 2357   | CYCLOHEXYLAMINE               |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2358   | CYCLOOCTATETRAENE             |
| L4BH      | TU15               | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S19    | 338                       | 2359   | DIALLYLAMINE                  |
| L4BH      | TU15               | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 2360   | DIALLYL ETHER                 |
| L4BN      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 38                        | 2361   | DIISOBUTYLAMINE               |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2362   | 1,1-DICHLOROETHANE            |
| L4BN      |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2363   | ETHYL MERCAPTAN               |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2364   | n-PROPYLBENZENE               |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2366   | DIETHYL CARBONATE             |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2367   | alpha-METHYL-VALERALDEHYDE    |
| LGBF      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2368   | alpha-PINENE                  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2370   | 1-HEXENE                      |
| L4BN      |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2371   | ISOPENTENES                   |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2372   | 1,2-DI-(DIMETHYLAMINO) ETHANE |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2373   | DIETHOXYMETHANE               |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2374   | 3,3-DIETHOXYPROPENE           |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2375   | DIETHYL SULPHIDE              |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2376   | 2,3-DIHYDROPYRAN              |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2377   | 1,1-DIMETHOXYETHANE           |

| UN No. | Name and description           | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--------------------------------|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |                                |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)                            | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2378   | 2-DIMETHYLAMINO-ACETONITRILE   | 3     | FT1                 | II            | 3<br>+6.1 |                    | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2379   | 1,3-DIMETHYLBUTYLAMINE         | 3     | FC                  | II            | 3<br>+8   |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2380   | DIMETHYLDIETHOXY-SILANE        | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2381   | DIMETHYL DISULPHIDE            | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2382   | DIMETHYLHYDRAZINE, SYMMETRICAL | 6.1   | TF1                 | I             | 6.1<br>+3 |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 2383   | DIPROPYLAMINE                  | 3     | FC                  | II            | 3<br>+8   |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2384   | DI-n-PROPYL ETHER              | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2385   | ETHYL ISOBUTYRATE              | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2386   | 1-ETHYLPYPERIDINE              | 3     | FC                  | II            | 3<br>+8   |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2387   | FLUOROBENZENE                  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2388   | FLUOROTOLUENES                 | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2389   | FURAN                          | 3     | F1                  | I             | 3         |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T12                                | TP2                        |
| 2390   | 2-IODOBUTANE                   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2391   | IODOMETHYLPROPANES             | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2392   | IODOPROPANES                   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2393   | ISOBUTYL FORMATE               | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2394   | ISOBUTYL PROPIONATE            | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2395   | ISOBUTYRYL CHLORIDE            | 3     | FC                  | II            | 3<br>+8   |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP2                        |
| 2396   | METHACRYLALDEHYDE, STABILIZED  | 3     | FT1                 | II            | 3<br>+6.1 |                    | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2397   | 3-METHYLBUTAN-2-ONE            | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2398   | METHYL tert-BUTYL ETHER        | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1                        |
| 2399   | 1-METHYLPYPERIDINE             | 3     | FC                  | II            | 3<br>+8   |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2400   | METHYL ISOVALERATE             | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2401   | PIPERIDINE                     | 8     | CF1                 | I             | 8<br>+3   |                    | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T10                                | TP2                        |
| 2402   | PROPANETHIOLS                  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2403   | ISOPROPENYL ACETATE            | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description           |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--------------------------------|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |                                |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2                          |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)                            |
| L4BH      | TU15                   | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 2378   | 2-DIMETHYLAMINO-ACETONITRILE   |
| L4BH      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 2379   | 1,3-DIMETHYLBUTYLAMINE         |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2380   | DIMETHYLDIETHOXY-SILANE        |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2381   | DIMETHYL DISULPHIDE            |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2382   | DIMETHYLHYDRAZINE, SYMMETRICAL |
| L4BH      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 2383   | DIPROPYLAMINE                  |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2384   | DI-n-PROPYL ETHER              |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2385   | ETHYL ISOBUTYRATE              |
| L4BH      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 2386   | 1-ETHYLPYPERIDINE              |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2387   | FLUOROBENZENE                  |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2388   | FLUOROTOLUENES                 |
| L4BN      |                        | FL                        | 1<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2389   | FURAN                          |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2390   | 2-IODOBUTANE                   |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2391   | IODOMETHYLPROPANES             |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2392   | IODOPROPANES                   |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2393   | ISOBUTYL FORMATE               |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2394   | ISOBUTYL PROPIONATE            |
| L4BH      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 2395   | ISOBUTYRYL CHLORIDE            |
| L4BH      | TU15                   | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 2396   | METHACRYLALDEHYDE, STABILIZED  |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2397   | 3-METHYLBUTAN-2-ONE            |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2398   | METHYL tert-BUTYL ETHER        |
| L4BH      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 2399   | 1-METHYLPYPERIDINE             |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2400   | METHYL ISOVALERATE             |
| L10BH     |                        | FL                        | 1<br>(D/E)                                   |                                 |       |                                 | S2 S14    | 883                       | 2401   | PIPERIDINE                     |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2402   | PROPANETHIOLS                  |
| LGBF      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2403   | ISOPROPENYL ACETATE            |

| UN No. | Name and description   | Class | Classification code | Packing group       | Labels          | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------------|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |                     |                 |                    |                                 |         | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
|        | 3.1.2  | 2.2   | 2.2                 | 2.1.1.3             | 5.2.2           | 3.3                | 3.4.6                           | 3.5.1.2 |                               |                                  |                                 |                                    |                            |
| (1)    | (2)  | (3a)  | (3b)                | (4)                 | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2404   | PROPIONITRILE  | 3     | FT1                 | II                  | 3<br>+6.1       |                    | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2405   | ISOPROPYL BUTYRATE   | 3     | F1                  | III                 | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2406   | ISOPROPYL ISOBUTYRATE  | 3     | F1                  | II                  | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2407   | ISOPROPYL CHLOROFORMATE  | 6.1   | TFC                 | I                   | 6.1<br>+3<br>+8 |                    | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     |                                    |                            |
| 2409   | ISOPROPYL PROPIONATE   | 3     | F1                  | II                  | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2410   | 1,2,3,6-TETRAHYDROPYRIDINE   | 3     | F1                  | II                  | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2411   | BUTYRONITRILE  | 3     | FT1                 | II                  | 3<br>+6.1       |                    | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2412   | TETRAHYDROTHIOPHENE  | 3     | F1                  | II                  | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2413   | TETRAPROPYL ORTHOTITANATE  | 3     | F1                  | III                 | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2414   | THIOPHENE  | 3     | F1                  | II                  | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2416   | TRIMETHYL BORATE   | 3     | F1                  | II                  | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1                        |
| 2417   | CARBONYL FLUORIDE  | 2     | 2TC                 |                     | 2.3<br>+8       |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2418   | SULPHUR TETRAFLUORIDE  | 2     | 2TC                 |                     | 2.3<br>+8       |                    | LQ0                             | E0      | P200                          |                                  | MP9                             |                                    |                            |
| 2419   | BROMOTRIFLUORO-ETHYLENE  | 2     | 2F                  |                     | 2.1             |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2420   | HEXAFLUOROACETONE  | 2     | 2TC                 |                     | 2.3<br>+8       |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2421   | NITROGEN TRIOXIDE  | 2     | 2TOC                | CARRIAGE PROHIBITED |                 |                    |                                 |         |                               |                                  |                                 |                                    |                            |
| 2422   | OCTAFLUOROBUT-2-ENE (REFRIGERANT GAS R 1318)   | 2     | 2A                  |                     | 2.2             |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2424   | OCTAFLUOROPROPANE (REFRIGERANT GAS R 218)  | 2     | 2A                  |                     | 2.2             |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)<br>T50                         |                            |
| 2426   | AMMONIUM NITRATE, LIQUID, hot concentrated solution, in a concentration of more than 80% but not more than 93% | 5.1   | O1                  |                     | 5.1             | 252<br>644         | LQ0                             | E0      |                               |                                  |                                 | T7                                 | TP1<br>TP16<br>TP17        |
| 2427   | POTASSIUM CHLORATE, AQUEOUS SOLUTION   | 5.1   | O1                  | II                  | 5.1             |                    | LQ10                            | E2      | P504<br>IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 2427   | POTASSIUM CHLORATE, AQUEOUS SOLUTION   | 5.1   | O1                  | III                 | 5.1             |                    | LQ13                            | E1      | P504<br>IBC02<br>R001         |                                  | MP2                             | T4                                 | TP1                        |
| 2428   | SODIUM CHLORATE, AQUEOUS SOLUTION  | 5.1   | O1                  | II                  | 5.1             |                    | LQ10                            | E2      | P504<br>IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 2428   | SODIUM CHLORATE, AQUEOUS SOLUTION  | 5.1   | O1                  | III                 | 5.1             |                    | LQ13                            | E1      | P504<br>IBC02<br>R001         |                                  | MP2                             | T4                                 | TP1                        |
| 2429   | CALCIUM CHLORATE, AQUEOUS SOLUTION   | 5.1   | O1                  | II                  | 5.1             |                    | LQ10                            | E2      | P504<br>IBC02                 |                                  | MP2                             | T4                                 | TP1                        |

| ADR tank            |                                      | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|---------------------|--------------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code           | Special provisions                   |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3                 | 4.3.5, 6.8.4                         | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)                | (13)                                 | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BH                | TU15                                 | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 2404   | PROPIONITRILE  |
| LGBF                |                                      | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2405   | ISOPROPYL BUTYRATE   |
| LGBF                |                                      | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2406   | ISOPROPYL ISOBUTYRATE  |
|                     |                                      |                           | 1<br>(D)                                     |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 |                           | 2407   | ISOPROPYL CHLOROFORMATE  |
| LGBF                |                                      | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2409   | ISOPROPYL PROPIONATE   |
| LGBF                |                                      | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2410   | 1,2,3,6-TETRAHYDROPYRIDINE   |
| L4BH                | TU15                                 | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 2411   | BUTYRONITRILE  |
| LGBF                |                                      | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2412   | TETRAHYDROTHIOPHENE  |
| LGBF                |                                      | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2413   | TETRAPROPYL ORTHOTITANATE  |
| LGBF                |                                      | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2414   | THIOPHENE  |
| LGBF                |                                      | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2416   | TRIMETHYL BORATE   |
| PxBH(M)             | TA4<br>TT9                           | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 268                       | 2417   | CARBONYL FLUORIDE  |
|                     |                                      |                           | 1<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S14       |                           | 2418   | SULPHUR TETRAFLUORIDE  |
| PxBN(M)             | TA4<br>TT9                           | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 2419   | BROMOTRIFLUORO-ETHYLENE  |
| PxBH(M)             | TA4<br>TT9                           | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S14       | 268                       | 2420   | HEXAFLUOROACETONE  |
| CARRIAGE PROHIBITED |                                      |                           |  |                                 |       |                                 |           |                           | 2421   | NITROGEN TRIOXIDE  |
| PxBN(M)             | TA4<br>TT9                           | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 2422   | OCTAFLUOROBUT-2-ENE (REFRIGERANT GAS R 1318)   |
| PxBN(M)             | TA4<br>TT9                           | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 2424   | OCTAFLUOROPROPANE (REFRIGERANT GAS R 218)  |
| L4BV(+)             | TU3 TU12<br>TU29 TC3 TE9<br>TE10 TA1 | AT                        | 0<br>(E)                                     |                                 |       |                                 | S23       | 59                        | 2426   | AMMONIUM NITRATE, LIQUID, hot concentrated solution, in a concentration of more than 80% but not more than 93% |
| L4BN                | TU3                                  | AT                        | 2<br>(E)                                     |                                 |       | CV24                            |           | 50                        | 2427   | POTASSIUM CHLORATE, AQUEOUS SOLUTION   |
| LGBV                | TU3                                  | AT                        | 3<br>(E)                                     |                                 |       | CV24                            |           | 50                        | 2427   | POTASSIUM CHLORATE, AQUEOUS SOLUTION   |
| L4BN                | TU3                                  | AT                        | 2<br>(E)                                     |                                 |       | CV24                            |           | 50                        | 2428   | SODIUM CHLORATE, AQUEOUS SOLUTION  |
| LGBV                | TU3                                  | AT                        | 3<br>(E)                                     |                                 |       | CV24                            |           | 50                        | 2428   | SODIUM CHLORATE, AQUEOUS SOLUTION  |
| L4BN                | TU3                                  | AT                        | 2<br>(E)                                     |                                 |       | CV24                            |           | 50                        | 2429   | CALCIUM CHLORATE, AQUEOUS SOLUTION   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels          | Special provisions | Limited and excepted quantities |         | Packaging                     |                            |                          | Portable tanks and bulk containers |                    |
|--------|--|-------|---------------------|---------------|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |  |       |                     |               |                 |                    |                                 |         | Packing instructions          | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2  | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2           | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                         | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                       | (9b)                     | (10)                               | (11)               |
| 2429   | CALCIUM CHLORATE, AQUEOUS SOLUTION   | 5.1   | O1                  | III           | 5.1             |                    | LQ13                            | E1      | P504<br>IBC02<br>R001         |                            | MP2                      | T4                                 | TP1                |
| 2430   | ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues) | 8     | C4                  | I             | 8               | 274                | LQ0                             | E0      | P002<br>IBC07                 |                            | MP18                     | T6                                 | TP33               |
| 2430   | ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues) | 8     | C4                  | II            | 8               | 274                | LQ23                            | E2      | P002<br>IBC08                 | B4                         | MP10                     | T3                                 | TP33               |
| 2430   | ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues) | 8     | C4                  | III           | 8               | 274                | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                         | MP10                     | T1                                 | TP33               |
| 2431   | ANISIDINES   | 6.1   | T1                  | III           | 6.1             |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T4                                 | TP1                |
| 2432   | N,N-DIETHYLANILINE   | 6.1   | T1                  | III           | 6.1             | 279                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T4                                 | TP1                |
| 2433   | CHLORONITROTOLUENES, LIQUID  | 6.1   | T1                  | III           | 6.1             |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T4                                 | TP1                |
| 2434   | DIBENZYL-DICHLOROSILANE  | 8     | C3                  | II            | 8               |                    | LQ22                            | E2      | P010                          |                            | MP15                     | T10                                | TP2<br>TP7         |
| 2435   | ETHYLPHENYL-DICHLOROSILANE   | 8     | C3                  | II            | 8               |                    | LQ22                            | E2      | P010                          |                            | MP15                     | T10                                | TP2<br>TP7         |
| 2436   | THIOACETIC ACID  | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                            | MP19                     | T4                                 | TP1                |
| 2437   | METHYLPHENYL-DICHLOROSILANE  | 8     | C3                  | II            | 8               |                    | LQ22                            | E2      | P010                          |                            | MP15                     | T10                                | TP2<br>TP7         |
| 2438   | TRIMETHYLACETYL CHLORIDE   | 6.1   | TFC                 | I             | 6.1<br>+3<br>+8 |                    | LQ0                             | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2                |
| 2439   | SODIUM HYDROGENDIFLUORIDE  | 8     | C2                  | II            | 8               |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                         | MP10                     | T3                                 | TP33               |
| 2440   | STANNIC CHLORIDE PENTAHYDRATE  | 8     | C2                  | III           | 8               |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                         | MP10                     | T1                                 | TP33               |
| 2441   | TITANIUM TRICHLORIDE, PYROPHORIC or TITANIUM TRICHLORIDE MIXTURE, PYROPHORIC       | 4.2   | SC4                 | I             | 4.2<br>+8       | 537                | LQ0                             | E0      | P404                          |                            | MP13                     |                                    |                    |
| 2442   | TRICHLOROACETYL CHLORIDE   | 8     | C3                  | II            | 8               |                    | LQ22                            | E2      | P001                          |                            | MP15                     | T7                                 | TP2                |
| 2443   | VANADIUM OXYTRICHLORIDE  | 8     | C1                  | II            | 8               |                    | LQ22                            | E2      | P001<br>IBC02                 |                            | MP15                     | T7                                 | TP2                |
| 2444   | VANADIUM TETRACHLORIDE   | 8     | C1                  | I             | 8               |                    | LQ0                             | E0      | P802                          |                            | MP8<br>MP17              | T10                                | TP2                |
| 2446   | NITROCRESOLS, SOLID  | 6.1   | T2                  | III           | 6.1             |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                         | MP10                     | T1                                 | TP33               |
| 2447   | PHOSPHORUS, WHITE, MOLTEN  | 4.2   | ST3                 | I             | 4.2<br>+6.1     |                    | LQ0                             | E0      |                               |                            |                          | T21                                | TP3 TP7<br>TP26    |
| 2448   | SULPHUR, MOLTEN  | 4.1   | F3                  | III           | 4.1             | 538                | LQ0                             | E0      |                               |                            |                          | T1                                 | TP3                |
| 2451   | NITROGEN TRIFLUORIDE   | 2     | 2O                  |               | 2.2<br>+5.1     |                    | LQ0                             | E0      | P200                          |                            | MP9                      | (M)                                |                    |
| 2452   | ETHYLACETYLENE, STABILIZED   | 2     | 2F                  |               | 2.1             |                    | LQ0                             | E0      | P200                          |                            | MP9                      | (M)                                |                    |



| ADR tank       |                               | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|----------------|-------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code      | Special provisions            |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3            | 4.3.5, 6.8.4                  | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)           | (13)                          | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| LGBV           | TU3                           | AT                        | 3 (E)  |                                 |       | CV24                            |           | 50                        | 2429   | CALCIUM CHLORATE, AQUEOUS SOLUTION   |
| S10AN<br>L10BH |                               | AT                        | 1 (E)  | V10<br>V12                      |       |                                 | S20       | 88                        | 2430   | ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues) |
| SGAN<br>L4BN   |                               | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 2430   | ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues) |
| SGAV<br>L4BN   |                               | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2430   | ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues) |
| L4BH           | TU15 TE19                     | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2431   | ANISIDINES   |
| L4BH           | TU15 TE19                     | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2432   | N,N-DIETHYLANILINE   |
| L4BH           | TU15 TE19                     | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2433   | CHLORONITROTOLUENES, LIQUID  |
| L4BN           |                               | AT                        | 2 (E)  |                                 |       |                                 |           | X80                       | 2434   | DIBENZYL-DICHLOROSILANE  |
| L4BN           |                               | AT                        | 2 (E)  |                                 |       |                                 |           | X80                       | 2435   | ETHYLPHENYL-DICHLOROSILANE   |
| LGBF           |                               | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2436   | THIOACETIC ACID  |
| L4BN           |                               | AT                        | 2 (E)  |                                 |       |                                 |           | X80                       | 2437   | METHYLPHENYL-DICHLOROSILANE  |
| L10CH          | TU14 TU15<br>TE19 TE21        | FL                        | 1 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2438   | TRIMETHYLACETYL CHLORIDE   |
| SGAN           |                               | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 2439   | SODIUM HYDROGENDIFLUORIDE  |
| SGAV           |                               | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2440   | STANNIC CHLORIDE PENTAHYDRATE  |
|                |                               |                           | 0 (E)  | V1                              |       |                                 | S20       |                           | 2441   | TITANIUM TRICHLORIDE, PYROPHORIC or TITANIUM TRICHLORIDE MIXTURE, PYROPHORIC       |
| L4BN           |                               | AT                        | 2 (E)  |                                 |       |                                 |           | X80                       | 2442   | TRICHLOROACETYL CHLORIDE   |
| L4BN           |                               | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2443   | VANADIUM OXYTRICHLORIDE  |
| L10BH          |                               | AT                        | 1 (E)  |                                 |       |                                 | S20       | X88                       | 2444   | VANADIUM TETRACHLORIDE   |
| SGAH<br>L4BH   | TU15 TE19                     | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2446   | NITROCRESOLS, SOLID  |
| L10DH(+)       | TU14 TU16<br>TU21 TE3<br>TE21 | AT                        | 0 (B/E)                                      |                                 |       |                                 | S20       | 446                       | 2447   | PHOSPHORUS, WHITE, MOLTEN  |
| LGBV(+)        | TU27 TE4 TE6                  | AT                        | 3 (E)  |                                 |       |                                 |           | 44                        | 2448   | SULPHUR, MOLTEN  |
| PxBN(M)        | TA4<br>TT9                    | AT                        | 3 (C/E)                                      |                                 |       | CV9<br>CV10<br>CV36             |           | 25                        | 2451   | NITROGEN TRIFLUORIDE   |
| PxBN(M)        | TA4<br>TT9                    | FL                        | 2 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 239                       | 2452   | ETHYLACETYLENE, STABILIZED   |

| UN No. | Name and description  | Class | Classification code | Packing group       | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                            |                          | Portable tanks and bulk containers |                    |
|--------|---|-------|---------------------|---------------------|-------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |   |       |                     |                     |             |                    |                                 |         | Packing instructions          | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3             | 5.2.2       | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                         | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)   | (3a)  | (3b)                | (4)                 | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                       | (9b)                     | (10)                               | (11)               |
| 2453   | ETHYL FLUORIDE<br>(REFRIGERANT GAS R 161)   | 2     | 2F                  |                     | 2.1         |                    | LQ0                             | E0      | P200                          |                            | MP9                      | (M)                                |                    |
| 2454   | METHYL FLUORIDE<br>(REFRIGERANT GAS R 41)   | 2     | 2F                  |                     | 2.1         |                    | LQ0                             | E0      | P200                          |                            | MP9                      | (M)                                |                    |
| 2455   | METHYL NITRITE  | 2     | 2A                  | CARRIAGE PROHIBITED |             |                    |                                 |         |                               |                            |                          |                                    |                    |
| 2456   | 2-CHLOROPROPENE   | 3     | F1                  | I                   | 3           |                    | LQ3                             | E3      | P001                          |                            | MP7<br>MP17              | T11                                | TP2                |
| 2457   | 2,3-DIMETHYLBUTANE  | 3     | F1                  | II                  | 3           |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                            | MP19                     | T7                                 | TP1                |
| 2458   | HEXADIENES  | 3     | F1                  | II                  | 3           |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                            | MP19                     | T4                                 | TP1                |
| 2459   | 2-METHYL-1-BUTENE   | 3     | F1                  | I                   | 3           |                    | LQ3                             | E3      | P001                          |                            | MP7<br>MP17              | T11                                | TP2                |
| 2460   | 2-METHYL-2-BUTENE   | 3     | F1                  | II                  | 3           |                    | LQ4                             | E2      | P001<br>IBC02                 | B8                         | MP19                     | T7                                 | TP1                |
| 2461   | METHYLPENTADIENE  | 3     | F1                  | II                  | 3           |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                            | MP19                     | T4                                 | TP1                |
| 2463   | ALUMINIUM HYDRIDE   | 4.3   | W2                  | I                   | 4.3         |                    | LQ0                             | E0      | P403                          |                            | MP2                      |                                    |                    |
| 2464   | BERYLLIUM NITRATE   | 5.1   | OT2                 | II                  | 5.1<br>+6.1 |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                         | MP2                      | T3                                 | TP33               |
| 2465   | DICHLOROISOCYANURIC<br>ACID, DRY or<br>DICHLOROISOCYANURIC<br>ACID SALTS                        | 5.1   | O2                  | II                  | 5.1         | 135                | LQ11                            | E2      | P002<br>IBC08                 | B4                         | MP10                     | T3                                 | TP33               |
| 2466   | POTASSIUM SUPEROXIDE  | 5.1   | O2                  | I                   | 5.1         |                    | LQ0                             | E0      | P503<br>IBC06                 |                            | MP2                      |                                    |                    |
| 2468   | TRICHLOROISOCYANURIC<br>ACID, DRY   | 5.1   | O2                  | II                  | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                         | MP10                     | T3                                 | TP33               |
| 2469   | ZINC BROMATE  | 5.1   | O2                  | III                 | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                         | MP10                     | T1                                 | TP33               |
| 2470   | PHENYLACETONITRILE,<br>LIQUID   | 6.1   | T1                  | III                 | 6.1         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T4                                 | TP1                |
| 2471   | OSMIUM TETROXIDE  | 6.1   | T5                  | I                   | 6.1         |                    | LQ0                             | E5      | P002<br>IBC07                 | PP30                       | MP18                     | T6                                 | TP33               |
| 2473   | SODIUM ARSANILATE   | 6.1   | T3                  | III                 | 6.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                         | MP10                     | T1                                 | TP33               |
| 2474   | THIOPHOSGENE  | 6.1   | T1                  | II                  | 6.1         | 279                | LQ17                            | E4      | P001                          |                            | MP15                     | T7                                 | TP2                |
| 2475   | VANADIUM TRICHLORIDE  | 8     | C2                  | III                 | 8           |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                         | MP10                     | T1                                 | TP33               |
| 2477   | METHYL<br>ISOTHIOCYANATE  | 6.1   | TF1                 | I                   | 6.1<br>+3   |                    | LQ0                             | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2                |
| 2478   | ISOCYANATES,<br>FLAMMABLE, TOXIC, N.O.S.<br>or ISOCYANATE SOLUTION,<br>FLAMMABLE, TOXIC, N.O.S. | 3     | FT1                 | II                  | 3<br>+6.1   | 274<br>539         | LQ0                             | E2      | P001<br>IBC02                 |                            | MP19                     | T11                                | TP2<br>TP27        |
| 2478   | ISOCYANATES,<br>FLAMMABLE, TOXIC, N.O.S.<br>or ISOCYANATE SOLUTION,<br>FLAMMABLE, TOXIC, N.O.S. | 3     | FT1                 | III                 | 3<br>+6.1   | 274                | LQ7                             | E1      | P001<br>IBC03<br>R001         |                            | MP19                     | T7                                 | TP1<br>TP28        |
| 2480   | METHYL ISOCYANATE   | 6.1   | TF1                 | I                   | 6.1<br>+3   |                    | LQ0                             | E5      | P601                          |                            | MP2                      | T22                                | TP2                |

| ADR tank            |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|---------------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code           | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3                 | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)                | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| PxBN(M)             | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 2453   | ETHYL FLUORIDE<br>(REFRIGERANT GAS R 161)   |
| PxBN(M)             | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 2454   | METHYL FLUORIDE<br>(REFRIGERANT GAS R 41)   |
| CARRIAGE PROHIBITED |                        |                           |  |                                 |       |                                 |           |                           | 2455   | METHYL NITRITE  |
| L4BN                |                        | FL                        | 1<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2456   | 2-CHLOROPROPENE   |
| LGBF                |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2457   | 2,3-DIMETHYLBUTANE  |
| LGBF                |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2458   | HEXADIENES  |
| L4BN                |                        | FL                        | 1<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2459   | 2-METHYL-1-BUTENE   |
| L1.5BN              |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2460   | 2-METHYL-2-BUTENE   |
| LGBF                |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2461   | METHYLPENTADIENE  |
|                     |                        |                           | 1<br>(E)                                     | V1                              |       | CV23                            | S20       |                           | 2463   | ALUMINIUM HYDRIDE   |
| SGAN                | TU3                    | AT                        | 2<br>(E)                                     | V11                             |       | CV24<br>CV28                    |           | 56                        | 2464   | BERYLLIUM NITRATE   |
| SGAN                | TU3                    | AT                        | 2<br>(E)                                     | V11                             |       | CV24                            |           | 50                        | 2465   | DICHLOROISOCYANURIC<br>ACID, DRY or<br>DICHLOROISOCYANURIC<br>ACID SALTS                        |
|                     |                        |                           | 1<br>(E)                                     | V10<br>V12                      |       | CV24                            | S20       |                           | 2466   | POTASSIUM SUPEROXIDE  |
| SGAN                | TU3                    | AT                        | 2<br>(E)                                     | V11                             |       | CV24                            |           | 50                        | 2468   | TRICHLOROISOCYANURIC<br>ACID, DRY   |
| SGAV                | TU3                    | AT                        | 3<br>(E)                                     |                                 | VV8   | CV24                            |           | 50                        | 2469   | ZINC BROMATE  |
| L4BH                | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2470   | PHENYLACETONITRILE,<br>LIQUID   |
| S10AH               | TU15 TE19              | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2471   | OSMIUM TETROXIDE  |
| SGAH<br>L4BH        | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2473   | SODIUM ARSANILATE   |
| L4BH                | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2474   | THIOPHOSGENE  |
| SGAV                |                        | AT                        | 3<br>(E)                                     |                                 | VV9   |                                 |           | 80                        | 2475   | VANADIUM TRICHLORIDE  |
| L10CH               | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2477   | METHYL<br>ISOTHIOCYANATE  |
| L4BH                | TU15                   | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 2478   | ISOCYANATES,<br>FLAMMABLE, TOXIC, N.O.S.<br>or ISOCYANATE SOLUTION,<br>FLAMMABLE, TOXIC, N.O.S. |
| L4BH                | TU15                   | FL                        | 3<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2        | 36                        | 2478   | ISOCYANATES,<br>FLAMMABLE, TOXIC, N.O.S.<br>or ISOCYANATE SOLUTION,<br>FLAMMABLE, TOXIC, N.O.S. |
| L15CH               | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(D)                                     |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2480   | METHYL ISOCYANATE   |

| UN No. | Name and description                         | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |                   |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2481   | ETHYL ISOCYANATE                             | 3     | FT1                 | I             | 3<br>+6.1         |                    | LQ0                             | E0      | P601                          |                                  | MP2                             | T14                                | TP2                        |
| 2482   | n-PROPYL ISOCYANATE                          | 6.1   | TF1                 | I             | 6.1<br>+3         |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 2483   | ISOPROPYL ISOCYANATE                         | 3     | FT1                 | I             | 3<br>+6.1         |                    | LQ0                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2                        |
| 2484   | tert-BUTYL ISOCYANATE                        | 6.1   | TF1                 | I             | 6.1<br>+3         |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 2485   | n-BUTYL ISOCYANATE                           | 6.1   | TF1                 | I             | 6.1<br>+3         |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 2486   | ISOBUTYL ISOCYANATE                          | 3     | FT1                 | II            | 3<br>+6.1         |                    | LQ0                             | E2      | P001                          |                                  | MP19                            | T8                                 | TP2                        |
| 2487   | PHENYL ISOCYANATE                            | 6.1   | TF1                 | I             | 6.1<br>+3         |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 2488   | CYCLOHEXYL ISOCYANATE                        | 6.1   | TF1                 | I             | 6.1<br>+3         |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 2490   | DICHLOROISOPROPYL ETHER                      | 6.1   | T1                  | II            | 6.1               |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2491   | ETHANOLAMINE or ETHANOLAMINE SOLUTION        | 8     | C7                  | III           | 8                 |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2493   | HEXAMETHYLENEIMINE                           | 3     | FC                  | II            | 3<br>+8           |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2495   | IODINE PENTAFLUORIDE                         | 5.1   | OTC                 | I             | 5.1<br>+6.1<br>+8 |                    | LQ0                             | E0      | P200                          |                                  | MP2                             |                                    |                            |
| 2496   | PROPIONIC ANHYDRIDE                          | 8     | C3                  | III           | 8                 |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2498   | 1,2,3,6-TETRAHYDROBENZAL-DEHYDE              | 3     | F1                  | III           | 3                 |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2501   | TRIS-(1-AZIRIDINYL) PHOSPHINE OXIDE SOLUTION | 6.1   | T1                  | II            | 6.1               |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2501   | TRIS-(1-AZIRIDINYL) PHOSPHINE OXIDE SOLUTION | 6.1   | T1                  | III           | 6.1               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2502   | VALERYL CHLORIDE                             | 8     | CF1                 | II            | 8<br>+3           |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2503   | ZIRCONIUM TETRACHLORIDE                      | 8     | C2                  | III           | 8                 |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2504   | TETRABROMOETHANE                             | 6.1   | T1                  | III           | 6.1               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2505   | AMMONIUM FLUORIDE                            | 6.1   | T5                  | III           | 6.1               |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2506   | AMMONIUM HYDROGEN SULPHATE                   | 8     | C2                  | II            | 8                 |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2507   | CHLOROPLATINIC ACID, SOLID                   | 8     | C2                  | III           | 8                 |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2508   | MOLYBDENUM PENTACHLORIDE                     | 8     | C2                  | III           | 8                 |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                         |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L15CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2481   | ETHYL ISOCYANATE                             |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2482   | n-PROPYL ISOCYANATE                          |
| L10CH     | TU14 TU15<br>TE21      | FL                        | 1<br>(C/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2483   | ISOPROPYL ISOCYANATE                         |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2484   | tert-BUTYL ISOCYANATE                        |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2485   | n-BUTYL ISOCYANATE                           |
| L4BH      | TU15                   | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S19    | 336                       | 2486   | ISOBUTYL ISOCYANATE                          |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2487   | PHENYL ISOCYANATE                            |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2488   | CYCLOHEXYL ISOCYANATE                        |
| L4BH      | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2490   | DICHLOROISOPROPYL ETHER                      |
| L4BN      |                        | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 2491   | ETHANOLAMINE or ETHANOLAMINE SOLUTION        |
| L4BH      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 2493   | HEXAMETHYLENEIMINE                           |
| L10DH     | TU3                    | AT                        | 1<br>(B/E)                                   |                                 |       | CV24<br>CV28                    | S20       | 568                       | 2495   | IODINE PENTAFLUORIDE                         |
| L4BN      |                        | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 2496   | PROPIONIC ANHYDRIDE                          |
| LGBF      |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2498   | 1,2,3,6-TETRAHYDROBENZAL-DEHYDE              |
| L4BH      | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2501   | TRIS-(1-AZIRIDINYL) PHOSPHINE OXIDE SOLUTION |
| L4BH      | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2501   | TRIS-(1-AZIRIDINYL) PHOSPHINE OXIDE SOLUTION |
| L4BN      |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2        | 83                        | 2502   | VALERYL CHLORIDE                             |
| SGAV      |                        | AT                        | 3<br>(E)                                     |                                 | VV9   |                                 |           | 80                        | 2503   | ZIRCONIUM TETRACHLORIDE                      |
| L4BH      | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2504   | TETRABROMOETHANE                             |
| SGAH      | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2505   | AMMONIUM FLUORIDE                            |
| SGAV      |                        | AT                        | 2<br>(E)                                     | V11                             | VV9   |                                 |           | 80                        | 2506   | AMMONIUM HYDROGEN SULPHATE                   |
| SGAV      |                        | AT                        | 3<br>(E)                                     |                                 | VV9   |                                 |           | 80                        | 2507   | CHLOROPLATINIC ACID, SOLID                   |
| SGAV      |                        | AT                        | 3<br>(E)                                     |                                 | VV9   |                                 |           | 80                        | 2508   | MOLYBDENUM PENTACHLORIDE                     |

| UN No. | Name and description                                 | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2509   | POTASSIUM HYDROGEN SULPHATE                          | 8     | C2                  | II            | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2511   | 2-CHLOROPROPIONIC ACID                               | 8     | C3                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP2                        |
| 2512   | AMINOPHENOLS (o-, m-, p-)                            | 6.1   | T2                  | III           | 6.1       | 279                | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2513   | BROMOACETYL BROMIDE                                  | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 2514   | BROMOBENZENE   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2515   | BROMOFORM  | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2516   | CARBON TETRABROMIDE                                  | 6.1   | T2                  | III           | 6.1       |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2517   | 1-CHLORO-1,1-DIFLUOROETHANE (REFRIGERANT GAS R 142b) | 2     | 2F                  |               | 2.1       |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)<br>T50                         |                            |
| 2518   | 1,5,9-CYCLODODECATRIENE                              | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2520   | CYCLOOCTADIENES                                      | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2521   | DIKETENE, STABILIZED                                 | 6.1   | TF1                 | I             | 6.1<br>+3 |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 2522   | 2-DIMETHYLAMINOETHYL METHACRYLATE                    | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2524   | ETHYL ORTHOFORMATE                                   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2525   | ETHYL OXALATE  | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2526   | FURFURYLAMINE  | 3     | FC                  | III           | 3<br>+8   |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2527   | ISOBUTYL ACRYLATE, STABILIZED                        | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2528   | ISOBUTYL ISOBUTYRATE                                 | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2529   | ISOBUTYRIC ACID                                      | 3     | FC                  | III           | 3<br>+8   |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2531   | METHACRYLIC ACID, STABILIZED                         | 8     | C3                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02<br>LP01         |                                  | MP15                            | T7                                 | TP2<br>TP18<br>TP30        |
| 2533   | METHYL TRICHLOROACETATE                              | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |

| ADR tank     |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                                 |
|--------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code    | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3          | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)         | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| SGAV         |                        | AT                        | 2<br>(E)                                     | V11                             | VV9   |                                 |           | 80                        | 2509   | POTASSIUM HYDROGEN SULPHATE                          |
| L4BN         |                        | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 2511   | 2-CHLOROPROPIONIC ACID                               |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2512   | AMINOPHENOLS (o-, m-, p-)                            |
| L4BN         |                        | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | X80                       | 2513   | BROMOACETYL BROMIDE                                  |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2514   | BROMOBENZENE   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2515   | BROMOFORM  |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2516   | CARBON TETRABROMIDE                                  |
| PxBN(M)      | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 2517   | 1-CHLORO-1,1-DIFLUOROETHANE (REFRIGERANT GAS R 142b) |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2518   | 1,5,9-CYCLODODECATRIENE                              |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2520   | CYCLOOCTADIENES                                      |
| L10CH        | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2521   | DIKETENE, STABILIZED                                 |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 69                        | 2522   | 2-DIMETHYLAMINOETHYL METHACRYLATE                    |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2524   | ETHYL ORTHOFORMATE                                   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2525   | ETHYL OXALATE  |
| L4BN         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 38                        | 2526   | FURFURYLAMINE  |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 39                        | 2527   | ISOBUTYL ACRYLATE, STABILIZED                        |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2528   | ISOBUTYL ISOBUTYRATE                                 |
| L4BN         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 38                        | 2529   | ISOBUTYRIC ACID                                      |
| L4BN         |                        | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 89                        | 2531   | METHACRYLIC ACID, STABILIZED                         |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2533   | METHYL TRICHLOROACETATE                              |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |                   |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2534   | METHYLCHLOROSILANE   | 2     | 2TFC                |               | 2.3<br>+2.1<br>+8 |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2535   | 4-METHYLMORPHOLINE (N-METHYLMORPHOLINE)  | 3     | FC                  | II            | 3<br>+8           |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2536   | METHYLTETRAHYDRO-FURAN   | 3     | F1                  | II            | 3                 |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2538   | NITRONAPHTHALENE   | 4.1   | F1                  | III           | 4.1               |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2541   | TERPINOLENE  | 3     | F1                  | III           | 3                 |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2542   | TRIBUTYLAMINE  | 6.1   | T1                  | II            | 6.1               |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2545   | HAFNIUM POWDER, DRY  | 4.2   | S4                  | I             | 4.2               | 540                | LQ0                             | E0      | P404                          |                                  | MP13                            |                                    |                            |
| 2545   | HAFNIUM POWDER, DRY  | 4.2   | S4                  | II            | 4.2               | 540                | LQ0                             | E2      | P410<br>IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 2545   | HAFNIUM POWDER, DRY  | 4.2   | S4                  | III           | 4.2               | 540                | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP14                            | T1                                 | TP33                       |
| 2546   | TITANIUM POWDER, DRY   | 4.2   | S4                  | I             | 4.2               | 540                | LQ0                             | E0      | P404                          |                                  | MP13                            |                                    |                            |
| 2546   | TITANIUM POWDER, DRY   | 4.2   | S4                  | II            | 4.2               | 540                | LQ0                             | E2      | P410<br>IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 2546   | TITANIUM POWDER, DRY   | 4.2   | S4                  | III           | 4.2               | 540                | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP14                            | T1                                 | TP33                       |
| 2547   | SODIUM SUPEROXIDE  | 5.1   | O2                  | I             | 5.1               |                    | LQ0                             | E0      | P503<br>IBC06                 |                                  | MP2                             |                                    |                            |
| 2548   | CHLORINE PENTAFLUORIDE   | 2     | 2TOC                |               | 2.3<br>+5.1<br>+8 |                    | LQ0                             | E0      | P200                          |                                  | MP9                             |                                    |                            |
| 2552   | HEXAFLUOROACETONE HYDRATE, LIQUID  | 6.1   | T1                  | II            | 6.1               |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2554   | METHYLALLYL CHLORIDE   | 3     | F1                  | II            | 3                 |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2555   | NITROCELLULOSE WITH WATER (not less than 25% water, by mass)   | 4.1   | D                   | II            | 4.1               | 541                | LQ0                             | E0      | P406                          |                                  | MP2                             |                                    |                            |
| 2556   | NITROCELLULOSE WITH ALCOHOL (not less than 25% alcohol, by mass, and not more than 12.6% nitrogen, by dry mass)              | 4.1   | D                   | II            | 4.1               | 541                | LQ0                             | E0      | P406                          |                                  | MP2                             |                                    |                            |
| 2557   | NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITH or WITHOUT PLASTICIZER, WITH or WITHOUT PIGMENT | 4.1   | D                   | II            | 4.1               | 241<br>541         | LQ0                             | E0      | P406                          |                                  | MP2                             |                                    |                            |
| 2558   | EPIBROMOHYDRIN   | 6.1   | TF1                 | I             | 6.1<br>+3         |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 2560   | 2-METHYLPENTAN-2-OL  | 3     | F1                  | III           | 3                 |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2561   | 3-METHYL-1-BUTENE  | 3     | F1                  | I             | 3                 |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 2564   | TRICHLOROACETIC ACID SOLUTION  | 8     | C3                  | II            | 8                 |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |



| ADR tank  |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
|           |                     | FL                        | 1 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 2534   | METHYLCHLOROSILANE   |
| L4BH      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 2535   | 4-METHYLMORPHOLINE (N-METHYLMORPHOLINE)  |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2536   | METHYLTETRAHYDRO-FURAN   |
| SGAV      |                     | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 2538   | NITRONAPHTHALENE   |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2541   | TERPINOLENE  |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2542   | TRIBUTYLAMINE  |
|           |                     |                           | 0 (E)  | V1                              |       |                                 | S20       |                           | 2545   | HAFNIUM POWDER, DRY  |
| SGAN      |                     | AT                        | 2 (D/E)                                      | V1<br>V12                       |       |                                 |           | 40                        | 2545   | HAFNIUM POWDER, DRY  |
| SGAN      |                     | AT                        | 3 (E)  | V1                              | VV4   |                                 |           | 40                        | 2545   | HAFNIUM POWDER, DRY  |
|           |                     |                           | 0 (E)  | V1                              |       |                                 | S20       |                           | 2546   | TITANIUM POWDER, DRY   |
| SGAN      |                     | AT                        | 2 (D/E)                                      | V1<br>V12                       |       |                                 |           | 40                        | 2546   | TITANIUM POWDER, DRY   |
| SGAN      |                     | AT                        | 3 (E)  | V1                              | VV4   |                                 |           | 40                        | 2546   | TITANIUM POWDER, DRY   |
|           |                     |                           | 1 (E)  | V10<br>V12                      |       | CV24                            | S20       |                           | 2547   | SODIUM SUPEROXIDE  |
|           |                     |                           | 1 (D)  |                                 |       | CV9<br>CV10<br>CV36             | S14       |                           | 2548   | CHLORINE PENTAFLUORIDE   |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2552   | HEXAFLUOROACETONE HYDRATE, LIQUID  |
| LGBF      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2554   | METHYLALLYL CHLORIDE   |
|           |                     |                           | 2 (B)  |                                 |       |                                 | S14       |                           | 2555   | NITROCELLULOSE WITH WATER (not less than 25% water, by mass)   |
|           |                     |                           | 2 (B)  |                                 |       |                                 | S14       |                           | 2556   | NITROCELLULOSE WITH ALCOHOL (not less than 25% alcohol, by mass, and not more than 12.6% nitrogen, by dry mass)              |
|           |                     |                           | 2 (B)  |                                 |       |                                 | S14       |                           | 2557   | NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITH or WITHOUT PLASTICIZER, WITH or WITHOUT PIGMENT |
| L10CH     | TU14 TU15 TE19 TE21 | FL                        | 1 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2558   | EPIBROMOHYDRIN   |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2560   | 2-METHYLPENTAN-2-OL  |
| L4BN      |                     | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2561   | 3-METHYL-1-BUTENE  |
| L4BN      |                     | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2564   | TRICHLOROACETIC ACID SOLUTION  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2564   | TRICHLOROACETIC ACID SOLUTION   | 8     | C3                  | III           | 8           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2565   | DICYCLOHEXYLAMINE   | 8     | C7                  | III           | 8           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2567   | SODIUM PENTACHLOROPHENATE   | 6.1   | T2                  | II            | 6.1         |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2570   | CADMIUM COMPOUND  | 6.1   | T5                  | I             | 6.1         | 274<br>596         | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2570   | CADMIUM COMPOUND  | 6.1   | T5                  | II            | 6.1         | 274<br>596         | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2570   | CADMIUM COMPOUND  | 6.1   | T5                  | III           | 6.1         | 274<br>596         | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2571   | ALKYLSULPHURIC ACIDS  | 8     | C3                  | II            | 8           |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2<br>TP28                |
| 2572   | PHENYLHYDRAZINE   | 6.1   | T1                  | II            | 6.1         |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2573   | THALLIUM CHLORATE   | 5.1   | OT2                 | II            | 5.1<br>+6.1 |                    | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 2574   | TRICRESYL PHOSPHATE with more than 3% ortho isomer  | 6.1   | T1                  | II            | 6.1         |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2576   | PHOSPHORUS OXYBROMIDE, MOLTEN   | 8     | C1                  | II            | 8           |                    | LQ0                             | E0      |                               |                                  |                                 | T7                                 | TP3                        |
| 2577   | PHENYLACETYL CHLORIDE   | 8     | C3                  | II            | 8           |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2578   | PHOSPHORUS TRIOXIDE   | 8     | C2                  | III           | 8           |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2579   | PIPERAZINE  | 8     | C8                  | III           | 8           |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2580   | ALUMINIUM BROMIDE SOLUTION  | 8     | C1                  | III           | 8           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2581   | ALUMINIUM CHLORIDE SOLUTION   | 8     | C1                  | III           | 8           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2582   | FERRIC CHLORIDE SOLUTION  | 8     | C1                  | III           | 8           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2583   | ALKYLSULPHONIC ACIDS, SOLID or ARYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid     | 8     | C2                  | II            | 8           | 274                | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2584   | ALKYLSULPHONIC ACIDS, LIQUID or ARYLSULPHONIC ACIDS, LIQUID with more than 5% free sulphuric acid   | 8     | C1                  | II            | 8           | 274                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 2585   | ALKYLSULPHONIC ACIDS, SOLID or ARYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid | 8     | C4                  | III           | 8           | 274                | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |

| ADR tank    |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-------------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code   | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3         | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)        | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BN        |                     | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2564   | TRICHLOROACETIC ACID SOLUTION   |
| L4BN        |                     | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2565   | DICYCLOHEXYLAMINE   |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2567   | SODIUM PENTACHLOROPHENATE   |
| S10AH L10CH | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      | V10 V12                         |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 2570   | CADMIUM COMPOUND  |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2570   | CADMIUM COMPOUND  |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2570   | CADMIUM COMPOUND  |
| L4BN        |                     | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2571   | ALKYLSULPHURIC ACIDS  |
| L4BH        | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 2572   | PHENYLHYDRAZINE   |
| SGAN        | TU3                 | AT                        | 2 (E)  | V11 V12                         |       | CV24 CV28                       |           | 56                        | 2573   | THALLIUM CHLORATE   |
| L4BH        | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 2574   | TRICRESYL PHOSPHATE with more than 3% ortho isomer  |
| L4BN        |                     | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2576   | PHOSPHORUS OXYBROMIDE, MOLTEN   |
| L4BN        |                     | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2577   | PHENYLACETYL CHLORIDE   |
| SGAV        |                     | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2578   | PHOSPHORUS TRIOXIDE   |
| SGAV L4BN   |                     | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2579   | PIPERAZINE  |
| L4BN        |                     | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2580   | ALUMINIUM BROMIDE SOLUTION  |
| L4BN        |                     | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2581   | ALUMINIUM CHLORIDE SOLUTION   |
| L4BN        |                     | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2582   | FERRIC CHLORIDE SOLUTION  |
| SGAN L4BN   |                     | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 2583   | ALKYLSULPHONIC ACIDS, SOLID or ARYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid     |
| L4BN        |                     | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2584   | ALKYLSULPHONIC ACIDS, LIQUID or ARYLSULPHONIC ACIDS, LIQUID with more than 5% free sulphuric acid   |
| SGAV        |                     | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2585   | ALKYLSULPHONIC ACIDS, SOLID or ARYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2586   | ALKYLSULPHONIC ACIDS, LIQUID or ARYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid                                     | 8     | C3                  | III           | 8         | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2587   | BENZOQUINONE  | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2588   | PESTICIDE, SOLID, TOXIC, N.O.S.   | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC02                 |                                  | MP18                            | T6                                 | TP33                       |
| 2588   | PESTICIDE, SOLID, TOXIC, N.O.S.   | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2588   | PESTICIDE, SOLID, TOXIC, N.O.S.   | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2589   | VINYL CHLOROACETATE   | 6.1   | TF1                 | II            | 6.1<br>+3 |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2590   | WHITE ASBESTOS (chrysotile, actinolite, anthophyllite, tremolite)   | 9     | M1                  | III           | 9         | 168<br>542         | LQ27                            | E1      | P002<br>IBC08<br>R001         | PP37<br>B4                       | MP10                            | T1                                 | TP33                       |
| 2591   | XENON, REFRIGERATED LIQUID  | 2     | 3A                  |               | 2.2       | 593                | LQ1                             | E1      | P203                          |                                  | MP9                             | T75                                | TP5                        |
| 2599   | CHLOROTRIFLUORO-METHANE AND TRIFLUOROMETHANE AZEOTROPIC MIXTURE with approximately 60% chlorotrifluoromethane (REFRIGERANT GAS R 503)     | 2     | 2A                  |               | 2.2       |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2601   | CYCLOBUTANE   | 2     | 2F                  |               | 2.1       |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2602   | DICHLORODIFLUORO-METHANE AND 1,1-DIFLUOROETHANE AZEOTROPIC MIXTURE with approximately 74% dichlorodifluoromethane (REFRIGERANT GAS R 500) | 2     | 2A                  |               | 2.2       |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)<br>T50                         |                            |
| 2603   | CYCLOHEPTATRIENE  | 3     | FT1                 | II            | 3<br>+6.1 |                    | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2604   | BORON TRIFLUORIDE DIETHYL ETHERATE  | 8     | CF1                 | I             | 8<br>+3   |                    | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T10                                | TP2                        |
| 2605   | METHOXYMETHYL ISOCYANATE  | 3     | FT1                 | I             | 3<br>+6.1 |                    | LQ0                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2                        |
| 2606   | METHYL ORTHOSILICATE  | 6.1   | TF1                 | I             | 6.1<br>+3 |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 2607   | ACROLEIN DIMER, STABILIZED  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2608   | NITROPROPANES   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2609   | TRIALLYL BORATE   | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            |                                    |                            |
| 2610   | TRIALLYLAMINE   | 3     | FC                  | III           | 3<br>+8   |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2611   | PROPYLENE CHLOROHYDRIN  | 6.1   | TF1                 | II            | 6.1<br>+3 |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2612   | METHYL PROPYL ETHER   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02                 | B8                               | MP19                            | T7                                 | TP2                        |

| ADR tank    |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-------------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code   | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3         | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)        | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BN        |                     | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2586   | ALKYLSULPHONIC ACIDS, LIQUID or ARYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid                                     |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2587   | BENZOQUINONE  |
| S10AH L10CH | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 2588   | PESTICIDE, SOLID, TOXIC, N.O.S.   |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2588   | PESTICIDE, SOLID, TOXIC, N.O.S.   |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2588   | PESTICIDE, SOLID, TOXIC, N.O.S.   |
| L4BH        | TU15 TE19           | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S9 S19 | 63                        | 2589   | VINYL CHLOROACETATE   |
| SGAH        | TU15                | AT                        | 3 (E)  | V11                             |       | CV13 CV28                       |           | 90                        | 2590   | WHITE ASBESTOS (chrysotile, actinolite, anthophyllite, tremolite)   |
| RxBN        | TU19 TA4 TT9        | AT                        | 3 (C/E)                                      | V5                              |       | CV9 CV11 CV36                   | S20       | 22                        | 2591   | XENON, REFRIGERATED LIQUID  |
| PxBN(M)     | TA4 TT9             | AT                        | 3 (C/E)                                      |                                 |       | CV9 CV10 CV36                   |           | 20                        | 2599   | CHLOROTRIFLUORO-METHANE AND TRIFLUOROMETHANE AZEOTROPIC MIXTURE with approximately 60% chlorotrifluoromethane (REFRIGERANT GAS R 503)     |
| PxBN(M)     | TA4 TT9             | FL                        | 2 (B/D)                                      |                                 |       | CV9 CV10 CV36                   | S2 S20    | 23                        | 2601   | CYCLOBUTANE   |
| PxBN(M)     | TA4 TT9             | AT                        | 3 (C/E)                                      |                                 |       | CV9 CV10 CV36                   |           | 20                        | 2602   | DICHLORODIFLUORO-METHANE AND 1,1-DIFLUOROETHANE AZEOTROPIC MIXTURE with approximately 74% dichlorodifluoromethane (REFRIGERANT GAS R 500) |
| L4BH        | TU15                | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S19    | 336                       | 2603   | CYCLOHEPTATRIENE  |
| L10BH       |                     | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S14    | 883                       | 2604   | BORON TRIFLUORIDE DIETHYL ETHERATE  |
| L10CH       | TU14 TU15 TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13 CV28                       | S2 S22    | 336                       | 2605   | METHOXYMETHYL ISOCYANATE  |
| L10CH       | TU14 TU15 TE19 TE21 | FL                        | 1 (C/D)                                      |                                 |       | CV1 CV13 CV28                   | S2 S9 S14 | 663                       | 2606   | METHYL ORTHOSILICATE  |
| LGBF        |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 39                        | 2607   | ACROLEIN DIMER, STABILIZED  |
| LGBF        |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2608   | NITROPROPANES   |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 2609   | TRIALLYL BORATE   |
| L4BN        |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 38                        | 2610   | TRIALLYLAMINE   |
| L4BH        | TU15 TE19           | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S9 S19 | 63                        | 2611   | PROPYLENE CHLOROHYDRIN  |
| L1.5BN      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2612   | METHYL PROPYL ETHER   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |      | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    |                                 |      | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b) | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2614   | METHALLYL ALCOHOL  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2615   | ETHYL PROPYL ETHER   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2616   | TRIISOPROPYL BORATE  | 3     | F1                  | II            | 3         |                    | LQ4                             | E2   | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2616   | TRIISOPROPYL BORATE  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2617   | METHYLCYCLO-<br>HEXANOLS, flammable                                      | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2618   | VINYLTOLUENES,<br>STABILIZED   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2619   | BENZYLDIMETHYLAMINE  | 8     | CF1                 | II            | 8<br>+3   |                    | LQ22                            | E2   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2620   | AMYL BUTYRATES   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2621   | ACETYL METHYL<br>CARBINOL  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2622   | GLYCIDALDEHYDE   | 3     | FT1                 | II            | 3<br>+6.1 |                    | LQ0                             | E2   | P001<br>IBC02                 | B8                               | MP19                            | T7                                 | TP1                        |
| 2623   | FIRELIGHTERS, SOLID with<br>flammable liquid                             | 4.1   | F1                  | III           | 4.1       |                    | LQ9                             | E1   | P002<br>LP02<br>R001          | PP15                             | MP11                            |                                    |                            |
| 2624   | MAGNESIUM SILICIDE   | 4.3   | W2                  | II            | 4.3       |                    | LQ11                            | E2   | P410<br>IBC07                 |                                  | MP14                            | T3                                 | TP33                       |
| 2626   | CHLORIC ACID, AQUEOUS<br>SOLUTION with not more than<br>10% chloric acid | 5.1   | O1                  | II            | 5.1       | 613                | LQ10                            | E2   | P504<br>IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 2627   | NITRITES, INORGANIC,<br>N.O.S.   | 5.1   | O2                  | II            | 5.1       | 103<br>274         | LQ11                            | E2   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2628   | POTASSIUM<br>FLUOROACETATE   | 6.1   | T2                  | I             | 6.1       |                    | LQ0                             | E5   | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2629   | SODIUM FLUOROACETATE   | 6.1   | T2                  | I             | 6.1       |                    | LQ0                             | E5   | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2630   | SELENATES or SELENITES   | 6.1   | T5                  | I             | 6.1       | 274                | LQ0                             | E5   | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2642   | FLUOROACETIC ACID  | 6.1   | T2                  | I             | 6.1       |                    | LQ0                             | E5   | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2643   | METHYL BROMOACETATE  | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2644   | METHYL IODIDE  | 6.1   | T1                  | I             | 6.1       |                    | LQ0                             | E5   | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 2645   | PHENACYL BROMIDE   | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2646   | HEXACHLOROCYCLO-<br>PENTADIENE   | 6.1   | T1                  | I             | 6.1       |                    | LQ0                             | E5   | P001                          |                                  | MP8<br>MP17                     | T20                                | TP2<br>TP35                |
| 2647   | MALONONITRILE  | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2648   | 1,2-DIBROMOBUTAN-3-ONE   | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            |                                    |                            |
| 2649   | 1,3-DICHLOROACETONE  | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |

| ADR tank    |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-------------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code   | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3         | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)        | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| LGBF        |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2614   | METHALLYL ALCOHOL  |
| LGBF        |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2615   | ETHYL PROPYL ETHER   |
| LGBF        |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2616   | TRIISOPROPYL BORATE  |
| LGBF        |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2616   | TRIISOPROPYL BORATE  |
| LGBF        |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2617   | METHYLCYCLO-HEXANOLS, flammable                                    |
| LGBF        |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 39                        | 2618   | VINYLTOLUENES, STABILIZED  |
| L4BN        |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2        | 83                        | 2619   | BENZYL DIMETHYLAMINE   |
| LGBF        |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2620   | AMYL BUTYRATES   |
| LGBF        |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2621   | ACETYL METHYL CARBINOL   |
| L4BH        | TU15                | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S19    | 336                       | 2622   | GLYCIDALDEHYDE   |
|             |                     |                           | 4 (E)  |                                 |       |                                 |           |                           | 2623   | FIRELIGHTERS, SOLID with flammable liquid                          |
| SGAN        |                     | AT                        | 2 (D/E)                                      | V1 V12                          |       | CV23                            |           | 423                       | 2624   | MAGNESIUM SILICIDE   |
| L4BN        | TU3                 | AT                        | 2 (E)  |                                 |       | CV24                            |           | 50                        | 2626   | CHLORIC ACID, AQUEOUS SOLUTION with not more than 10% chloric acid |
| SGAN        | TU3                 | AT                        | 2 (E)  | V11                             |       | CV24                            |           | 50                        | 2627   | NITRITES, INORGANIC, N.O.S.  |
| S10AH       | TU15 TE19           | AT                        | 1 (C/E)                                      | V10 V12                         |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 2628   | POTASSIUM FLUOROACETATE  |
| S10AH       | TU15 TE19           | AT                        | 1 (C/E)                                      | V10 V12                         |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 2629   | SODIUM FLUOROACETATE   |
| S10AH L10CH | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      | V10 V12                         |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 2630   | SELENATES or SELENITES   |
| S10AH L10CH | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      | V10 V12                         |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 2642   | FLUOROACETIC ACID  |
| L4BH        | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 2643   | METHYL BROMOACETATE  |
| L10CH       | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 2644   | METHYL IODIDE  |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2645   | PHENACYL BROMIDE   |
| L10CH       | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 2646   | HEXACHLOROCYCLO-PENTADIENE   |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2647   | MALONONITRILE  |
| L4BH        | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 2648   | 1,2-DIBROMOBUTAN-3-ONE   |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2649   | 1,3-DICHLOROACETONE  |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |      | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------|--------------------|---------------------------------|------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |             |                    |                                 |      | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b) | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2650   | 1,1-DICHLORO-1-NITROETHANE   | 6.1   | T1                  | II            | 6.1         |                    | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2651   | 4,4'-DIAMINODIPHENYL-METHANE   | 6.1   | T2                  | III           | 6.1         |                    | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2653   | BENZYL IODIDE  | 6.1   | T1                  | II            | 6.1         |                    | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2655   | POTASSIUM FLUOROSILICATE   | 6.1   | T5                  | III           | 6.1         |                    | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2656   | QUINOLINE  | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2657   | SELENIUM DISULPHIDE  | 6.1   | T5                  | II            | 6.1         |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2659   | SODIUM CHLOROACETATE   | 6.1   | T2                  | III           | 6.1         |                    | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2660   | NITROTOLUIDINES (MONO)   | 6.1   | T2                  | III           | 6.1         |                    | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2661   | HEXACHLOROACETONE  | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2664   | DIBROMOMETHANE   | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2667   | BUTYLTOLUENES  | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2668   | CHLOROACETONITRILE   | 6.1   | TF1                 | II            | 6.1<br>+3   |                    | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2669   | CHLOROCRESOLS SOLUTION   | 6.1   | T1                  | II            | 6.1         |                    | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2669   | CHLOROCRESOLS SOLUTION   | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP2                        |
| 2670   | CYANURIC CHLORIDE  | 8     | C4                  | II            | 8           |                    | LQ23                            | E2   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2671   | AMINOPYRIDINES (o-, m-, p-)  | 6.1   | T2                  | II            | 6.1         |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2672   | AMMONIA SOLUTION, relative density between 0.880 and 0.957 at 15 °C in water, with more than 10% but not more than 35% ammonia | 8     | C5                  | III           | 8           | 543                | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1                        |
| 2673   | 2-AMINO-4-CHLOROPHENOL   | 6.1   | T2                  | II            | 6.1         |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2674   | SODIUM FLUOROSILICATE  | 6.1   | T5                  | III           | 6.1         |                    | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2676   | STIBINE  | 2     | 2TF                 |               | 2.3<br>+2.1 |                    | LQ0                             | E0   | P200                          |                                  | MP9                             |                                    |                            |
| 2677   | RUBIDIUM HYDROXIDE SOLUTION  | 8     | C5                  | II            | 8           |                    | LQ22                            | E2   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2677   | RUBIDIUM HYDROXIDE SOLUTION  | 8     | C5                  | III           | 8           |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2678   | RUBIDIUM HYDROXIDE   | 8     | C6                  | II            | 8           |                    | LQ23                            | E2   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |



| ADR tank     |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|--------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code    | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3          | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)         | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BH         | TU15 TE19          | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2650   | 1,1-DICHLORO-1-NITROETHANE   |
| SGAH<br>L4BH | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2651   | 4,4'-DIAMINODIPHENYL-METHANE   |
| L4BH         | TU15 TE19          | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2653   | BENZYL IODIDE  |
| SGAH<br>L4BH | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2655   | POTASSIUM FLUOROSILICATE   |
| L4BH         | TU15 TE19          | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2656   | QUINOLINE  |
| SGAH<br>L4BH | TU15 TE19          | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2657   | SELENIUM DISULPHIDE  |
| SGAH         | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2659   | SODIUM CHLOROACETATE   |
| SGAH<br>L4BH | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2660   | NITROTOLUIDINES (MONO)   |
| L4BH         | TU15 TE19          | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2661   | HEXACHLOROACETONE  |
| L4BH         | TU15 TE19          | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2664   | DIBROMOMETHANE   |
| L4BH         | TU15 TE19          | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2667   | BUTYLTOLUENES  |
| L4BH         | TU15 TE19          | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 2668   | CHLOROACETONITRILE   |
| L4BH         | TU15 TE19          | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2669   | CHLOROCRESOLS SOLUTION   |
| L4BH         | TU15 TE19          | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2669   | CHLOROCRESOLS SOLUTION   |
| SGAN<br>L4BN |                    | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 2670   | CYANURIC CHLORIDE  |
| SGAH<br>L4BH | TU15 TE19          | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2671   | AMINOPYRIDINES (o-, m-, p-)  |
| L4BN         |                    | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2672   | AMMONIA SOLUTION, relative density between 0.880 and 0.957 at 15 °C in water, with more than 10% but not more than 35% ammonia |
| SGAH<br>L4BH | TU15 TE19          | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2673   | 2-AMINO-4-CHLOROPHENOL   |
| SGAH<br>L4BH | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2674   | SODIUM FLUOROSILICATE  |
|              |                    |                           | 1 (D)  |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    |                           | 2676   | STIBINE  |
| L4BN         |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2677   | RUBIDIUM HYDROXIDE SOLUTION  |
| L4BN         |                    | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2677   | RUBIDIUM HYDROXIDE SOLUTION  |
| SGAN         |                    | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 2678   | RUBIDIUM HYDROXIDE   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels          | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |                 |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2679   | LITHIUM HYDROXIDE SOLUTION   | 8     | C5                  | II            | 8               |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2679   | LITHIUM HYDROXIDE SOLUTION   | 8     | C5                  | III           | 8               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP2                        |
| 2680   | LITHIUM HYDROXIDE  | 8     | C6                  | II            | 8               |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2681   | CAESIUM HYDROXIDE SOLUTION   | 8     | C5                  | II            | 8               |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2681   | CAESIUM HYDROXIDE SOLUTION   | 8     | C5                  | III           | 8               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2682   | CAESIUM HYDROXIDE  | 8     | C6                  | II            | 8               |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2683   | AMMONIUM SULPHIDE SOLUTION   | 8     | CFT                 | II            | 8<br>+3<br>+6.1 |                    | LQ22                            | E2      | P001<br>IBC01                 |                                  | MP15                            | T7                                 | TP2                        |
| 2684   | 3-DIETHYLAMINOPROPYL-AMINE   | 3     | FC                  | III           | 3<br>+8         |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2685   | N,N-DIETHYLETHYLENE-DIAMINE  | 8     | CF1                 | II            | 8<br>+3         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2686   | 2-DIETHYLAMINO-ETHANOL   | 8     | CF1                 | II            | 8<br>+3         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2687   | DICYCLOHEXYL-AMMONIUM NITRITE  | 4.1   | F3                  | III           | 4.1             |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP11                            | T1                                 | TP33                       |
| 2688   | 1-BROMO-3-CHLOROPROPANE  | 6.1   | T1                  | III           | 6.1             |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2689   | GLYCEROL alpha-MONOCHLOROHYDRIN  | 6.1   | T1                  | III           | 6.1             |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2690   | N,n-BUTYLIMIDAZOLE   | 6.1   | T1                  | II            | 6.1             |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2691   | PHOSPHORUS PENTABROMIDE  | 8     | C2                  | II            | 8               |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2692   | BORON TRIBROMIDE   | 8     | C1                  | I             | 8               |                    | LQ0                             | E0      | P602                          |                                  | MP8<br>MP17                     | T20                                | TP2                        |
| 2693   | BISULPHITES, AQUEOUS SOLUTION, N.O.S.                                  | 8     | C1                  | III           | 8               | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 2698   | TETRAHYDROPHthalic ANHYDRIDES with more than 0.05% of maleic anhydride | 8     | C4                  | III           | 8               | 169                | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | PP14<br>B3                       | MP10                            | T1                                 | TP33                       |
| 2699   | TRIFLUOROACETIC ACID   | 8     | C3                  | I             | 8               |                    | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T10                                | TP2                        |
| 2705   | 1-PENTOL   | 8     | C9                  | II            | 8               |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2707   | DIMETHYLDIOXANES   | 3     | F1                  | II            | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2707   | DIMETHYLDIOXANES   | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2709   | BUTYLBENZENES  | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2710   | DIPROPYL KETONE  | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |

| ADR tank     |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|--------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code    | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3          | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)         | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 2679   | LITHIUM HYDROXIDE SOLUTION   |
| L4BN         |                    | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 2679   | LITHIUM HYDROXIDE SOLUTION   |
| SGAN         |                    | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 2680   | LITHIUM HYDROXIDE  |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 2681   | CAESIUM HYDROXIDE SOLUTION   |
| L4BN         |                    | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 2681   | CAESIUM HYDROXIDE SOLUTION   |
| SGAN         |                    | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 2682   | CAESIUM HYDROXIDE  |
| L4BN         |                    | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2        | 86                        | 2683   | AMMONIUM SULPHIDE SOLUTION   |
| L4BN         |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 38                        | 2684   | 3-DIETHYLAMINOPROPYL-AMINE   |
| L4BN         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2        | 83                        | 2685   | N,N-DIETHYLETHYLENE-DIAMINE  |
| L4BN         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2        | 83                        | 2686   | 2-DIETHYLAMINO-ETHANOL   |
| SGAV         |                    | AT                        | 3<br>(E)                                     |                                 | VV1   |                                 |           | 40                        | 2687   | DICYCLOHEXYL-AMMONIUM NITRITE  |
| L4BH         | TU15 TE19          | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2688   | 1-BROMO-3-CHLOROPROPANE  |
| L4BH         | TU15 TE19          | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2689   | GLYCEROL alpha-MONOCHLOROHYDRIN  |
| L4BH         | TU15 TE19          | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2690   | N,n-BUTYLIMIDAZOLE   |
| SGAN         |                    | AT                        | 2<br>(E)                                     | V11                             |       |                                 |           | 80                        | 2691   | PHOSPHORUS PENTABROMIDE  |
| L10BH        |                    | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | X88                       | 2692   | BORON TRIBROMIDE   |
| L4BN         |                    | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 2693   | BISULPHITES, AQUEOUS SOLUTION, N.O.S.                                  |
| SGAV<br>L4BN |                    | AT                        | 3<br>(E)                                     |                                 | VV9   |                                 |           | 80                        | 2698   | TETRAHYDROPHTHALIC ANHYDRIDES with more than 0.05% of maleic anhydride |
| L10BH        |                    | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | 88                        | 2699   | TRIFLUOROACETIC ACID   |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 2705   | 1-PENTOL   |
| LGBF         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 2707   | DIMETHYLDIOXANES   |
| LGBF         |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2707   | DIMETHYLDIOXANES   |
| LGBF         |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2709   | BUTYLBENZENES  |
| LGBF         |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2710   | DIPROPYL KETONE  |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2713   | ACRIDINE   | 6.1   | T2                  | III           | 6.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2714   | ZINC RESINATE  | 4.1   | F3                  | III           | 4.1         |                    | LQ9                             | E1      | P002<br>IBC06<br>R001         |                                  | MP11                            | T1                                 | TP33                       |
| 2715   | ALUMINIUM RESINATE   | 4.1   | F3                  | III           | 4.1         |                    | LQ9                             | E1      | P002<br>IBC06<br>R001         |                                  | MP11                            | T1                                 | TP33                       |
| 2716   | 1,4-BUTYNYEDIOL  | 6.1   | T2                  | III           | 6.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2717   | CAMPHOR, synthetic   | 4.1   | F1                  | III           | 4.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2719   | BARIUM BROMATE   | 5.1   | OT2                 | II            | 5.1<br>+6.1 |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 2720   | CHROMIUM NITRATE   | 5.1   | O2                  | III           | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2721   | COPPER CHLORATE  | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 2722   | LITHIUM NITRATE  | 5.1   | O2                  | III           | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2723   | MAGNESIUM CHLORATE   | 5.1   | O2                  | II            | 5.1         |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 2724   | MANGANESE NITRATE  | 5.1   | O2                  | III           | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2725   | NICKEL NITRATE   | 5.1   | O2                  | III           | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2726   | NICKEL NITRITE   | 5.1   | O2                  | III           | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2727   | THALLIUM NITRATE   | 6.1   | TO2                 | II            | 6.1<br>+5.1 |                    | LQ18                            | E4      | P002<br>IBC06                 |                                  | MP10                            | T3                                 | TP33                       |
| 2728   | ZIRCONIUM NITRATE  | 5.1   | O2                  | III           | 5.1         |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2729   | HEXACHLOROBENZENE  | 6.1   | T2                  | III           | 6.1         |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2730   | NITROANISOLE, LIQUID   | 6.1   | T1                  | III           | 6.1         | 279                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2732   | NITROBROMOBENZENES, LIQUID   | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2733   | AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S. | 3     | FC                  | I             | 3<br>+8     | 274<br>544         | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP1<br>TP27                |
| 2733   | AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S. | 3     | FC                  | II            | 3<br>+8     | 274<br>544         | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T11                                | TP1<br>TP27                |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| SGAH L4BH | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2713   | ACRIDINE   |
| SGAV      |                    | AT                        | 3 (E)  | V12                             | VV1   |                                 |           | 40                        | 2714   | ZINC RESINATE  |
| SGAV      |                    | AT                        | 3 (E)  | V12                             | VV1   |                                 |           | 40                        | 2715   | ALUMINIUM RESINATE   |
| SGAH L4BH | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2716   | 1,4-BUTYNE DIOL  |
| SGAV      |                    | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 2717   | CAMPOR, synthetic  |
| SGAN      | TU3                | AT                        | 2 (E)  | V11                             |       | CV24 CV28                       |           | 56                        | 2719   | BARIUM BROMATE   |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 2720   | CHROMIUM NITRATE   |
| SGAV      | TU3                | AT                        | 2 (E)  | V11                             | VV8   | CV24                            |           | 50                        | 2721   | COPPER CHLORATE  |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 2722   | LITHIUM NITRATE  |
| SGAV      | TU3                | AT                        | 2 (E)  | V11                             | VV8   | CV24                            |           | 50                        | 2723   | MAGNESIUM CHLORATE   |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 2724   | MANGANESE NITRATE  |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 2725   | NICKEL NITRATE   |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 2726   | NICKEL NITRITE   |
| SGAH      | TU15 TE19          | AT                        | 2 (D/E)                                      | V11 V12                         |       | CV13 CV28                       | S9 S19    | 65                        | 2727   | THALLIUM NITRATE   |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 2728   | ZIRCONIUM NITRATE  |
| SGAH      | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2729   | HEXACHLOROBENZENE  |
| L4BH      | TU15 TE19          | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 2730   | NITROANISOLE, LIQUID   |
| L4BH      | TU15 TE19          | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 2732   | NITROBROMOBENZENES, LIQUID   |
| L10CH     | TU14 TE21          | FL                        | 1 (C/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 2733   | AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S. |
| L4BH      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 338                       | 2733   | AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S. |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels          | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |                 |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2733   | AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.                 | 3     | FC                  | III           | 3<br>+8         | 274<br>544         | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 2734   | AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. | 8     | CF1                 | I             | 8<br>+3         | 274                | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 2734   | AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. | 8     | CF1                 | II            | 8<br>+3         | 274                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 2735   | AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.                       | 8     | C7                  | I             | 8               | 274                | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 2735   | AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.                       | 8     | C7                  | II            | 8               | 274                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP1<br>TP27                |
| 2735   | AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.                       | 8     | C7                  | III           | 8               | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 2738   | N-BUTYLANILINE   | 6.1   | T1                  | II            | 6.1             |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2739   | BUTYRIC ANHYDRIDE  | 8     | C3                  | III           | 8               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2740   | n-PROPYL CHLOROFORMATE   | 6.1   | TFC                 | I             | 6.1<br>+3<br>+8 |                    | LQ0                             | E5      | P602                          |                                  | MP8<br>MP17                     | T20                                | TP2                        |
| 2741   | BARIUM HYPOCHLORITE with more than 22% available chlorine  | 5.1   | OT2                 | II            | 5.1<br>+6.1     |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 2742   | CHLOROFORMATES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.  | 6.1   | TFC                 | II            | 6.1<br>+3<br>+8 | 274<br>561         | LQ17                            | E4      | P001<br>IBC01                 |                                  | MP15                            |                                    |                            |
| 2743   | n-BUTYL CHLOROFORMATE  | 6.1   | TFC                 | II            | 6.1<br>+3<br>+8 |                    | LQ17                            | E4      | P001                          |                                  | MP15                            | T20                                | TP2                        |
| 2744   | CYCLOBUTYL CHLOROFORMATE   | 6.1   | TFC                 | II            | 6.1<br>+3<br>+8 |                    | LQ17                            | E4      | P001<br>IBC01                 |                                  | MP15                            | T7                                 | TP2                        |
| 2745   | CHLOROMETHYL CHLOROFORMATE   | 6.1   | TC1                 | II            | 6.1<br>+8       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2746   | PHENYL CHLOROFORMATE   | 6.1   | TC1                 | II            | 6.1<br>+8       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2747   | tert-BUTYLCYCLOHEXYL CHLOROFORMATE   | 6.1   | T1                  | III           | 6.1             |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2748   | 2-ETHYLHEXYL CHLOROFORMATE   | 6.1   | TC1                 | II            | 6.1<br>+8       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2749   | TETRAMETHYLSILANE  | 3     | F1                  | I             | 3               |                    | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2                        |
| 2750   | 1,3-DICHLOROPROPANOL-2   | 6.1   | T1                  | II            | 6.1             |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2751   | DIETHYLTHIO-PHOSPHORYL CHLORIDE  | 8     | C3                  | II            | 8               |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2752   | 1,2-EPOXY-3-ETHOXYPROPANE  | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2753   | N-ETHYLBENZYL-TOLUIDINES, LIQUID   | 6.1   | T1                  | III           | 6.1             |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1                        |

| ADR tank  |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BN      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 38                        | 2733   | AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.                 |
| L10BH     |                     | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S14    | 883                       | 2734   | AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. |
| L4BN      |                     | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2        | 83                        | 2734   | AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. |
| L10BH     |                     | AT                        | 1 (E)  |                                 |       |                                 | S20       | 88                        | 2735   | AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.                       |
| L4BN      |                     | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2735   | AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.                       |
| L4BN      |                     | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2735   | AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.                       |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 2738   | N-BUTYLANILINE   |
| L4BN      |                     | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2739   | BUTYRIC ANHYDRIDE  |
| L10CH     | TU14 TU15 TE19 TE21 | FL                        | 1 (C/D)                                      |                                 |       | CV1 CV13 CV28                   | S2 S9 S14 | 668                       | 2740   | n-PROPYL CHLOROFORMATE   |
| SGAN      | TU3                 | AT                        | 2 (E)  | V11                             |       | CV24 CV28                       |           | 56                        | 2741   | BARIUM HYPOCHLORITE with more than 22% available chlorine  |
| L4BH      | TU15 TE19           | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S9 S19 | 638                       | 2742   | CHLOROFORMATES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.  |
| L4BH      | TU15 TE19           | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S9 S19 | 638                       | 2743   | n-BUTYL CHLOROFORMATE  |
| L4BH      | TU15 TE19           | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S9 S19 | 638                       | 2744   | CYCLOBUTYL CHLOROFORMATE   |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 68                        | 2745   | CHLOROMETHYL CHLOROFORMATE   |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 68                        | 2746   | PHENYL CHLOROFORMATE   |
| L4BH      | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 2747   | tert-BUTYLCYCLOHEXYL CHLOROFORMATE   |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 68                        | 2748   | 2-ETHYLHEXYL CHLOROFORMATE   |
| L4BN      |                     | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 2749   | TETRAMETHYLSILANE  |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 2750   | 1,3-DICHLOROPROPANOL-2   |
| L4BN      |                     | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2751   | DIETHYLTHIO-PHOSPHORYL CHLORIDE  |
| LGBF      |                     | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 2752   | 1,2-EPOXY-3-ETHOXYPROPANE  |
| L4BH      | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 2753   | N-ETHYLBENZYL-TOLUIDINES, LIQUID   |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2754   | N-ETHYLTOLUIDINES   | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2757   | CARBAMATE PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2757   | CARBAMATE PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2757   | CARBAMATE PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2758   | CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C      | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 2758   | CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C      | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 2759   | ARSENICAL PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2759   | ARSENICAL PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2759   | ARSENICAL PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2760   | ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C      | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 2760   | ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C      | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 2761   | ORGANOCHLORINE PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2761   | ORGANOCHLORINE PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2761   | ORGANOCHLORINE PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2762   | ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 2762   | ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 2763   | TRIAZINE PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2763   | TRIAZINE PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2763   | TRIAZINE PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>R001         | B3                               | MP10                            | T1                                 | TP33                       |
| 2764   | TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C       | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |



| ADR tank       |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|----------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code      | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3            | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)           | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BH           | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2754   | N-ETHYLTOLUIDINES   |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2757   | CARBAMATE PESTICIDE, SOLID, TOXIC   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2757   | CARBAMATE PESTICIDE, SOLID, TOXIC   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2757   | CARBAMATE PESTICIDE, SOLID, TOXIC   |
| L10CH          | TU14 TU15<br>TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2758   | CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C      |
| L4BH           | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2758   | CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C      |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2759   | ARSENICAL PESTICIDE, SOLID, TOXIC   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2759   | ARSENICAL PESTICIDE, SOLID, TOXIC   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2759   | ARSENICAL PESTICIDE, SOLID, TOXIC   |
| L10CH          | TU14 TU15<br>TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2760   | ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C      |
| L4BH           | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2760   | ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C      |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2761   | ORGANOCHLORINE PESTICIDE, SOLID, TOXIC  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2761   | ORGANOCHLORINE PESTICIDE, SOLID, TOXIC  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2761   | ORGANOCHLORINE PESTICIDE, SOLID, TOXIC  |
| L10CH          | TU14 TU15<br>TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2762   | ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C |
| L4BH           | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2762   | ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2763   | TRIAZINE PESTICIDE, SOLID, TOXIC  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2763   | TRIAZINE PESTICIDE, SOLID, TOXIC  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2763   | TRIAZINE PESTICIDE, SOLID, TOXIC  |
| L10CH          | TU14 TU15<br>TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2764   | TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C       |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2764   | TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C      | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 2771   | THIOCARBAMATE PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2771   | THIOCARBAMATE PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2771   | THIOCARBAMATE PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2772   | THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 2772   | THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 2775   | COPPER BASED PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2775   | COPPER BASED PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2775   | COPPER BASED PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2776   | COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C  | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 2776   | COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C  | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 2777   | MERCURY BASED PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2777   | MERCURY BASED PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2777   | MERCURY BASED PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2778   | MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 2778   | MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 2779   | SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC                                | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2779   | SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC                                | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2779   | SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC                                | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |

| ADR tank       |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|----------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code      | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3            | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)           | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BH           | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2764   | TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C      |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2771   | THIOCARBAMATE PESTICIDE, SOLID, TOXIC  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2771   | THIOCARBAMATE PESTICIDE, SOLID, TOXIC  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2771   | THIOCARBAMATE PESTICIDE, SOLID, TOXIC  |
| L10CH          | TU14 TU15<br>TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2772   | THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C |
| L4BH           | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2772   | THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2775   | COPPER BASED PESTICIDE, SOLID, TOXIC   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2775   | COPPER BASED PESTICIDE, SOLID, TOXIC   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2775   | COPPER BASED PESTICIDE, SOLID, TOXIC   |
| L10CH          | TU14 TU15<br>TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2776   | COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C  |
| L4BH           | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2776   | COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C  |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2777   | MERCURY BASED PESTICIDE, SOLID, TOXIC  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2777   | MERCURY BASED PESTICIDE, SOLID, TOXIC  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2777   | MERCURY BASED PESTICIDE, SOLID, TOXIC  |
| L10CH          | TU14 TU15<br>TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2778   | MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C |
| L4BH           | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 2778   | MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2779   | SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC                                |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2779   | SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC                                |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2779   | SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC                                |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2780   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 2780   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 2781   | BIPYRIDILIUM PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2781   | BIPYRIDILIUM PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2781   | BIPYRIDILIUM PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2782   | BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C            | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 2782   | BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C            | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 2783   | ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2783   | ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2783   | ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2784   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C        | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 2784   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C        | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 2785   | 4-THIAPENTANAL   | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2786   | ORGANOTIN PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 2786   | ORGANOTIN PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2786   | ORGANOTIN PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2787   | ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C               | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 2787   | ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C               | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 2788   | ORGANOTIN COMPOUND, LIQUID, N.O.S.   | 6.1   | T3                  | I             | 6.1       | 43<br>274          | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |

| ADR tank    |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-------------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code   | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3         | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)        | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L10CH       | TU14 TU15 TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13 CV28                       | S2 S22    | 336                       | 2780   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C |
| L4BH        | TU15                | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S22    | 336                       | 2780   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C |
| S10AH L10CH | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      | V10 V12                         |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 2781   | BIPYRIDILIUM PESTICIDE, SOLID, TOXIC   |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2781   | BIPYRIDILIUM PESTICIDE, SOLID, TOXIC   |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2781   | BIPYRIDILIUM PESTICIDE, SOLID, TOXIC   |
| L10CH       | TU14 TU15 TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13 CV28                       | S2 S22    | 336                       | 2782   | BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C            |
| L4BH        | TU15                | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S22    | 336                       | 2782   | BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C            |
| S10AH L10CH | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      | V10 V12                         |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 2783   | ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC   |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2783   | ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC   |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2783   | ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC   |
| L10CH       | TU14 TU15 TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13 CV28                       | S2 S22    | 336                       | 2784   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C        |
| L4BH        | TU15                | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S22    | 336                       | 2784   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C        |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 2785   | 4-THIAPENTANAL   |
| S10AH L10CH | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      | V10 V12                         |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 2786   | ORGANOTIN PESTICIDE, SOLID, TOXIC  |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2786   | ORGANOTIN PESTICIDE, SOLID, TOXIC  |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2786   | ORGANOTIN PESTICIDE, SOLID, TOXIC  |
| L10CH       | TU14 TU15 TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13 CV28                       | S2 S22    | 336                       | 2787   | ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C               |
| L4BH        | TU15                | FL                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S2 S22    | 336                       | 2787   | ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C               |
| L10CH       | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 2788   | ORGANOTIN COMPOUND, LIQUID, N.O.S.   |

| UN No. | Name and description   | Class | Classification code | Packing group      | Labels  | Special provisions | Limited and excepted quantities |      | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|--------------------|---------|--------------------|---------------------------------|------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |                    |         |                    |                                 |      | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)                | (5)     | (6)                | (7a)                            | (7b) | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2788   | ORGANOTIN COMPOUND, LIQUID, N.O.S.   | 6.1   | T3                  | II                 | 6.1     | 43<br>274          | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 2788   | ORGANOTIN COMPOUND, LIQUID, N.O.S.   | 6.1   | T3                  | III                | 6.1     | 43<br>274          | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP2<br>TP28                |
| 2789   | ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, more than 80% acid, by mass              | 8     | CF1                 | II                 | 8<br>+3 |                    | LQ22                            | E2   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2790   | ACETIC ACID SOLUTION, not less than 50% but not more than 80% acid, by mass            | 8     | C3                  | II                 | 8       |                    | LQ22                            | E2   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2790   | ACETIC ACID SOLUTION, more than 10% and less than 50% acid, by mass                    | 8     | C3                  | III                | 8       | 597<br>647         | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2793   | FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS in a form liable to self-heating | 4.2   | S4                  | III                | 4.2     | 592                | LQ0                             | E1   | P003<br>IBC08<br>LP02<br>R001 | PP20<br>B3 B6                    | MP14                            |                                    |                            |
| 2794   | BATTERIES, WET, FILLED WITH ACID, electric storage                                     | 8     | C11                 |                    | 8       | 295<br>598         | LQ0                             | E0   | P801<br>P801a                 |                                  |                                 |                                    |                            |
| 2795   | BATTERIES, WET, FILLED WITH ALKALI, electric storage                                   | 8     | C11                 |                    | 8       | 295<br>598         | LQ0                             | E0   | P801<br>P801a                 |                                  |                                 |                                    |                            |
| 2796   | SULPHURIC ACID with not more than 51% acid or BATTERY FLUID, ACID                      | 8     | C1                  | II                 | 8       |                    | LQ22                            | E2   | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2                        |
| 2797   | BATTERY FLUID, ALKALI  | 8     | C5                  | II                 | 8       |                    | LQ22                            | E2   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2<br>TP28                |
| 2798   | PHENYLPHOSPHORUS DICHLORIDE  | 8     | C3                  | II                 | 8       |                    | LQ22                            | E2   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2799   | PHENYLPHOSPHORUS THIODICHLORIDE  | 8     | C3                  | II                 | 8       |                    | LQ22                            | E2   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2800   | BATTERIES, WET, NON-SPILLABLE, electric storage  | 8     | C11                 |                    | 8       | 238<br>295<br>598  | LQ0                             | E0   | P003<br>P801a                 | PP16                             |                                 |                                    |                            |
| 2801   | DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.          | 8     | C9                  | I                  | 8       | 274                | LQ0                             | E0   | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 2801   | DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.          | 8     | C9                  | II                 | 8       | 274                | LQ22                            | E2   | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 2801   | DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.          | 8     | C9                  | III                | 8       | 274                | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 2802   | COPPER CHLORIDE  | 8     | C2                  | III                | 8       |                    | LQ24                            | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2803   | GALLIUM  | 8     | C10                 | III                | 8       |                    | LQ24                            | E0   | P800                          | PP41                             | MP10                            | T1                                 | TP33                       |
| 2805   | LITHIUM HYDRIDE, FUSED SOLID   | 4.3   | W2                  | II                 | 4.3     |                    | LQ11                            | E2   | P410<br>IBC04                 | PP40                             | MP14                            | T3                                 | TP33                       |
| 2806   | LITHIUM NITRIDE  | 4.3   | W2                  | I                  | 4.3     |                    | LQ0                             | E0   | P403<br>IBC04                 |                                  | MP2                             |                                    |                            |
| 2807   | Magnetized material  | 9     | M11                 | NOT SUBJECT TO ADR |         |                    |                                 |      |                               |                                  |                                 |                                    |                            |
| 2809   | MERCURY  | 8     | C9                  | III                | 8       | 599                | LQ19                            | E0   | P800                          |                                  | MP15                            |                                    |                            |
| 2810   | TOXIC LIQUID, ORGANIC, N.O.S.  | 6.1   | T1                  | I                  | 6.1     | 274<br>315<br>614  | LQ0                             | E5   | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 2810   | TOXIC LIQUID, ORGANIC, N.O.S.  | 6.1   | T1                  | II                 | 6.1     | 274<br>614         | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |

| ADR tank           |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|--------------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code          | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3                | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)               | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BH               | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2788   | ORGANOTIN COMPOUND, LIQUID, N.O.S.   |
| L4BH               | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2788   | ORGANOTIN COMPOUND, LIQUID, N.O.S.   |
| L4BN               |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2        | 83                        | 2789   | ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, more than 80% acid, by mass              |
| L4BN               |                        | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2790   | ACETIC ACID SOLUTION, not less than 50% but not more than 80% acid, by mass            |
| L4BN               |                        | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2790   | ACETIC ACID SOLUTION, more than 10% and less than 50% acid, by mass                    |
|                    |                        |                           | 3 (E)  | V1                              | VV4   |                                 |           | 40                        | 2793   | FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS in a form liable to self-heating |
|                    |                        |                           | 3 (E)  |                                 | VV14  |                                 |           | 80                        | 2794   | BATTERIES, WET, FILLED WITH ACID, electric storage                                     |
|                    |                        |                           | 3 (E)  |                                 | VV14  |                                 |           | 80                        | 2795   | BATTERIES, WET, FILLED WITH ALKALI, electric storage                                   |
| L4BN               |                        | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2796   | SULPHURIC ACID with not more than 51% acid or BATTERY FLUID, ACID                      |
| L4BN               |                        | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2797   | BATTERY FLUID, ALKALI  |
| L4BN               |                        | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2798   | PHENYLPHOSPHORUS DICHLORIDE  |
| L4BN               |                        | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2799   | PHENYLPHOSPHORUS THIODICHLORIDE  |
|                    |                        |                           | 3 (E)  |                                 | VV14  |                                 |           | 80                        | 2800   | BATTERIES, WET, NON-SPILLABLE, electric storage  |
| L10BH              |                        | AT                        | 1 (E)  |                                 |       |                                 | S20       | 88                        | 2801   | DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.          |
| L4BN               |                        | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 2801   | DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.          |
| L4BN               |                        | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2801   | DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.          |
| SGAV               |                        | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2802   | COPPER CHLORIDE  |
| SGAV<br>L4BN       |                        | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2803   | GALLIUM  |
| SGAN               |                        | AT                        | 2 (D/E)                                      | V1                              |       | CV23                            |           | 423                       | 2805   | LITHIUM HYDRIDE, FUSED SOLID   |
|                    |                        |                           | 1 (E)  | V1                              |       | CV23                            | S20       |                           | 2806   | LITHIUM NITRIDE  |
| NOT SUBJECT TO ADR |                        |                           |  |                                 |       |                                 |           |                           | 2807   | Magnetized material  |
| L4BN               |                        | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2809   | MERCURY  |
| L10CH              | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2810   | TOXIC LIQUID, ORGANIC, N.O.S.  |
| L4BH               | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2810   | TOXIC LIQUID, ORGANIC, N.O.S.  |

| UN No. | Name and description  | Class | Classification code | Packing group      | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                     |                                    | Portable tanks and bulk containers |                               |
|--------|---|-------|---------------------|--------------------|-------------|--------------------|---------------------------------|---------|-------------------------------|-------------------------------------|------------------------------------|------------------------------------|-------------------------------|
|        |   |       |                     |                    |             |                    |                                 |         | Packing instructions<br>4.1.4 | Special packing provisions<br>4.1.4 | Mixed packing provisions<br>4.1.10 | Instructions<br>4.2.5.2<br>7.3.2   | Special provisions<br>4.2.5.3 |
|        | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3            | 5.2.2       | 3.3                | 3.4.6                           | 3.5.1.2 |                               |                                     |                                    |                                    |                               |
| (1)    | (2)   | (3a)  | (3b)                | (4)                | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                                | (9b)                               | (10)                               | (11)                          |
| 2810   | TOXIC LIQUID, ORGANIC, N.O.S.   | 6.1   | T1                  | III                | 6.1         | 274<br>614         | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T7                                 | TP1<br>TP28                   |
| 2811   | TOXIC SOLID, ORGANIC, N.O.S.  | 6.1   | T2                  | I                  | 6.1         | 274<br>614         | LQ0                             | E5      | P002<br>IBC07                 |                                     | MP18                               | T6                                 | TP33                          |
| 2811   | TOXIC SOLID, ORGANIC, N.O.S.  | 6.1   | T2                  | II                 | 6.1         | 274<br>614         | LQ18                            | E4      | P002<br>IBC08                 | B4                                  | MP10                               | T3                                 | TP33                          |
| 2811   | TOXIC SOLID, ORGANIC, N.O.S.  | 6.1   | T2                  | III                | 6.1         | 274<br>614         | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                  | MP10                               | T1                                 | TP33                          |
| 2812   | Sodium aluminate, solid   | 8     | C6                  | NOT SUBJECT TO ADR |             |                    |                                 |         |                               |                                     |                                    |                                    |                               |
| 2813   | WATER-REACTIVE SOLID, N.O.S.  | 4.3   | W2                  | I                  | 4.3         | 274                | LQ0                             | E0      | P403<br>IBC99                 | PP83                                | MP2                                | T9                                 | TP7<br>TP33                   |
| 2813   | WATER-REACTIVE SOLID, N.O.S.  | 4.3   | W2                  | II                 | 4.3         | 274                | LQ11                            | E2      | P410<br>IBC07                 | PP83                                | MP14                               | T3                                 | TP33                          |
| 2813   | WATER-REACTIVE SOLID, N.O.S.  | 4.3   | W2                  | III                | 4.3         | 274                | LQ12                            | E1      | P410<br>IBC08<br>R001         | PP83<br>B4                          | MP14                               | T1                                 | TP33                          |
| 2814   | INFECTIOUS SUBSTANCE, AFFECTING HUMANS                                  | 6.2   | II                  |                    | 6.2         | 318                | LQ0                             | E0      | P620                          |                                     | MP5                                |                                    |                               |
| 2814   | INFECTIOUS SUBSTANCE, AFFECTING HUMANS, in refrigerated liquid nitrogen | 6.2   | II                  |                    | 6.2<br>+2.2 | 318                | LQ0                             | E0      | P620                          |                                     | MP5                                |                                    |                               |
| 2814   | INFECTIOUS SUBSTANCE, AFFECTING HUMANS (animal material only)           | 6.2   | II                  |                    | 6.2         | 318                | LQ0                             | E0      | P620                          |                                     | MP5                                | BK1<br>BK2                         |                               |
| 2815   | N-AMINOETHYL-PIPERAZINE   | 8     | C7                  | III                | 8           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T4                                 | TP1                           |
| 2817   | AMMONIUM HYDROGENDIFLUORIDE SOLUTION                                    | 8     | CT1                 | II                 | 8<br>+6.1   |                    | LQ22                            | E2      | P001<br>IBC02                 |                                     | MP15                               | T8                                 | TP2                           |
| 2817   | AMMONIUM HYDROGENDIFLUORIDE SOLUTION                                    | 8     | CT1                 | III                | 8<br>+6.1   |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                     | MP19                               | T4                                 | TP1                           |
| 2818   | AMMONIUM POLYSULPHIDE SOLUTION  | 8     | CT1                 | II                 | 8<br>+6.1   |                    | LQ22                            | E2      | P001<br>IBC02                 |                                     | MP15                               | T7                                 | TP2                           |
| 2818   | AMMONIUM POLYSULPHIDE SOLUTION  | 8     | CT1                 | III                | 8<br>+6.1   |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                     | MP19                               | T4                                 | TP1                           |
| 2819   | AMYL ACID PHOSPHATE   | 8     | C3                  | III                | 8           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T4                                 | TP1                           |
| 2820   | BUTYRIC ACID  | 8     | C3                  | III                | 8           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T4                                 | TP1                           |
| 2821   | PHENOL SOLUTION   | 6.1   | T1                  | II                 | 6.1         |                    | LQ17                            | E4      | P001<br>IBC02                 |                                     | MP15                               | T7                                 | TP2                           |
| 2821   | PHENOL SOLUTION   | 6.1   | T1                  | III                | 6.1         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               | T4                                 | TP1                           |
| 2822   | 2-CHLOROPYRIDINE  | 6.1   | T1                  | II                 | 6.1         |                    | LQ17                            | E4      | P001<br>IBC02                 |                                     | MP15                               | T7                                 | TP2                           |
| 2823   | CROTONIC ACID, SOLID  | 8     | C4                  | III                | 8           |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                  | MP10                               | T1                                 | TP33                          |



| ADR tank           |                              | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|--------------------|------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code          | Special provisions           |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3                | 4.3.5, 6.8.4                 | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)               | (13)                         | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BH               | TU15 TE19                    | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2810   | TOXIC LIQUID, ORGANIC, N.O.S.   |
| S10AH<br>L10CH     | TU15 TE19                    | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2811   | TOXIC SOLID, ORGANIC, N.O.S.  |
| SGAH<br>L4BH       | TU15 TE19                    | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2811   | TOXIC SOLID, ORGANIC, N.O.S.  |
| SGAH<br>L4BH       | TU15 TE19                    | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 2811   | TOXIC SOLID, ORGANIC, N.O.S.  |
| NOT SUBJECT TO ADR |                              |                           |  |                                 |       |                                 |           |                           | 2812   | Sodium aluminate, solid   |
| S10AN<br>L10DH     | TU4 TU14<br>TU22 TE21<br>TM2 | AT                        | 0 (E)  | V1                              |       | CV23                            | S20       | X423                      | 2813   | WATER-REACTIVE SOLID, N.O.S.  |
| SGAN               |                              | AT                        | 0 (D/E)                                      | V1<br>V12                       |       | CV23                            |           | 423                       | 2813   | WATER-REACTIVE SOLID, N.O.S.  |
| SGAN               |                              | AT                        | 0 (E)  | V1                              | VV5   | CV23                            |           | 423                       | 2813   | WATER-REACTIVE SOLID, N.O.S.  |
|                    |                              |                           | 0 (E)  |                                 |       | CV13<br>CV25<br>CV26<br>CV28    | S3 S9 S15 |                           | 2814   | INFECTIOUS SUBSTANCE, AFFECTING HUMANS                                  |
|                    |                              |                           | 0 (E)  |                                 |       | CV13<br>CV25<br>CV26<br>CV28    | S3 S9 S15 |                           | 2814   | INFECTIOUS SUBSTANCE, AFFECTING HUMANS, in refrigerated liquid nitrogen |
|                    |                              |                           | 0 (E)  |                                 |       | CV13<br>CV25<br>CV26<br>CV28    | S3 S9 S15 | 606                       | 2814   | INFECTIOUS SUBSTANCE, AFFECTING HUMANS (animal material only)           |
| L4BN               |                              | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2815   | N-AMINOETHYL-PIPERAZINE   |
| L4DH               | TU14 TE21                    | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    |           | 86                        | 2817   | AMMONIUM HYDROGENDIFLUORIDE SOLUTION                                    |
| L4DH               | TU14 TE21                    | AT                        | 3 (E)  |                                 |       | CV13<br>CV28                    |           | 86                        | 2817   | AMMONIUM HYDROGENDIFLUORIDE SOLUTION                                    |
| L4BN               |                              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    |           | 86                        | 2818   | AMMONIUM POLYSULPHIDE SOLUTION  |
| L4BN               |                              | AT                        | 3 (E)  |                                 |       | CV13<br>CV28                    |           | 86                        | 2818   | AMMONIUM POLYSULPHIDE SOLUTION  |
| L4BN               |                              | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2819   | AMYL ACID PHOSPHATE   |
| L4BN               |                              | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 2820   | BUTYRIC ACID  |
| L4BH               | TU15 TE19                    | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2821   | PHENOL SOLUTION   |
| L4BH               | TU15 TE19                    | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2821   | PHENOL SOLUTION   |
| L4BH               | TU15 TE19                    | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2822   | 2-CHLOROPYRIDINE  |
| SGAV<br>L4BN       |                              | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2823   | CROTONIC ACID, SOLID  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2826   | ETHYL CHLOROTHIOFORMATE   | 8     | CF1                 | II            | 8<br>+3   |                    | LQ22                            | E2      | P001                          |                                  | MP15                            | T7                                 | TP2                        |
| 2829   | CAPROIC ACID  | 8     | C3                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2830   | LITHIUM FERROSILICON  | 4.3   | W2                  | II            | 4.3       |                    | LQ11                            | E2      | P410<br>IBC07                 |                                  | MP14                            | T3                                 | TP33                       |
| 2831   | 1,1,1-TRICHLOROETHANE   | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2834   | PHOSPHOROUS ACID  | 8     | C2                  | III           | 8         |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2835   | SODIUM ALUMINIUM HYDRIDE  | 4.3   | W2                  | II            | 4.3       |                    | LQ11                            | E2      | P410<br>IBC04                 |                                  | MP14                            | T3                                 | TP33                       |
| 2837   | BISULPHATES, AQUEOUS SOLUTION                                   | 8     | C1                  | II            | 8         | 274                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2837   | BISULPHATES, AQUEOUS SOLUTION                                   | 8     | C1                  | III           | 8         | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2838   | VINYL BUTYRATE, STABILIZED                                      | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2839   | ALDOL   | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2840   | BUTYRALDOXIME   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2841   | DI-n-AMYLAMINE  | 3     | FT1                 | III           | 3<br>+6.1 |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 2842   | NITROETHANE   | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2844   | CALCIUM MANGANESE SILICON                                       | 4.3   | W2                  | III           | 4.3       |                    | LQ12                            | E1      | P410<br>IBC08<br>R001         | B4                               | MP14                            | T1                                 | TP33                       |
| 2845   | PYROPHORIC LIQUID, ORGANIC, N.O.S.                              | 4.2   | S1                  | I             | 4.2       | 274                | LQ0                             | E0      | P400                          |                                  | MP2                             | T22                                | TP2<br>TP7                 |
| 2846   | PYROPHORIC SOLID, ORGANIC, N.O.S.                               | 4.2   | S2                  | I             | 4.2       | 274                | LQ0                             | E0      | P404                          |                                  | MP13                            |                                    |                            |
| 2849   | 3-CHLOROPROPANOL-1  | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2850   | PROPYLENE TETRAMER  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2851   | BORON TRIFLUORIDE DIHYDRATE                                     | 8     | C1                  | II            | 8         |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2852   | DIPICRYL SULPHIDE, WETTED with not less than 10% water, by mass | 4.1   | D                   | I             | 4.1       | 545                | LQ0                             | E0      | P406                          | PP24                             | MP2                             |                                    |                            |
| 2853   | MAGNESIUM FLUOROSILICATE  | 6.1   | T5                  | III           | 6.1       |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2854   | AMMONIUM FLUOROSILICATE   | 6.1   | T5                  | III           | 6.1       |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2855   | ZINC FLUOROSILICATE   | 6.1   | T5                  | III           | 6.1       |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |

| ADR tank     |                      | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |            |                                 |           | Hazard identification No. | UN No. | Name and description  |
|--------------|----------------------|---------------------------|--|---------------------------------|------------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code    | Special provisions   |                           |  | Packages                        | Bulk       | Loading, unloading and handling | Operation |                           |        |   |
| 4.3          | 4.3.5, 6.8.4         | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3      | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)         | (13)                 | (14)                      | (15)   | (16)                            | (17)       | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BN         |                      | FL                        | 2<br>(D/E)                                   |                                 |            |                                 | S2        | 83                        | 2826   | ETHYL CHLOROTHIOFORMATE   |
| L4BN         |                      | AT                        | 3<br>(E)                                     |                                 |            |                                 |           | 80                        | 2829   | CAPROIC ACID  |
| SGAN         |                      | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |            | CV23                            |           | 423                       | 2830   | LITHIUM FERROSILICON  |
| L4BH         | TU15 TE19            | AT                        | 2<br>(E)                                     |                                 |            | CV13<br>CV28                    | S9        | 60                        | 2831   | 1,1,1-TRICHLOROETHANE   |
| SGAV         |                      | AT                        | 3<br>(E)                                     |                                 | VV9        |                                 |           | 80                        | 2834   | PHOSPHOROUS ACID  |
| SGAN         |                      | AT                        | 2<br>(D/E)                                   | V1                              |            | CV23                            |           | 423                       | 2835   | SODIUM ALUMINIUM HYDRIDE  |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |            |                                 |           | 80                        | 2837   | BISULPHATES, AQUEOUS SOLUTION                                   |
| L4BN         |                      | AT                        | 3<br>(E)                                     |                                 |            |                                 |           | 80                        | 2837   | BISULPHATES, AQUEOUS SOLUTION                                   |
| LGBF         |                      | FL                        | 2<br>(D/E)                                   |                                 |            |                                 | S2 S20    | 339                       | 2838   | VINYL BUTYRATE, STABILIZED                                      |
| L4BH         | TU15 TE19            | AT                        | 2<br>(D/E)                                   |                                 |            | CV13<br>CV28                    | S9 S19    | 60                        | 2839   | ALDOL   |
| LGBF         |                      | FL                        | 3<br>(D/E)                                   |                                 |            |                                 | S2        | 30                        | 2840   | BUTYRALDOXIME   |
| L4BH         | TU15                 | FL                        | 3<br>(D/E)                                   |                                 |            | CV13<br>CV28                    | S2        | 36                        | 2841   | DI-n-AMYLAMINE  |
| LGBF         |                      | FL                        | 3<br>(D/E)                                   |                                 |            |                                 | S2        | 30                        | 2842   | NITROETHANE   |
| SGAN         |                      | AT                        | 3<br>(E)                                     | V1                              | VV5<br>VV7 | CV23                            |           | 423                       | 2844   | CALCIUM MANGANESE SILICON                                       |
| L21DH        | TU14 TC1<br>TE21 TM1 | AT                        | 0<br>(B/E)                                   | V1                              |            |                                 | S20       | 333                       | 2845   | PYROPHORIC LIQUID, ORGANIC, N.O.S.                              |
|              |                      |                           | 0<br>(E)                                     | V1                              |            |                                 | S20       |                           | 2846   | PYROPHORIC SOLID, ORGANIC, N.O.S.                               |
| L4BH         | TU15 TE19            | AT                        | 2<br>(E)                                     |                                 |            | CV13<br>CV28                    | S9        | 60                        | 2849   | 3-CHLOROPROPANOL-1  |
| LGBF         |                      | FL                        | 3<br>(D/E)                                   |                                 |            |                                 | S2        | 30                        | 2850   | PROPYLENE TETRAMER  |
| L4BN         |                      | AT                        | 2<br>(E)                                     |                                 |            |                                 |           | 80                        | 2851   | BORON TRIFLUORIDE DIHYDRATE                                     |
|              |                      |                           | 1<br>(B)                                     |                                 |            |                                 | S14       |                           | 2852   | DIPICRYL SULPHIDE, WETTED with not less than 10% water, by mass |
| SGAH<br>L4BH | TU15 TE19            | AT                        | 2<br>(E)                                     |                                 | VV9        | CV13<br>CV28                    | S9        | 60                        | 2853   | MAGNESIUM FLUOROSILICATE  |
| SGAH<br>L4BH | TU15 TE19            | AT                        | 2<br>(E)                                     |                                 | VV9        | CV13<br>CV28                    | S9        | 60                        | 2854   | AMMONIUM FLUOROSILICATE   |
| SGAH<br>L4BH | TU15 TE19            | AT                        | 2<br>(E)                                     |                                 | VV9        | CV13<br>CV28                    | S9        | 60                        | 2855   | ZINC FLUOROSILICATE   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |      | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------|--------------------|---------------------------------|------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |             |                    |                                 |      | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b) | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2856   | FLUOROSILICATES, N.O.S.  | 6.1   | T5                  | III           | 6.1         | 274                | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2857   | REFRIGERATING MACHINES containing non-flammable, non-toxic gases or ammonia solutions (UN 2672)                      | 2     | 6A                  |               | 2.2         | 119                | LQ0                             | E0   | P003                          | PP32                             | MP9                             |                                    |                            |
| 2858   | ZIRCONIUM, DRY, coiled wire, finished metal sheets, strip (thinner than 254 microns but not thinner than 18 microns) | 4.1   | F3                  | III           | 4.1         | 546                | LQ9                             | E1   | P002<br>LP02<br>R001          |                                  | MP11                            |                                    |                            |
| 2859   | AMMONIUM METAVANADATE  | 6.1   | T5                  | II            | 6.1         |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2861   | AMMONIUM POLYVANADATE  | 6.1   | T5                  | II            | 6.1         |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2862   | VANADIUM PENTOXIDE, non-fused form   | 6.1   | T5                  | III           | 6.1         | 600                | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2863   | SODIUM AMMONIUM VANADATE   | 6.1   | T5                  | II            | 6.1         |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2864   | POTASSIUM METAVANADATE   | 6.1   | T5                  | II            | 6.1         |                    | LQ18                            | E4   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2865   | HYDROXYLAMINE SULPHATE   | 8     | C2                  | III           | 8           |                    | LQ24                            | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2869   | TITANIUM TRICHLORIDE MIXTURE   | 8     | C2                  | II            | 8           |                    | LQ23                            | E2   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2869   | TITANIUM TRICHLORIDE MIXTURE   | 8     | C2                  | III           | 8           |                    | LQ24                            | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2870   | ALUMINIUM BOROHYDRIDE  | 4.2   | SW                  | I             | 4.2<br>+4.3 |                    | LQ0                             | E0   | P400                          |                                  | MP2                             | T21                                | TP7<br>TP33                |
| 2870   | ALUMINIUM BOROHYDRIDE IN DEVICES   | 4.2   | SW                  | I             | 4.2<br>+4.3 |                    | LQ0                             | E0   | P002                          | PP13                             | MP2                             |                                    |                            |
| 2871   | ANTIMONY POWDER  | 6.1   | T5                  | III           | 6.1         |                    | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2872   | DIBROMOCHLORO-PROPANES   | 6.1   | T1                  | II            | 6.1         |                    | LQ17                            | E4   | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2872   | DIBROMOCHLORO-PROPANES   | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2873   | DIBUTYLAMINOETHANOL  | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2874   | FURFURYL ALCOHOL   | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2875   | HEXACHLOROPHENE  | 6.1   | T2                  | III           | 6.1         |                    | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2876   | RESORCINOL   | 6.1   | T2                  | III           | 6.1         |                    | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2878   | TITANIUM SPONGE GRANULES or TITANIUM SPONGE POWDERS  | 4.1   | F3                  | III           | 4.1         |                    | LQ9                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP11                            | T1                                 | TP33                       |
| 2879   | SELENIUM OXYCHLORIDE   | 8     | CT1                 | I             | 8<br>+6.1   |                    | LQ0                             | E0   | P001                          |                                  | MP8<br>MP17                     | T10                                | TP2                        |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| SGAH L4BH | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2856   | FLUOROSILICATES, N.O.S.  |
|           |                    |                           | 3 (E)  |                                 |       | CV9                             |           |                           | 2857   | REFRIGERATING MACHINES containing non-flammable, non-toxic gases or ammonia solutions (UN 2672)                      |
|           |                    |                           | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 2858   | ZIRCONIUM, DRY, coiled wire, finished metal sheets, strip (thinner than 254 microns but not thinner than 18 microns) |
| SGAH      | TU15 TE19          | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2859   | AMMONIUM METAVANADATE  |
| SGAH      | TU15 TE19          | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2861   | AMMONIUM POLYVANADATE  |
| SGAH      | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2862   | VANADIUM PENTOXIDE, non-fused form   |
| SGAH      | TU15 TE19          | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2863   | SODIUM AMMONIUM VANADATE   |
| SGAH      | TU15 TE19          | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 2864   | POTASSIUM METAVANADATE   |
| SGAV      |                    | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2865   | HYDROXYLAMINE SULPHATE   |
| SGAN      |                    | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 2869   | TITANIUM TRICHLORIDE MIXTURE   |
| SGAV      |                    | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 2869   | TITANIUM TRICHLORIDE MIXTURE   |
| L21DH     | TU14 TC1 TE21 TM1  | AT                        | 0 (E)  | V1                              |       |                                 | S20       | X333                      | 2870   | ALUMINIUM BOROHYDRIDE  |
|           |                    |                           | 0 (E)  | V1                              |       |                                 | S20       |                           | 2870   | ALUMINIUM BOROHYDRIDE IN DEVICES   |
| SGAH L4BH | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2871   | ANTIMONY POWDER  |
| L4BH      | TU15 TE19          | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 2872   | DIBROMOCHLORO-PROPANES   |
| L4BH      | TU15 TE19          | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 2872   | DIBROMOCHLORO-PROPANES   |
| L4BH      | TU15 TE19          | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 2873   | DIBUTYLAMINOETHANOL  |
| L4BH      | TU15 TE19          | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 2874   | FURFURYL ALCOHOL   |
| SGAH L4BH | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2875   | HEXACHLOROPHENE  |
| SGAH L4BH | TU15 TE19          | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 2876   | RESORCINOL   |
| SGAV      |                    | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 2878   | TITANIUM SPONGE GRANULES or TITANIUM SPONGE POWDERS  |
| L10BH     |                    | AT                        | 1 (C/D)                                      |                                 |       | CV13 CV28                       | S14       | X886                      | 2879   | SELENIUM OXYCHLORIDE   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |                   |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2880   | CALCIUM HYPOCHLORITE, HYDRATED, or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, with not less than 5.5% but not more than 16% water | 5.1   | O2                  | II            | 5.1               | 313<br>314<br>322  | LQ11                            | E2      | P002<br>IBC08                 | B4 B13                           | MP10                            |                                    |                            |
| 2880   | CALCIUM HYPOCHLORITE, HYDRATED, or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, with not less than 5.5% but not more than 16% water | 5.1   | O2                  | III           | 5.1               | 313<br>314         | LQ12                            | E1      | P002<br>IBC08<br>R001         | B4                               | MP10                            |                                    |                            |
| 2881   | METAL CATALYST, DRY  | 4.2   | S4                  | I             | 4.2               | 274                | LQ0                             | E0      | P404                          |                                  | MP13                            | T21                                | TP7<br>TP33                |
| 2881   | METAL CATALYST, DRY  | 4.2   | S4                  | II            | 4.2               | 274                | LQ0                             | E2      | P410<br>IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 2881   | METAL CATALYST, DRY  | 4.2   | S4                  | III           | 4.2               | 274                | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP14                            | T1                                 | TP33                       |
| 2900   | INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only   | 6.2   | I2                  |               | 6.2               | 318                | LQ0                             | E0      | P620                          |                                  | MP5                             |                                    |                            |
| 2900   | INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only, in refrigerated liquid nitrogen  | 6.2   | I2                  |               | 6.2<br>+2.2       | 318                | LQ0                             | E0      | P620                          |                                  | MP5                             |                                    |                            |
| 2900   | INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only (animal material only)  | 6.2   | I2                  |               | 6.2               | 318                | LQ0                             | E0      | P620                          |                                  | MP5                             | BK1<br>BK2                         |                            |
| 2901   | BROMINE CHLORIDE   | 2     | 2TOC                |               | 2.3<br>+5.1<br>+8 |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 2902   | PESTICIDE, LIQUID, TOXIC, N.O.S.   | 6.1   | T6                  | I             | 6.1               | 61<br>274<br>648   | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 2902   | PESTICIDE, LIQUID, TOXIC, N.O.S.   | 6.1   | T6                  | II            | 6.1               | 61<br>274<br>648   | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 2902   | PESTICIDE, LIQUID, TOXIC, N.O.S.   | 6.1   | T6                  | III           | 6.1               | 61<br>274<br>648   | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP2<br>TP28                |
| 2903   | PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash-point not less than 23 °C   | 6.1   | TF2                 | I             | 6.1<br>+3         | 61<br>274          | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 2903   | PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash-point not less than 23 °C   | 6.1   | TF2                 | II            | 6.1<br>+3         | 61<br>274          | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 2903   | PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash-point not less than 23 °C   | 6.1   | TF2                 | III           | 6.1<br>+3         | 61<br>274          | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP2                        |
| 2904   | CHLOROPHENOLATES, LIQUID or PHENOLATES, LIQUID   | 8     | C9                  | III           | 8                 |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            |                                    |                            |
| 2905   | CHLOROPHENOLATES, SOLID or PHENOLATES, SOLID   | 8     | C10                 | III           | 8                 |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2907   | ISOSORBIDE DINITRATE MIXTURE with not less than 60% lactose, mannose, starch or calcium hydrogen phosphate                     | 4.1   | D                   | II            | 4.1               | 127                | LQ8                             | E0      | P406<br>PP80<br>IBC06         | B12                              | MP2                             |                                    |                            |
| 2908   | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - EMPTY PACKAGING   | 7     |                     |               |                   | 290                | LQ0                             | E0      | See 1.7                       | See 4.1.9.1.3                    |                                 |                                    |                            |

| ADR tank     |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |            | Hazard identification No. | UN No. | Name and description   |
|--------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|------------|---------------------------|--------|--|
| Tank code    | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation  |                           |        |  |
| 4.3          | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5        | 5.3.2.3                   |        | 3.1.2  |
| (12)         | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)       | (20)                      | (1)    | (2)  |
| SGAN         | TU3                    | AT                        | 2 (E)  | V11                             |       | CV24<br>CV35                    |            | 50                        | 2880   | CALCIUM HYPOCHLORITE, HYDRATED, or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, with not less than 5.5% but not more than 16% water |
| SGAV         | TU3                    | AT                        | 3 (E)  |                                 | VV8   | CV24<br>CV35                    |            | 50                        | 2880   | CALCIUM HYPOCHLORITE, HYDRATED, or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, with not less than 5.5% but not more than 16% water |
|              |                        | AT                        | 0 (B/E)                                      | V1                              |       |                                 | S20        | 43                        | 2881   | METAL CATALYST, DRY  |
| SGAN         |                        | AT                        | 2 (D/E)                                      | V1<br>V12                       |       |                                 |            | 40                        | 2881   | METAL CATALYST, DRY  |
| SGAN         |                        | AT                        | 3 (E)  | V1                              | VV4   |                                 |            | 40                        | 2881   | METAL CATALYST, DRY  |
|              |                        |                           | 0 (E)  |                                 |       | CV13<br>CV25<br>CV26<br>CV28    | S3 S9 S15  |                           | 2900   | INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only   |
|              |                        |                           | 0 (E)  |                                 |       | CV13<br>CV25<br>CV26<br>CV28    | S3 S9 S15  |                           | 2900   | INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only, in refrigerated liquid nitrogen  |
|              |                        |                           | 0 (E)  |                                 |       | CV13<br>CV25<br>CV26<br>CV28    | S3 S9 S15  | 606                       | 2900   | INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only (animal material only)  |
| PxBH(M)      | TA4<br>TT9             | AT                        | 1 (C/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S14        | 265                       | 2901   | BROMINE CHLORIDE   |
| L10CH        | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14     | 66                        | 2902   | PESTICIDE, LIQUID, TOXIC, N.O.S.   |
| L4BH         | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19     | 60                        | 2902   | PESTICIDE, LIQUID, TOXIC, N.O.S.   |
| L4BH         | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9         | 60                        | 2902   | PESTICIDE, LIQUID, TOXIC, N.O.S.   |
| L10CH        | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14  | 663                       | 2903   | PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash-point not less than 23 °C   |
| L4BH         | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19  | 63                        | 2903   | PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash-point not less than 23 °C   |
| L4BH         | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9      | 63                        | 2903   | PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash-point not less than 23 °C   |
| L4BN         |                        | AT                        | 3 (E)  |                                 |       |                                 |            | 80                        | 2904   | CHLOROPHENOLATES, LIQUID or PHENOLATES, LIQUID   |
| SGAV<br>L4BN |                        | AT                        | 3 (E)  |                                 | VV9   |                                 |            | 80                        | 2905   | CHLOROPHENOLATES, SOLID or PHENOLATES, SOLID   |
|              |                        |                           | 2 (B)  | V11<br>V12                      |       |                                 | S14        |                           | 2907   | ISOSORBIDE DINITRATE MIXTURE with not less than 60% lactose, mannose, starch or calcium hydrogen phosphate                     |
|              |                        |                           | 4 (E)  |                                 |       | CV33                            | S5 S13 S21 |                           | 2908   | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - EMPTY PACKAGING   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2909   | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or NATURAL THORIUM | 7     |                     |               |           | 290                | LQ0                             | E0      | See 1.7                    | See 4.1.9.1.3                    |                                 |                                    |                            |
| 2910   | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL  | 7     |                     |               |           | 290                | LQ0                             | E0      | See 1.7                    | See 4.1.9.1.3                    |                                 |                                    |                            |
| 2911   | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - INSTRUMENTS or ARTICLES   | 7     |                     |               |           | 290                | LQ0                             | E0      | See 1.7                    | See 4.1.9.1.3                    |                                 |                                    |                            |
| 2912   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I), non fissile or fissile-excepted                                       | 7     |                     |               | 7X        | 172<br>317<br>325  | LQ0                             | E0      | See 2.2.7 and 4.1.9        | See 4.1.9.1.3                    |                                 | T5                                 | TP4                        |
| 2913   | RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), non fissile or fissile-excepted                      | 7     |                     |               | 7X        | 172<br>317<br>336  | LQ0                             | E0      | See 2.2.7 and 4.1.9        | See 4.1.9.1.3                    |                                 |                                    |                            |
| 2915   | RADIOACTIVE MATERIAL, TYPE A PACKAGE, non-special form, non fissile or fissile-excepted                                    | 7     |                     |               | 7X        | 172<br>317<br>325  | LQ0                             | E0      | See 2.2.7 and 4.1.9        | See 4.1.9.1.3                    |                                 |                                    |                            |
| 2916   | RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, non fissile or fissile-excepted   | 7     |                     |               | 7X        | 172<br>317<br>337  | LQ0                             | E0      | See 2.2.7 and 4.1.9        | See 4.1.9.1.3                    |                                 |                                    |                            |
| 2917   | RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, non fissile or fissile-excepted   | 7     |                     |               | 7X        | 172<br>317<br>337  | LQ0                             | E0      | See 2.2.7 and 4.1.9        | See 4.1.9.1.3                    |                                 |                                    |                            |
| 2919   | RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, non fissile or fissile-excepted                               | 7     |                     |               | 7X        | 172<br>317         | LQ0                             | E0      | See 2.2.7 and 4.1.9        | See 4.1.9.1.3                    |                                 |                                    |                            |
| 2920   | CORROSIVE LIQUID, FLAMMABLE, N.O.S.  | 8     | CF1                 | I             | 8<br>+3   | 274                | LQ0                             | E0      | P001                       |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 2920   | CORROSIVE LIQUID, FLAMMABLE, N.O.S.  | 8     | CF1                 | II            | 8<br>+3   | 274                | LQ22                            | E2      | P001<br>IBC02              |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 2921   | CORROSIVE SOLID, FLAMMABLE, N.O.S.   | 8     | CF2                 | I             | 8<br>+4.1 | 274                | LQ0                             | E0      | P002<br>IBC05              |                                  | MP18                            | T6                                 | TP33                       |
| 2921   | CORROSIVE SOLID, FLAMMABLE, N.O.S.   | 8     | CF2                 | II            | 8<br>+4.1 | 274                | LQ23                            | E2      | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 2922   | CORROSIVE LIQUID, TOXIC, N.O.S.  | 8     | CT1                 | I             | 8<br>+6.1 | 274                | LQ0                             | E0      | P001                       |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 2922   | CORROSIVE LIQUID, TOXIC, N.O.S.  | 8     | CT1                 | II            | 8<br>+6.1 | 274                | LQ22                            | E2      | P001<br>IBC02              |                                  | MP15                            | T7                                 | TP2                        |
| 2922   | CORROSIVE LIQUID, TOXIC, N.O.S.  | 8     | CT1                 | III           | 8<br>+6.1 | 274                | LQ7                             | E1      | P001<br>IBC03<br>R001      |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 2923   | CORROSIVE SOLID, TOXIC, N.O.S.   | 8     | CT2                 | I             | 8<br>+6.1 | 274                | LQ0                             | E0      | P002<br>IBC05              |                                  | MP18                            | T6                                 | TP33                       |
| 2923   | CORROSIVE SOLID, TOXIC, N.O.S.   | 8     | CT2                 | II            | 8<br>+6.1 | 274                | LQ23                            | E2      | P002<br>IBC08              | B4                               | MP10                            | T3                                 | TP33                       |
| 2923   | CORROSIVE SOLID, TOXIC, N.O.S.   | 8     | CT2                 | III           | 8<br>+6.1 | 274                | LQ24                            | E1      | P002<br>IBC08<br>R001      | B3                               | MP10                            | T1                                 | TP33                       |
| 2924   | FLAMMABLE LIQUID, CORROSIVE, N.O.S.  | 3     | FC                  | I             | 3<br>+8   | 274                | LQ3                             | E0      | P001                       |                                  | MP7<br>MP17                     | T14                                | TP2                        |
| 2924   | FLAMMABLE LIQUID, CORROSIVE, N.O.S.  | 3     | FC                  | II            | 3<br>+8   | 274                | LQ4                             | E2      | P001<br>IBC02              |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 2924   | FLAMMABLE LIQUID, CORROSIVE, N.O.S.  | 3     | FC                  | III           | 3<br>+8   | 274                | LQ7                             | E1      | P001<br>IBC03<br>R001      |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 2925   | FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.  | 4.1   | FC1                 | II            | 4.1<br>+8 | 274                | LQ0                             | E2      | P002<br>IBC06              |                                  | MP10                            | T3                                 | TP33                       |
| 2925   | FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.  | 4.1   | FC1                 | III           | 4.1<br>+8 | 274                | LQ0                             | E1      | P002<br>IBC06<br>R001      |                                  | MP10                            | T1                                 | TP33                       |



| ADR tank              |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |                    | Hazard identification No. | UN No. | Name and description   |
|-----------------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|--------------------|---------------------------|--------|--|
| Tank code             | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation          |                           |        |  |
| 4.3                   | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5                | 5.3.2.3                   |        | 3.1.2  |
| (12)                  | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)               | (20)                      | (1)    | (2)  |
|                       |                    |                           | 4 (E)  |                                 |       | CV33                            | S5 S13 S21         |                           | 2909   | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or NATURAL THORIUM |
|                       |                    |                           | 4 (E)  |                                 |       | CV33                            | S5 S13 S21         |                           | 2910   | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL  |
|                       |                    |                           | 4 (E)  |                                 |       | CV33                            | S5 S13 S21         |                           | 2911   | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - INSTRUMENTS or ARTICLES   |
| S2.65AN(+) L2.65CN(+) | TU36 TT7 TM7       | AT                        | 0 (E)  |                                 | VV16  | CV33                            | S6 S11 S13 S21     | 70                        | 2912   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I), non fissile or fissile-excepted                                       |
|                       |                    |                           | 0 (E)  |                                 | VV17  | CV33                            | S6 S11 S13 S21     | 70                        | 2913   | RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), non fissile or fissile-excepted                      |
|                       |                    |                           | 0 (E)  |                                 |       | CV33                            | S6 S11 S12 S13 S21 | 70                        | 2915   | RADIOACTIVE MATERIAL, TYPE A PACKAGE, non-special form, non fissile or fissile-excepted                                    |
|                       |                    |                           | 0 (E)  |                                 |       | CV33                            | S6 S11 S13 S21     | 70                        | 2916   | RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, non fissile or fissile-excepted   |
|                       |                    |                           | 0 (E)  |                                 |       | CV33                            | S6 S11 S13 S21     | 70                        | 2917   | RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, non fissile or fissile-excepted   |
|                       |                    |                           | 0 (-)  |                                 |       | CV33                            | S6 S11 S13 S21     | 70                        | 2919   | RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, non fissile or fissile-excepted                               |
| L10BH                 |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S14             | 883                       | 2920   | CORROSIVE LIQUID, FLAMMABLE, N.O.S.  |
| L4BN                  |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2                 | 83                        | 2920   | CORROSIVE LIQUID, FLAMMABLE, N.O.S.  |
| S10AN L10BH           |                    | AT                        | 1 (E)  | V10                             |       |                                 | S14                | 884                       | 2921   | CORROSIVE SOLID, FLAMMABLE, N.O.S.   |
| SGAN L4BN             |                    | AT                        | 2 (E)  | V11                             |       |                                 |                    | 84                        | 2921   | CORROSIVE SOLID, FLAMMABLE, N.O.S.   |
| L10BH                 |                    | AT                        | 1 (C/D)                                      |                                 |       | CV13 CV28                       | S14                | 886                       | 2922   | CORROSIVE LIQUID, TOXIC, N.O.S.  |
| L4BN                  |                    | AT                        | 2 (E)  |                                 |       | CV13 CV28                       |                    | 86                        | 2922   | CORROSIVE LIQUID, TOXIC, N.O.S.  |
| L4BN                  |                    | AT                        | 3 (E)  |                                 |       | CV13 CV28                       |                    | 86                        | 2922   | CORROSIVE LIQUID, TOXIC, N.O.S.  |
| S10AN L10BH           |                    | AT                        | 1 (E)  | V10                             |       | CV13 CV28                       | S14                | 886                       | 2923   | CORROSIVE SOLID, TOXIC, N.O.S.   |
| SGAN L4BN             |                    | AT                        | 2 (E)  | V11                             |       | CV13 CV28                       |                    | 86                        | 2923   | CORROSIVE SOLID, TOXIC, N.O.S.   |
| SGAV L4BN             |                    | AT                        | 3 (E)  |                                 | VV9   | CV13 CV28                       |                    | 86                        | 2923   | CORROSIVE SOLID, TOXIC, N.O.S.   |
| L10CH                 | TU14 TE21          | FL                        | 1 (C/E)                                      |                                 |       |                                 | S2 S20             | 338                       | 2924   | FLAMMABLE LIQUID, CORROSIVE, N.O.S.  |
| L4BH                  |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20             | 338                       | 2924   | FLAMMABLE LIQUID, CORROSIVE, N.O.S.  |
| L4BN                  |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2                 | 38                        | 2924   | FLAMMABLE LIQUID, CORROSIVE, N.O.S.  |
| SGAN                  |                    | AT                        | 2 (E)  | V11 V12                         |       |                                 |                    | 48                        | 2925   | FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.  |
| SGAN                  |                    | AT                        | 3 (E)  | V12                             |       |                                 |                    | 48                        | 2925   | FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.  |

| UN No. | Name and description                                 | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2926   | FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.              | 4.1   | FT1                 | II            | 4.1<br>+6.1 | 274                | LQ0                             | E2      | P002<br>IBC06                 |                                  | MP10                            | T3                                 | TP33                       |
| 2926   | FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.              | 4.1   | FT1                 | III           | 4.1<br>+6.1 | 274                | LQ0                             | E1      | P002<br>IBC06<br>R001         |                                  | MP10                            | T1                                 | TP33                       |
| 2927   | TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.             | 6.1   | TC1                 | I             | 6.1<br>+8   | 274<br>315         | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 2927   | TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.             | 6.1   | TC1                 | II            | 6.1<br>+8   | 274                | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 2928   | TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.              | 6.1   | TC2                 | I             | 6.1<br>+8   | 274                | LQ0                             | E5      | P002<br>IBC05                 |                                  | MP18                            | T6                                 | TP33                       |
| 2928   | TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.              | 6.1   | TC2                 | II            | 6.1<br>+8   | 274                | LQ18                            | E4      | P002<br>IBC06                 |                                  | MP10                            | T3                                 | TP33                       |
| 2929   | TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.             | 6.1   | TF1                 | I             | 6.1<br>+3   | 274<br>315         | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 2929   | TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.             | 6.1   | TF1                 | II            | 6.1<br>+3   | 274                | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 2930   | TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.              | 6.1   | TF3                 | I             | 6.1<br>+4.1 | 274                | LQ0                             | E5      | P002<br>IBC05                 |                                  | MP18                            | T6                                 | TP33                       |
| 2930   | TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.              | 6.1   | TF3                 | II            | 6.1<br>+4.1 | 274                | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2931   | VANADYL SULPHATE                                     | 6.1   | T5                  | II            | 6.1         |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 2933   | METHYL 2-CHLOROPROPIONATE                            | 3     | F1                  | III           | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2934   | ISOPROPYL 2-CHLOROPROPIONATE                         | 3     | F1                  | III           | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2935   | ETHYL 2-CHLOROPROPIONATE                             | 3     | F1                  | III           | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2936   | THIOLACTIC ACID                                      | 6.1   | T1                  | II            | 6.1         |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2937   | alpha-METHYLBENZYL ALCOHOL, LIQUID                   | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2940   | 9-PHOSPHABICYCLO-NONANES (CYCLOOCTADIENE PHOSPHINES) | 4.2   | S2                  | II            | 4.2         |                    | LQ0                             | E2      | P410<br>IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 2941   | FLUOROANILINES                                       | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 2942   | 2-TRIFLUOROMETHYL-ANILINE                            | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            |                                    |                            |
| 2943   | TETRAHYDROFURFURYL-AMINE                             | 3     | F1                  | III           | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2945   | N-METHYLBUTYLAMINE                                   | 3     | FC                  | II            | 3<br>+8     |                    | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP1                        |
| 2946   | 2-AMINO-5-DIETHYLAMINOPENTANE                        | 6.1   | T1                  | III           | 6.1         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |

| ADR tank     |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                                 |
|--------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code    | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3          | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)         | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| SGAN         |                        | AT                        | 2<br>(E)                                     | V11<br>V12                      |       | CV28                            |           | 46                        | 2926   | FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.              |
| SGAN         |                        | AT                        | 3<br>(E)                                     | V12                             |       | CV28                            |           | 46                        | 2926   | FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.              |
| L10CH        | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 668                       | 2927   | TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.             |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 68                        | 2927   | TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.             |
| S10AH        | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   | V10                             |       | CV1<br>CV13<br>CV28             | S9 S14    | 668                       | 2928   | TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.              |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11<br>V12                      |       | CV13<br>CV28                    | S9 S19    | 68                        | 2928   | TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.              |
| L10CH        | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2929   | TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.             |
| L4BH         | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 2929   | TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.             |
|              |                        | AT                        | 1<br>(C/E)                                   | V10                             |       | CV1<br>CV13<br>CV28             | S9 S14    | 664                       | 2930   | TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.              |
| SGAH<br>L4BH | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 64                        | 2930   | TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.              |
| SGAH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 2931   | VANADYL SULPHATE                                     |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2933   | METHYL 2-CHLOROPROPIONATE                            |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2934   | ISOPROPYL 2-CHLOROPROPIONATE                         |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2935   | ETHYL 2-CHLOROPROPIONATE                             |
| L4BH         | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2936   | THIOLACTIC ACID                                      |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2937   | alpha-METHYLBENZYL ALCOHOL, LIQUID                   |
| SGAN         |                        | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |       |                                 |           | 40                        | 2940   | 9-PHOSPHABICYCLO-NONANES (CYCLOOCTADIENE PHOSPHINES) |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2941   | FLUOROANILINES                                       |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2942   | 2-TRIFLUOROMETHYL-ANILINE                            |
| LGBF         |                        | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 2943   | TETRAHYDROFURFURYL-AMINE                             |
| L4BH         |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 2945   | N-METHYLBUTYLAMINE                                   |
| L4BH         | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2946   | 2-AMINO-5-DIETHYLAMINOPENTANE                        |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels          | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |                 |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2947   | ISOPROPYL CHLOROACETATE   | 3     | F1                  | III           | 3               |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 2948   | 3-TRIFLUOROMETHYL-ANILINE   | 6.1   | T1                  | II            | 6.1             |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2949   | SODIUM HYDROSULPHIDE, HYDRATED with not less than 25% water of crystallization  | 8     | C6                  | II            | 8               | 523                | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T7                                 | TP2                        |
| 2950   | MAGNESIUM GRANULES, COATED, particle size not less than 149 microns   | 4.3   | W2                  | III           | 4.3             |                    | LQ12                            | E1      | P410<br>IBC08<br>R001         | B4                               | MP14                            | T1<br>BK2                          | TP33                       |
| 2956   | 5-tert-BUTYL-2,4,6-TRINITRO-m-XYLENE (MUSK XYLENE)  | 4.1   | SR1                 | III           | 4.1             | 638                | LQ0                             | E1      | P409                          |                                  | MP2                             |                                    |                            |
| 2965   | BORON TRIFLUORIDE DIMETHYL ETHERATE   | 4.3   | WFC                 | I             | 4.3<br>+3<br>+8 |                    | LQ0                             | E0      | P401                          |                                  | MP2                             | T10                                | TP2<br>TP7                 |
| 2966   | THIOGLYCOL  | 6.1   | T1                  | II            | 6.1             |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 2967   | SULPHAMIC ACID  | 8     | C2                  | III           | 8               |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 2968   | MANEB, STABILIZED or MANEB PREPARATION, STABILIZED against self-heating   | 4.3   | W2                  | III           | 4.3             | 547                | LQ12                            | E1      | P002<br>IBC08<br>R001         | B4                               | MP14                            | T1                                 | TP33                       |
| 2969   | CASTOR BEANS or CASTOR MEAL or CASTOR POMACE or CASTOR FLAKE  | 9     | M11                 | II            | 9               | 141                | LQ25                            | E2      | P002<br>IBC08                 | PP34<br>B4                       | MP10                            | T3<br>BK1 BK2                      | TP33                       |
| 2977   | RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSIONABLE   | 7     |                     |               | 7X<br>+7E<br>+8 | 172                | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |
| 2978   | RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, non fissile or fissile-excepted   | 7     |                     |               | 7X<br>+8        | 172<br>317         | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |
| 2983   | ETHYLENE OXIDE AND PROPYLENE OXIDE MIXTURE, not more than 30% ethylene oxide  | 3     | FT1                 | I             | 3<br>+6.1       |                    | LQ0                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP7                 |
| 2984   | HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 8% but less than 20% hydrogen peroxide (stabilized as necessary) | 5.1   | O1                  | III           | 5.1             | 65                 | LQ13                            | E1      | P504<br>IBC02<br>R001         | PP10<br>B5                       | MP15                            | T4                                 | TP1<br>TP6<br>TP24         |
| 2985   | CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.   | 3     | FC                  | II            | 3<br>+8         | 274<br>548         | LQ4                             | E2      | P010                          |                                  | MP19                            | T14                                | TP2 TP7<br>TP27            |
| 2986   | CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.   | 8     | CF1                 | II            | 8<br>+3         | 274<br>548         | LQ22                            | E2      | P010                          |                                  | MP15                            | T14                                | TP2 TP7<br>TP27            |
| 2987   | CHLOROSILANES, CORROSIVE, N.O.S.  | 8     | C3                  | II            | 8               | 274<br>548         | LQ22                            | E2      | P010                          |                                  | MP15                            | T14                                | TP2 TP7<br>TP27            |
| 2988   | CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.   | 4.3   | WFC                 | I             | 4.3<br>+3<br>+8 | 274<br>549         | LQ0                             | E0      | P401                          | RR7                              | MP2                             | T14                                | TP2<br>TP7                 |
| 2989   | LEAD PHOSPHITE, DIBASIC   | 4.1   | F3                  | II            | 4.1             |                    | LQ8                             | E2      | P002<br>IBC08                 | B4                               | MP11                            | T3                                 | TP33                       |
| 2989   | LEAD PHOSPHITE, DIBASIC   | 4.1   | F3                  | III           | 4.1             |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP11                            | T1                                 | TP33                       |
| 2990   | LIFE-SAVING APPLIANCES, SELF-INFLATING  | 9     | M5                  |               | 9               | 296<br>635         | LQ0                             | E0      | P905                          |                                  |                                 |                                    |                            |

| ADR tank     |                              | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |                   | Hazard identification No. | UN No. | Name and description  |
|--------------|------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-------------------|---------------------------|--------|---|
| Tank code    | Special provisions           |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation         |                           |        |   |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5               | 5.3.2.3                   |        | 3.1.2   |
| (12)         | (13)                         | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)              | (20)                      | (1)    | (2)   |
| LGBF         |                              | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2                | 30                        | 2947   | ISOPROPYL CHLOROACETATE   |
| L4BH         | TU15 TE19                    | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19            | 60                        | 2948   | 3-TRIFLUOROMETHYL-ANILINE   |
| SGAN<br>L4BN |                              | AT                        | 2 (E)  | V11                             |       |                                 |                   | 80                        | 2949   | SODIUM HYDROSULPHIDE, HYDRATED with not less than 25% water of crystallization  |
| SGAN         |                              | AT                        | 3 (E)  | V1                              | VV5   | CV23                            |                   | 423                       | 2950   | MAGNESIUM GRANULES, COATED, particle size not less than 149 microns   |
|              |                              |                           | 3 (D)  |                                 |       | CV14                            | S24               |                           | 2956   | 5-tert-BUTYL-2,4,6-TRINITRO-m-XYLENE (MUSK XYLENE)  |
| L10DH        | TU4 TU14<br>TU22 TE21<br>TM2 | FL                        | 0 (B/E)                                      | V1                              |       | CV23                            | S2 S20            | 382                       | 2965   | BORON TRIFLUORIDE DIMETHYL ETHERATE   |
| L4BH         | TU15 TE19                    | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19            | 60                        | 2966   | THIOGLYCOL  |
| SGAV         |                              | AT                        | 3 (E)  |                                 | VV9   |                                 |                   | 80                        | 2967   | SULPHAMIC ACID  |
| SGAN         |                              | AT                        | 0 (E)  | V1                              | VV5   | CV23                            |                   | 423                       | 2968   | MANEB, STABILIZED or MANEB PREPARATION, STABILIZED against self-heating   |
| SGAV         |                              | AT                        | 2 (E)  | V11                             | VV3   |                                 |                   | 90                        | 2969   | CASTOR BEANS or CASTOR MEAL or CASTOR POMACE or CASTOR FLAKE  |
|              |                              |                           | 0 (C)  |                                 |       | CV33                            | S6 S11 S13<br>S21 | 78                        | 2977   | RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE   |
|              |                              |                           | 0 (C)  |                                 |       | CV33                            | S6 S11 S13<br>S21 | 78                        | 2978   | RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, non fissile or fissile-excepted   |
| L10CH        | TU14 TU15<br>TE21            | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22            | 336                       | 2983   | ETHYLENE OXIDE AND PROPYLENE OXIDE MIXTURE, not more than 30% ethylene oxide  |
| LGBV         | TU3 TC2 TE8<br>TE11 TT1      | AT                        | 3 (E)  |                                 |       | CV24                            |                   | 50                        | 2984   | HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 8% but less than 20% hydrogen peroxide (stabilized as necessary) |
| L4BH         |                              | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20            | X338                      | 2985   | CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.   |
| L4BN         |                              | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2                | X83                       | 2986   | CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.   |
| L4BN         |                              | AT                        | 2 (E)  |                                 |       |                                 |                   | X80                       | 2987   | CHLOROSILANES, CORROSIVE, N.O.S.  |
| L10DH        | TU14 TU26<br>TE21 TM2<br>TM3 | FL                        | 0 (B/E)                                      | V1                              |       | CV23                            | S2 S20            | X338                      | 2988   | CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.   |
| SGAN         |                              | AT                        | 2 (E)  | V11                             |       |                                 |                   | 40                        | 2989   | LEAD PHOSPHITE, DIBASIC   |
| SGAV         |                              | AT                        | 3 (E)  |                                 | VV1   |                                 |                   | 40                        | 2989   | LEAD PHOSPHITE, DIBASIC   |
|              |                              |                           | 3 (E)  |                                 |       |                                 |                   |                           | 2990   | LIFE-SAVING APPLIANCES, SELF-INFLATING  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted |         | Packaging                     |                            |                          | Portable tanks and bulk containers |                    |
|--------|---|-------|---------------------|---------------|-----------|--------------------|----------------------|---------|-------------------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |   |       |                     |               |           |                    | quantities           |         | Packing instructions          | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2     | 3.3                | 3.4.6                | 3.5.1.2 | 4.1.4                         | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                 | (7b)    | (8)                           | (9a)                       | (9b)                     | (10)                               | (11)               |
| 2991   | CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      | 6.1   | TF2                 | I             | 6.1<br>+3 | 61<br>274          | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 2991   | CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      | 6.1   | TF2                 | II            | 6.1<br>+3 | 61<br>274          | LQ17                 | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |
| 2991   | CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      | 6.1   | TF2                 | III           | 6.1<br>+3 | 61<br>274          | LQ7                  | E1      | P001<br>IBC03<br>R001         |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 2992   | CARBAMATE PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | I             | 6.1       | 61<br>274<br>648   | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 2992   | CARBAMATE PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | II            | 6.1       | 61<br>274<br>648   | LQ17                 | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |
| 2992   | CARBAMATE PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | III           | 6.1       | 61<br>274<br>648   | LQ7                  | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 2993   | ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      | 6.1   | TF2                 | I             | 6.1<br>+3 | 61<br>274          | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 2993   | ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      | 6.1   | TF2                 | II            | 6.1<br>+3 | 61<br>274          | LQ17                 | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |
| 2993   | ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      | 6.1   | TF2                 | III           | 6.1<br>+3 | 61<br>274          | LQ7                  | E1      | P001<br>IBC03<br>R001         |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 2994   | ARSENICAL PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | I             | 6.1       | 61<br>274<br>648   | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 2994   | ARSENICAL PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | II            | 6.1       | 61<br>274<br>648   | LQ17                 | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |
| 2994   | ARSENICAL PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | III           | 6.1       | 61<br>274<br>648   | LQ7                  | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 2995   | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | I             | 6.1<br>+3 | 61<br>274          | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 2995   | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | II            | 6.1<br>+3 | 61<br>274          | LQ17                 | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |
| 2995   | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | III           | 6.1<br>+3 | 61<br>274          | LQ7                  | E1      | P001<br>IBC03<br>R001         |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 2996   | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | I             | 6.1       | 61<br>274<br>648   | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 2996   | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | II            | 6.1       | 61<br>274<br>648   | LQ17                 | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |
| 2996   | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | III           | 6.1       | 61<br>274<br>648   | LQ7                  | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 2997   | TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C       | 6.1   | TF2                 | I             | 6.1<br>+3 | 61<br>274          | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2991   | CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      |
| L4BH      | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 2991   | CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      |
| L4BH      | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 2991   | CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2992   | CARBAMATE PESTICIDE, LIQUID, TOXIC  |
| L4BH      | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2992   | CARBAMATE PESTICIDE, LIQUID, TOXIC  |
| L4BH      | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2992   | CARBAMATE PESTICIDE, LIQUID, TOXIC  |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2993   | ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      |
| L4BH      | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 2993   | ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      |
| L4BH      | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 2993   | ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2994   | ARSENICAL PESTICIDE, LIQUID, TOXIC  |
| L4BH      | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2994   | ARSENICAL PESTICIDE, LIQUID, TOXIC  |
| L4BH      | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2994   | ARSENICAL PESTICIDE, LIQUID, TOXIC  |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2995   | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L4BH      | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 2995   | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L4BH      | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 2995   | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2996   | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC   |
| L4BH      | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2996   | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC   |
| L4BH      | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2996   | ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC   |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 2997   | TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C       |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |        |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 2997   | TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      | 6.1   | TF2                 | II            | 6.1 +3 | 61 274             | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |
| 2997   | TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      | 6.1   | TF2                 | III           | 6.1 +3 | 61 274             | LQ7                             | E1      | P001 IBC03 R001            |                                  | MP19                            | T7                                 | TP2 TP28                   |
| 2998   | TRIAZINE PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | I             | 6.1    | 61 274 648         | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        | T14                                | TP2 TP27                   |
| 2998   | TRIAZINE PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | II            | 6.1    | 61 274 648         | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |
| 2998   | TRIAZINE PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | III           | 6.1    | 61 274 648         | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T7                                 | TP2 TP28                   |
| 3005   | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | I             | 6.1 +3 | 61 274             | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        | T14                                | TP2                        |
| 3005   | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | II            | 6.1 +3 | 61 274             | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |
| 3005   | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | III           | 6.1 +3 | 61 274             | LQ7                             | E1      | P001 IBC03 R001            |                                  | MP19                            | T7                                 | TP2 TP28                   |
| 3006   | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | I             | 6.1    | 61 274 648         | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        | T14                                | TP2                        |
| 3006   | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | II            | 6.1    | 61 274 648         | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |
| 3006   | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | III           | 6.1    | 61 274 648         | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T7                                 | TP2 TP28                   |
| 3009   | COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C  | 6.1   | TF2                 | I             | 6.1 +3 | 61 274             | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        | T14                                | TP2 TP27                   |
| 3009   | COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C  | 6.1   | TF2                 | II            | 6.1 +3 | 61 274             | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |
| 3009   | COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C  | 6.1   | TF2                 | III           | 6.1 +3 | 61 274             | LQ7                             | E1      | P001 IBC03 R001            |                                  | MP19                            | T7                                 | TP2 TP28                   |
| 3010   | COPPER BASED PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | I             | 6.1    | 61 274 648         | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        | T14                                | TP2 TP27                   |
| 3010   | COPPER BASED PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | II            | 6.1    | 61 274 648         | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |
| 3010   | COPPER BASED PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | III           | 6.1    | 61 274 648         | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T7                                 | TP2 TP28                   |
| 3011   | MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | I             | 6.1 +3 | 61 274             | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        | T14                                | TP2 TP27                   |
| 3011   | MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | II            | 6.1 +3 | 61 274             | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |



| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 2997   | TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 2997   | TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C      |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 2998   | TRIAZINE PESTICIDE, LIQUID, TOXIC  |
| L4BH      | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 2998   | TRIAZINE PESTICIDE, LIQUID, TOXIC  |
| L4BH      | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 2998   | TRIAZINE PESTICIDE, LIQUID, TOXIC  |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3005   | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3005   | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 3005   | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3006   | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC   |
| L4BH      | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3006   | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC   |
| L4BH      | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3006   | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC   |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3009   | COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C  |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3009   | COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C  |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 3009   | COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C  |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3010   | COPPER BASED PESTICIDE, LIQUID, TOXIC  |
| L4BH      | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3010   | COPPER BASED PESTICIDE, LIQUID, TOXIC  |
| L4BH      | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3010   | COPPER BASED PESTICIDE, LIQUID, TOXIC  |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3011   | MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3011   | MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted |         | Packaging                     |                            |                          | Portable tanks and bulk containers |                    |
|--------|--|-------|---------------------|---------------|-----------|--------------------|----------------------|---------|-------------------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |  |       |                     |               |           |                    | quantities           |         | Packing instructions          | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2  | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2     | 3.3                | 3.4.6                | 3.5.1.2 | 4.1.4                         | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                 | (7b)    | (8)                           | (9a)                       | (9b)                     | (10)                               | (11)               |
| 3011   | MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C           | 6.1   | TF2                 | III           | 6.1<br>+3 | 61<br>274          | LQ7                  | E1      | P001<br>IBC03<br>R001         |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 3012   | MERCURY BASED PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | I             | 6.1       | 61<br>274<br>648   | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 3012   | MERCURY BASED PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | II            | 6.1       | 61<br>274<br>648   | LQ17                 | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |
| 3012   | MERCURY BASED PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | III           | 6.1       | 61<br>274<br>648   | LQ7                  | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 3013   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | I             | 6.1<br>+3 | 61<br>274          | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 3013   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | II            | 6.1<br>+3 | 61<br>274          | LQ17                 | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |
| 3013   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | III           | 6.1<br>+3 | 61<br>274          | LQ7                  | E1      | P001<br>IBC03<br>R001         |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 3014   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | I             | 6.1       | 61<br>274<br>648   | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 3014   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | II            | 6.1       | 61<br>274<br>648   | LQ17                 | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |
| 3014   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | III           | 6.1       | 61<br>274<br>648   | LQ7                  | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 3015   | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C            | 6.1   | TF2                 | I             | 6.1<br>+3 | 61<br>274          | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 3015   | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C            | 6.1   | TF2                 | II            | 6.1<br>+3 | 61<br>274          | LQ17                 | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |
| 3015   | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C            | 6.1   | TF2                 | III           | 6.1<br>+3 | 61<br>274          | LQ7                  | E1      | P001<br>IBC03<br>R001         |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 3016   | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | I             | 6.1       | 61<br>274<br>648   | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 3016   | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | II            | 6.1       | 61<br>274<br>648   | LQ17                 | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |
| 3016   | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | III           | 6.1       | 61<br>274<br>648   | LQ7                  | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 3017   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C        | 6.1   | TF2                 | I             | 6.1<br>+3 | 61<br>274          | LQ0                  | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 3017   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C        | 6.1   | TF2                 | II            | 6.1<br>+3 | 61<br>274          | LQ17                 | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 3011   | MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C           |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3012   | MERCURY BASED PESTICIDE, LIQUID, TOXIC   |
| L4BH      | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3012   | MERCURY BASED PESTICIDE, LIQUID, TOXIC   |
| L4BH      | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3012   | MERCURY BASED PESTICIDE, LIQUID, TOXIC   |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3013   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3013   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 3013   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3014   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC   |
| L4BH      | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3014   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC   |
| L4BH      | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3014   | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC   |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3015   | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C            |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3015   | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C            |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 3015   | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C            |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3016   | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC  |
| L4BH      | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3016   | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC  |
| L4BH      | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3016   | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC  |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3017   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C        |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3017   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C        |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3017   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C    | 6.1   | TF2                 | III           | 6.1<br>+3 | 61<br>274          | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP2<br>TP28                |
| 3018   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3018   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | II            | 6.1       | 61<br>274<br>648   | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3018   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | III           | 6.1       | 61<br>274<br>648   | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP2<br>TP28                |
| 3019   | ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C           | 6.1   | TF2                 | I             | 6.1<br>+3 | 61<br>274          | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3019   | ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C           | 6.1   | TF2                 | II            | 6.1<br>+3 | 61<br>274          | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3019   | ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C           | 6.1   | TF2                 | III           | 6.1<br>+3 | 61<br>274          | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP2<br>TP28                |
| 3020   | ORGANOTIN PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3020   | ORGANOTIN PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | II            | 6.1       | 61<br>274<br>648   | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3020   | ORGANOTIN PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | III           | 6.1       | 61<br>274<br>648   | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP2<br>TP28                |
| 3021   | PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash-point less than 23 °C                 | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 3021   | PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash-point less than 23 °C                 | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 3022   | 1,2-BUTYLENE OXIDE, STABILIZED   | 3     | F1                  | II            | 3         |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 3023   | 2-METHYL-2-HEPTANETHIOL  | 6.1   | TF1                 | I             | 6.1<br>+3 |                    | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T20                                | TP2<br>TP35                |
| 3024   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C     | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 3024   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C     | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 3025   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | I             | 6.1<br>+3 | 61<br>274          | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3025   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | II            | 6.1<br>+3 | 61<br>274          | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3025   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 6.1   | TF2                 | III           | 6.1<br>+3 | 61<br>274          | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 3026   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 3017   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C    |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3018   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC  |
| L4BH      | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3018   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC  |
| L4BH      | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3018   | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC  |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3019   | ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C           |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3019   | ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C           |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 3019   | ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C           |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3020   | ORGANOTIN PESTICIDE, LIQUID, TOXIC   |
| L4BH      | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3020   | ORGANOTIN PESTICIDE, LIQUID, TOXIC   |
| L4BH      | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3020   | ORGANOTIN PESTICIDE, LIQUID, TOXIC   |
| L10CH     | TU14 TU15<br>TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 3021   | PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash-point less than 23 °C                 |
| L4BH      | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 3021   | PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash-point less than 23 °C                 |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 339                       | 3022   | 1,2-BUTYLENE OXIDE, STABILIZED   |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3023   | 2-METHYL-2-HEPTANETHIOL  |
| L10CH     | TU14 TU15<br>TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 3024   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C     |
| L4BH      | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 3024   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C     |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3025   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3025   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L4BH      | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 3025   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3026   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC   |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3026   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | II            | 6.1       | 61<br>274<br>648   | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3026   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | III           | 6.1       | 61<br>274<br>648   | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 3027   | COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3027   | COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3027   | COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC   | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3028   | BATTERIES, DRY, CONTAINING POTASSIUM HYDROXIDE SOLID, electric storage  | 8     | C11                 |               | 8         | 295<br>304<br>598  | LQ0                             | E0      | P801<br>P801a                 |                                  |                                 |                                    |                            |
| 3048   | ALUMINIUM PHOSPHIDE PESTICIDE   | 6.1   | T7                  | I             | 6.1       | 153<br>648         | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3054   | CYCLOHEXYL MERCAPTAN  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 3055   | 2-(2-AMINOETHOXY) ETHANOL   | 8     | C7                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 3056   | n-HEPTALDEHYDE  | 3     | F1                  | III           | 3         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 3057   | TRIFLUOROACETYL CHLORIDE  | 2     | 2TC                 |               | 2.3<br>+8 |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | T50                                | TP21                       |
| 3064   | NITROGLYCERIN, SOLUTION IN ALCOHOL with more than 1% but not more than 5% nitroglycerin   | 3     | D                   | II            | 3         |                    | LQ0                             | E0      | P300                          |                                  | MP2                             |                                    |                            |
| 3065   | ALCOHOLIC BEVERAGES, with more than 70% alcohol by volume   | 3     | F1                  | II            | 3         |                    | LQ5                             | E2      | P001<br>IBC02<br>R001         | PP2                              | MP19                            | T4                                 | TP1                        |
| 3065   | ALCOHOLIC BEVERAGES, with more than 24% but not more than 70% alcohol by volume   | 3     | F1                  | III           | 3         | 144<br>145<br>247  | LQ7                             | E1      | P001<br>IBC03<br>R001         | PP2                              | MP19                            | T2                                 | TP1                        |
| 3066   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) | 8     | C9                  | II            | 8         | 163                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2<br>TP28                |
| 3066   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) | 8     | C9                  | III           | 8         | 163                | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 3070   | ETHYLENE OXIDE AND DICHLORODIFLUOROMETHANE MIXTURE with not more than 12.5% ethylene oxide  | 2     | 2A                  |               | 2.2       |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)<br>T50                         |                            |

| ADR tank       |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|----------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code      | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3            | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)           | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BH           | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3026   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC  |
| L4BH           | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3026   | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC  |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3027   | COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3027   | COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3027   | COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC   |
|                |                        |                           | 3 (E)  |                                 | VV14  |                                 |           | 80                        | 3028   | BATTERIES, DRY, CONTAINING POTASSIUM HYDROXIDE SOLID, electric storage  |
| S10AH          | TU15 TE19              | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 642                       | 3048   | ALUMINIUM PHOSPHIDE PESTICIDE   |
| LGBF           |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 3054   | CYCLOHEXYL MERCAPTAN  |
| L4BN           |                        | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 3055   | 2-(2-AMINOETHOXY) ETHANOL   |
| LGBF           |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 3056   | n-HEPTALDEHYDE  |
| PxBH(M)        | TA4<br>TT9             | AT                        | 1 (C/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S14       | 268                       | 3057   | TRIFLUOROACETYL CHLORIDE  |
|                |                        |                           | 2 (B)  |                                 |       |                                 | S2 S14    |                           | 3064   | NITROGLYCERIN, SOLUTION IN ALCOHOL with more than 1% but not more than 5% nitroglycerin   |
| LGBF           |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 3065   | ALCOHOLIC BEVERAGES, with more than 70% alcohol by volume   |
| LGBF           |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 3065   | ALCOHOLIC BEVERAGES, with more than 24% but not more than 70% alcohol by volume   |
| L4BN           |                        | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 3066   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) |
| L4BN           |                        | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 3066   | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) |
| PxBN(M)        | TA4<br>TT9             | AT                        | 3 (C/E)                                      |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 3070   | ETHYLENE OXIDE AND DICHLORODIFLUORO-METHANE MIXTURE with not more than 12.5% ethylene oxide   |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels          | Special provisions       | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------------|--------------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |                 |                          | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)             | (6)                      | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3071   | MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, TOXIC, FLAMMABLE, N.O.S. | 6.1   | TF1                 | II            | 6.1<br>+3       | 274                      | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3072   | LIFE-SAVING APPLIANCES NOT SELF-INFLATING containing dangerous goods as equipment                   | 9     | M5                  |               | 9               | 296<br>635               | LQ0                             | E0      | P905                          |                                  |                                 |                                    |                            |
| 3073   | VINYLPYRIDINES, STABILIZED  | 6.1   | TFC                 | II            | 6.1<br>+3<br>+8 |                          | LQ17                            | E4      | P001<br>IBC01                 |                                  | MP15                            | T7                                 | TP2                        |
| 3077   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  | 9     | M7                  | III           | 9               | 274<br>335<br>601        | LQ27                            | E1      | P002<br>IBC08<br>LP02<br>R001 | PP12<br>B3                       | MP10                            | T1<br>BK1 BK2                      | TP33                       |
| 3078   | CERIUM, turnings or gritty powder   | 4.3   | W2                  | II            | 4.3             | 550                      | LQ11                            | E2      | P410<br>IBC07                 |                                  | MP14                            | T3                                 | TP33                       |
| 3079   | METHACRYLONITRILE, STABILIZED   | 3     | FT1                 | I             | 3<br>+6.1       |                          | LQ0                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2                        |
| 3080   | ISOCYANATES, TOXIC, FLAMMABLE, N.O.S. or ISOCYANATE SOLUTION, TOXIC, FLAMMABLE, N.O.S.              | 6.1   | TF1                 | II            | 6.1<br>+3       | 274<br>551               | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3082   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.   | 9     | M6                  | III           | 9               | 274<br>335<br>601        | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 | PP1                              | MP19                            | T4                                 | TP1<br>TP29                |
| 3083   | PERCHLORYL FLUORIDE   | 2     | 2TO                 |               | 2.3<br>+5.1     |                          | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 3084   | CORROSIVE SOLID, OXIDIZING, N.O.S.  | 8     | CO2                 | I             | 8<br>+5.1       | 274                      | LQ0                             | E0      | P002                          |                                  | MP18                            | T6                                 | TP33                       |
| 3084   | CORROSIVE SOLID, OXIDIZING, N.O.S.  | 8     | CO2                 | II            | 8<br>+5.1       | 274                      | LQ23                            | E2      | P002<br>IBC06                 |                                  | MP10                            | T3                                 | TP33                       |
| 3085   | OXIDIZING SOLID, CORROSIVE, N.O.S.  | 5.1   | OC2                 | I             | 5.1<br>+8       | 274                      | LQ0                             | E0      | P503                          |                                  | MP2                             |                                    |                            |
| 3085   | OXIDIZING SOLID, CORROSIVE, N.O.S.  | 5.1   | OC2                 | II            | 5.1<br>+8       | 274                      | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 3085   | OXIDIZING SOLID, CORROSIVE, N.O.S.  | 5.1   | OC2                 | III           | 5.1<br>+8       | 274                      | LQ12                            | E1      | P002<br>IBC08<br>R001         | B3                               | MP2                             | T1                                 | TP33                       |
| 3086   | TOXIC SOLID, OXIDIZING, N.O.S.  | 6.1   | TO2                 | I             | 6.1<br>+5.1     | 274                      | LQ0                             | E5      | P002                          |                                  | MP18                            | T6                                 | TP33                       |
| 3086   | TOXIC SOLID, OXIDIZING, N.O.S.  | 6.1   | TO2                 | II            | 6.1<br>+5.1     | 274                      | LQ18                            | E4      | P002<br>IBC06                 |                                  | MP10                            | T3                                 | TP33                       |
| 3087   | OXIDIZING SOLID, TOXIC, N.O.S.  | 5.1   | OT2                 | I             | 5.1<br>+6.1     | 274                      | LQ0                             | E0      | P503                          |                                  | MP2                             |                                    |                            |
| 3087   | OXIDIZING SOLID, TOXIC, N.O.S.  | 5.1   | OT2                 | II            | 5.1<br>+6.1     | 274                      | LQ11                            | E2      | P002<br>IBC06                 |                                  | MP2                             | T3                                 | TP33                       |
| 3087   | OXIDIZING SOLID, TOXIC, N.O.S.  | 5.1   | OT2                 | III           | 5.1<br>+6.1     | 274                      | LQ12                            | E1      | P002<br>IBC08<br>R001         | B3                               | MP2                             | T1                                 | TP33                       |
| 3088   | SELF-HEATING SOLID, ORGANIC, N.O.S.   | 4.2   | S2                  | II            | 4.2             | 274                      | LQ0                             | E2      | P410<br>IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 3088   | SELF-HEATING SOLID, ORGANIC, N.O.S.   | 4.2   | S2                  | III           | 4.2             | 274                      | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP14                            | T1                                 | TP33                       |
| 3089   | METAL POWDER, FLAMMABLE, N.O.S.   | 4.1   | F3                  | II            | 4.1             | 274<br>552               | LQ8                             | E2      | P002<br>IBC08                 | B4                               | MP11                            | T3                                 | TP33                       |
| 3089   | METAL POWDER, FLAMMABLE, N.O.S.   | 4.1   | F3                  | III           | 4.1             | 274<br>552               | LQ9                             | E1      | P002<br>IBC06<br>R001         |                                  | MP11                            | T1                                 | TP33                       |
| 3090   | LITHIUM METAL BATTERIES (including lithium alloy batteries)   | 9     | M4                  | II            | 9               | 188<br>230<br>310<br>636 | LQ0                             | E0      | P903<br>P903a<br>P903b        |                                  |                                 |                                    |                            |



| ADR tank       |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|----------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code      | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3            | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)           | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BH           | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3071   | MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, TOXIC, FLAMMABLE, N.O.S. |
|                |                        |                           | 3 (E)  |                                 |       |                                 |           |                           | 3072   | LIFE-SAVING APPLIANCES NOT SELF-INFLATING containing dangerous goods as equipment                   |
| L4BH           | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 638                       | 3073   | VINYLPYRIDINES, STABILIZED  |
| SGAV<br>LGBV   |                        | AT                        | 3 (E)  | V13                             | VV1   | CV13                            |           | 90                        | 3077   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  |
| SGAN           |                        | AT                        | 2 (D/E)                                      | V1<br>V12                       |       | CV23                            |           | 423                       | 3078   | CERIUM, turnings or gritty powder   |
| L10CH          | TU14 TU15<br>TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 3079   | METHACRYLONITRILE, STABILIZED   |
| L4BH           | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3080   | ISOCYANATES, TOXIC, FLAMMABLE, N.O.S. or ISOCYANATE SOLUTION, TOXIC, FLAMMABLE, N.O.S.              |
| LGBV           |                        | AT                        | 3 (E)  |                                 |       | CV13                            |           | 90                        | 3082   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.   |
| PxBH(M)        | TA4<br>TT9             | AT                        | 1 (C/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S14       | 265                       | 3083   | PERCHLORYL FLUORIDE   |
| S10AH<br>L10BH |                        | AT                        | 1 (E)  |                                 |       | CV24                            | S14       | 885                       | 3084   | CORROSIVE SOLID, OXIDIZING, N.O.S.  |
| SGAN<br>L4BN   |                        | AT                        | 2 (E)  | V11<br>V12                      |       | CV24                            |           | 85                        | 3084   | CORROSIVE SOLID, OXIDIZING, N.O.S.  |
|                |                        |                           | 1 (E)  |                                 |       | CV24                            | S20       |                           | 3085   | OXIDIZING SOLID, CORROSIVE, N.O.S.  |
| SGAN           | TU3                    | AT                        | 2 (E)  | V11<br>V12                      |       | CV24                            |           | 58                        | 3085   | OXIDIZING SOLID, CORROSIVE, N.O.S.  |
| SGAN           | TU3                    | AT                        | 3 (E)  |                                 |       | CV24                            |           | 58                        | 3085   | OXIDIZING SOLID, CORROSIVE, N.O.S.  |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 665                       | 3086   | TOXIC SOLID, OXIDIZING, N.O.S.  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2 (D/E)                                      | V11<br>V12                      |       | CV13<br>CV28                    | S9 S19    | 65                        | 3086   | TOXIC SOLID, OXIDIZING, N.O.S.  |
|                |                        |                           | 1 (E)  |                                 |       | CV24<br>CV28                    | S20       |                           | 3087   | OXIDIZING SOLID, TOXIC, N.O.S.  |
| SGAN           | TU3                    | AT                        | 2 (E)  | V11<br>V12                      |       | CV24<br>CV28                    |           | 56                        | 3087   | OXIDIZING SOLID, TOXIC, N.O.S.  |
| SGAN           | TU3                    | AT                        | 3 (E)  |                                 |       | CV24<br>CV28                    |           | 56                        | 3087   | OXIDIZING SOLID, TOXIC, N.O.S.  |
| SGAV           |                        | AT                        | 2 (D/E)                                      | V1<br>V12                       |       |                                 |           | 40                        | 3088   | SELF-HEATING SOLID, ORGANIC, N.O.S.   |
| SGAV           |                        | AT                        | 3 (E)  | V1                              |       |                                 |           | 40                        | 3088   | SELF-HEATING SOLID, ORGANIC, N.O.S.   |
| SGAN           |                        | AT                        | 2 (E)  | V11                             |       |                                 |           | 40                        | 3089   | METAL POWDER, FLAMMABLE, N.O.S.   |
| SGAV           |                        | AT                        | 3 (E)  | V12                             | VV1   |                                 |           | 40                        | 3089   | METAL POWDER, FLAMMABLE, N.O.S.   |
|                |                        |                           | 2 (E)  |                                 |       |                                 |           |                           | 3090   | LITHIUM METAL BATTERIES (including lithium alloy batteries)   |

| UN No. | Name and description  | Class | Classification code | Packing group       | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------------|-------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |                     |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)                 | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3091   | LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT (including lithium alloy batteries) | 9     | M4                  | II                  | 9           | 188<br>230<br>636  | LQ0                             | E0      | P903<br>P903a<br>P903b        |                                  |                                 |                                    |                            |
| 3092   | 1-METHOXY-2-PROPANOL  | 3     | F1                  | III                 | 3           |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T2                                 | TP1                        |
| 3093   | CORROSIVE LIQUID, OXIDIZING, N.O.S.   | 8     | CO1                 | I                   | 8<br>+5.1   | 274                | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     |                                    |                            |
| 3093   | CORROSIVE LIQUID, OXIDIZING, N.O.S.   | 8     | CO1                 | II                  | 8<br>+5.1   | 274                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            |                                    |                            |
| 3094   | CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.  | 8     | CW1                 | I                   | 8<br>+4.3   | 274                | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     |                                    |                            |
| 3094   | CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.  | 8     | CW1                 | II                  | 8<br>+4.3   | 274                | LQ22                            | E2      | P001                          |                                  | MP15                            |                                    |                            |
| 3095   | CORROSIVE SOLID, SELF-HEATING, N.O.S.   | 8     | CS2                 | I                   | 8<br>+4.2   | 274                | LQ0                             | E0      | P002                          |                                  | MP18                            | T6                                 | TP33                       |
| 3095   | CORROSIVE SOLID, SELF-HEATING, N.O.S.   | 8     | CS2                 | II                  | 8<br>+4.2   | 274                | LQ23                            | E2      | P002<br>IBC06                 |                                  | MP10                            | T3                                 | TP33                       |
| 3096   | CORROSIVE SOLID, WATER-REACTIVE, N.O.S.   | 8     | CW2                 | I                   | 8<br>+4.3   | 274                | LQ0                             | E0      | P002                          |                                  | MP18                            | T6                                 | TP33                       |
| 3096   | CORROSIVE SOLID, WATER-REACTIVE, N.O.S.   | 8     | CW2                 | II                  | 8<br>+4.3   | 274                | LQ23                            | E2      | P002<br>IBC06                 |                                  | MP10                            | T3                                 | TP33                       |
| 3097   | FLAMMABLE SOLID, OXIDIZING, N.O.S.  | 4.1   | FO                  | CARRIAGE PROHIBITED |             |                    |                                 |         |                               |                                  |                                 |                                    |                            |
| 3098   | OXIDIZING LIQUID, CORROSIVE, N.O.S.   | 5.1   | OC1                 | I                   | 5.1<br>+8   | 274                | LQ0                             | E0      | P502                          |                                  | MP2                             |                                    |                            |
| 3098   | OXIDIZING LIQUID, CORROSIVE, N.O.S.   | 5.1   | OC1                 | II                  | 5.1<br>+8   | 274                | LQ10                            | E2      | P504<br>IBC01                 |                                  | MP2                             |                                    |                            |
| 3098   | OXIDIZING LIQUID, CORROSIVE, N.O.S.   | 5.1   | OC1                 | III                 | 5.1<br>+8   | 274                | LQ13                            | E1      | P504<br>IBC02<br>R001         |                                  | MP2                             |                                    |                            |
| 3099   | OXIDIZING LIQUID, TOXIC, N.O.S.   | 5.1   | OT1                 | I                   | 5.1<br>+6.1 | 274                | LQ0                             | E0      | P502                          |                                  | MP2                             |                                    |                            |
| 3099   | OXIDIZING LIQUID, TOXIC, N.O.S.   | 5.1   | OT1                 | II                  | 5.1<br>+6.1 | 274                | LQ10                            | E2      | P504<br>IBC01                 |                                  | MP2                             |                                    |                            |
| 3099   | OXIDIZING LIQUID, TOXIC, N.O.S.   | 5.1   | OT1                 | III                 | 5.1<br>+6.1 | 274                | LQ13                            | E1      | P504<br>IBC02<br>R001         |                                  | MP2                             |                                    |                            |
| 3100   | OXIDIZING SOLID, SELF-HEATING, N.O.S.   | 5.1   | OS                  | CARRIAGE PROHIBITED |             |                    |                                 |         |                               |                                  |                                 |                                    |                            |
| 3101   | ORGANIC PEROXIDE TYPE B, LIQUID   | 5.2   | P1                  |                     | 5.2<br>+1   | 122<br>181<br>274  | LQ14                            | E0      | P520                          |                                  | MP4                             |                                    |                            |
| 3102   | ORGANIC PEROXIDE TYPE B, SOLID  | 5.2   | P1                  |                     | 5.2<br>+1   | 122<br>181<br>274  | LQ15                            | E0      | P520                          |                                  | MP4                             |                                    |                            |
| 3103   | ORGANIC PEROXIDE TYPE C, LIQUID   | 5.2   | P1                  |                     | 5.2         | 122<br>274         | LQ14                            | E0      | P520                          |                                  | MP4                             |                                    |                            |
| 3104   | ORGANIC PEROXIDE TYPE C, SOLID  | 5.2   | P1                  |                     | 5.2         | 122<br>274         | LQ15                            | E0      | P520                          |                                  | MP4                             |                                    |                            |
| 3105   | ORGANIC PEROXIDE TYPE D, LIQUID   | 5.2   | P1                  |                     | 5.2         | 122<br>274         | LQ16                            | E0      | P520                          |                                  | MP4                             |                                    |                            |
| 3106   | ORGANIC PEROXIDE TYPE D, SOLID  | 5.2   | P1                  |                     | 5.2         | 122<br>274         | LQ11                            | E0      | P520                          |                                  | MP4                             |                                    |                            |

| ADR tank            |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|---------------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code           | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3                 | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)                | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
|                     |                    |                           | 2 (E)  |                                 |       |                                 |           |                           | 3091   | LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT (including lithium alloy batteries) |
| LGBF                |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 3092   | 1-METHOXY-2-PROPANOL  |
| L10BH               |                    | AT                        | 1 (E)  |                                 |       | CV24                            | S14       | 885                       | 3093   | CORROSIVE LIQUID, OXIDIZING, N.O.S.   |
| L4BN                |                    | AT                        | 2 (E)  |                                 |       | CV24                            |           | 85                        | 3093   | CORROSIVE LIQUID, OXIDIZING, N.O.S.   |
| L10BH               |                    | AT                        | 1 (D/E)                                      |                                 |       |                                 | S14       | 823                       | 3094   | CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.  |
| L4BN                |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 823                       | 3094   | CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.  |
| S10AN               |                    | AT                        | 1 (E)  |                                 |       |                                 | S14       | 884                       | 3095   | CORROSIVE SOLID, SELF-HEATING, N.O.S.   |
| SGAN                |                    | AT                        | 2 (E)  | V11 V12                         |       |                                 |           | 84                        | 3095   | CORROSIVE SOLID, SELF-HEATING, N.O.S.   |
| S10AN L10BH         |                    | AT                        | 1 (E)  |                                 |       |                                 | S14       | 842                       | 3096   | CORROSIVE SOLID, WATER-REACTIVE, N.O.S.   |
| SGAN L4BN           |                    | AT                        | 2 (E)  | V11 V12                         |       |                                 |           | 842                       | 3096   | CORROSIVE SOLID, WATER-REACTIVE, N.O.S.   |
| CARRIAGE PROHIBITED |                    |                           |  |                                 |       |                                 |           |                           | 3097   | FLAMMABLE SOLID, OXIDIZING, N.O.S.  |
|                     |                    |                           | 1 (E)  |                                 |       | CV24                            | S20       |                           | 3098   | OXIDIZING LIQUID, CORROSIVE, N.O.S.   |
|                     |                    |                           | 2 (E)  |                                 |       | CV24                            |           |                           | 3098   | OXIDIZING LIQUID, CORROSIVE, N.O.S.   |
|                     |                    |                           | 3 (E)  |                                 |       | CV24                            |           |                           | 3098   | OXIDIZING LIQUID, CORROSIVE, N.O.S.   |
|                     |                    |                           | 1 (E)  |                                 |       | CV24 CV28                       | S20       |                           | 3099   | OXIDIZING LIQUID, TOXIC, N.O.S.   |
|                     |                    |                           | 2 (E)  |                                 |       | CV24 CV28                       |           |                           | 3099   | OXIDIZING LIQUID, TOXIC, N.O.S.   |
|                     |                    |                           | 3 (E)  |                                 |       | CV24 CV28                       |           |                           | 3099   | OXIDIZING LIQUID, TOXIC, N.O.S.   |
| CARRIAGE PROHIBITED |                    |                           |  |                                 |       |                                 |           |                           | 3100   | OXIDIZING SOLID, SELF-HEATING, N.O.S.   |
|                     |                    |                           | 1 (B)  | V1 V5                           |       | CV15 CV20 CV22 CV24             | S9 S17    |                           | 3101   | ORGANIC PEROXIDE TYPE B, LIQUID   |
|                     |                    |                           | 1 (B)  | V1 V5                           |       | CV15 CV20 CV22 CV24             | S9 S17    |                           | 3102   | ORGANIC PEROXIDE TYPE B, SOLID  |
|                     |                    |                           | 1 (D)  | V1                              |       | CV15 CV20 CV22 CV24             | S8 S18    |                           | 3103   | ORGANIC PEROXIDE TYPE C, LIQUID   |
|                     |                    |                           | 1 (D)  | V1                              |       | CV15 CV20 CV22 CV24             | S8 S18    |                           | 3104   | ORGANIC PEROXIDE TYPE C, SOLID  |
|                     |                    |                           | 2 (D)  | V1                              |       | CV15 CV22 CV24                  | S19       |                           | 3105   | ORGANIC PEROXIDE TYPE D, LIQUID   |
|                     |                    |                           | 2 (D)  | V1                              |       | CV15 CV22 CV24                  | S19       |                           | 3106   | ORGANIC PEROXIDE TYPE D, SOLID  |

| UN No. | Name and description   | Class | Classification code | Packing group       | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------------|-------------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |                     |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)                 | (5)         | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3107   | ORGANIC PEROXIDE<br>TYPE E, LIQUID                               | 5.2   | P1                  |                     | 5.2         | 122<br>274         | LQ16                            | E0      | P520                       |                                  | MP4                             |                                    |                            |
| 3108   | ORGANIC PEROXIDE<br>TYPE E, SOLID                                | 5.2   | P1                  |                     | 5.2         | 122<br>274         | LQ11                            | E0      | P520                       |                                  | MP4                             |                                    |                            |
| 3109   | ORGANIC PEROXIDE<br>TYPE F, LIQUID                               | 5.2   | P1                  |                     | 5.2         | 122<br>274         | LQ16                            | E0      | P520<br>IBC520             |                                  | MP4                             | T23                                |                            |
| 3110   | ORGANIC PEROXIDE<br>TYPE F, SOLID                                | 5.2   | P1                  |                     | 5.2         | 122<br>274         | LQ11                            | E0      | P520<br>IBC520             |                                  | MP4                             | T23                                | TP33                       |
| 3111   | ORGANIC PEROXIDE<br>TYPE B, LIQUID,<br>TEMPERATURE<br>CONTROLLED | 5.2   | P2                  |                     | 5.2<br>+1   | 122<br>181<br>274  | LQ0                             | E0      | P520                       |                                  | MP4                             |                                    |                            |
| 3112   | ORGANIC PEROXIDE<br>TYPE B, SOLID,<br>TEMPERATURE<br>CONTROLLED  | 5.2   | P2                  |                     | 5.2<br>+1   | 122<br>181<br>274  | LQ0                             | E0      | P520                       |                                  | MP4                             |                                    |                            |
| 3113   | ORGANIC PEROXIDE<br>TYPE C, LIQUID,<br>TEMPERATURE<br>CONTROLLED | 5.2   | P2                  |                     | 5.2         | 122<br>274         | LQ0                             | E0      | P520                       |                                  | MP4                             |                                    |                            |
| 3114   | ORGANIC PEROXIDE<br>TYPE C, SOLID,<br>TEMPERATURE<br>CONTROLLED  | 5.2   | P2                  |                     | 5.2         | 122<br>274         | LQ0                             | E0      | P520                       |                                  | MP4                             |                                    |                            |
| 3115   | ORGANIC PEROXIDE<br>TYPE D, LIQUID,<br>TEMPERATURE<br>CONTROLLED | 5.2   | P2                  |                     | 5.2         | 122<br>274         | LQ0                             | E0      | P520                       |                                  | MP4                             |                                    |                            |
| 3116   | ORGANIC PEROXIDE<br>TYPE D, SOLID,<br>TEMPERATURE<br>CONTROLLED  | 5.2   | P2                  |                     | 5.2         | 122<br>274         | LQ0                             | E0      | P520                       |                                  | MP4                             |                                    |                            |
| 3117   | ORGANIC PEROXIDE<br>TYPE E, LIQUID,<br>TEMPERATURE<br>CONTROLLED | 5.2   | P2                  |                     | 5.2         | 122<br>274         | LQ0                             | E0      | P520                       |                                  | MP4                             |                                    |                            |
| 3118   | ORGANIC PEROXIDE<br>TYPE E, SOLID,<br>TEMPERATURE<br>CONTROLLED  | 5.2   | P2                  |                     | 5.2         | 122<br>274         | LQ0                             | E0      | P520                       |                                  | MP4                             |                                    |                            |
| 3119   | ORGANIC PEROXIDE<br>TYPE F, LIQUID,<br>TEMPERATURE<br>CONTROLLED | 5.2   | P2                  |                     | 5.2         | 122<br>274         | LQ0                             | E0      | P520<br>IBC520             |                                  | MP4                             | T23                                |                            |
| 3120   | ORGANIC PEROXIDE<br>TYPE F, SOLID,<br>TEMPERATURE<br>CONTROLLED  | 5.2   | P2                  |                     | 5.2         | 122<br>274         | LQ0                             | E0      | P520<br>IBC520             |                                  | MP4                             | T23                                | TP33                       |
| 3121   | OXIDIZING SOLID, WATER-<br>REACTIVE, N.O.S.                      | 5.1   | OW                  | CARRIAGE PROHIBITED |             |                    |                                 |         |                            |                                  |                                 |                                    |                            |
| 3122   | TOXIC LIQUID, OXIDIZING,<br>N.O.S.                               | 6.1   | TO1                 | I                   | 6.1<br>+5.1 | 274<br>315         | LQ0                             | E5      | P001                       |                                  | MP8<br>MP17                     |                                    |                            |
| 3122   | TOXIC LIQUID, OXIDIZING,<br>N.O.S.                               | 6.1   | TO1                 | II                  | 6.1<br>+5.1 | 274                | LQ17                            | E4      | P001<br>IBC02              |                                  | MP15                            |                                    |                            |
| 3123   | TOXIC LIQUID, WATER-<br>REACTIVE, N.O.S.                         | 6.1   | TW1                 | I                   | 6.1<br>+4.3 | 274<br>315         | LQ0                             | E5      | P099                       |                                  | MP8<br>MP17                     |                                    |                            |
| 3123   | TOXIC LIQUID, WATER-<br>REACTIVE, N.O.S.                         | 6.1   | TW1                 | II                  | 6.1<br>+4.3 | 274                | LQ17                            | E4      | P001<br>IBC02              |                                  | MP15                            |                                    |                            |
| 3124   | TOXIC SOLID, SELF-<br>HEATING, N.O.S.                            | 6.1   | TS                  | I                   | 6.1<br>+4.2 | 274                | LQ0                             | E5      | P002                       |                                  | MP18                            | T6                                 | TP33                       |

| ADR tank            |                                  | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                      |           | Hazard identification No. | UN No. | Name and description                                    |
|---------------------|----------------------------------|---------------------------|--|---------------------------------|-------|--------------------------------------|-----------|---------------------------|--------|---|
| Tank code           | Special provisions               |                           |  | Packages                        | Bulk  | Loading, unloading and handling      | Operation |                           |        |   |
| 4.3                 | 4.3.5, 6.8.4                     | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                               | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)                | (13)                             | (14)                      | (15)   | (16)                            | (17)  | (18)                                 | (19)      | (20)                      | (1)    | (2)   |
|                     |                                  |                           | 2 (D)  | V1                              |       | CV15<br>CV22<br>CV24                 |           |                           | 3107   | ORGANIC PEROXIDE TYPE E, LIQUID                         |
|                     |                                  |                           | 2 (D)  | V1                              |       | CV15<br>CV22<br>CV24                 |           |                           | 3108   | ORGANIC PEROXIDE TYPE E, SOLID                          |
| L4BN(+)             | TU3 TU13<br>TU30 TE12<br>TA2 TM4 | AT                        | 2 (D)  | V1                              |       | CV15<br>CV22<br>CV24                 |           | 539                       | 3109   | ORGANIC PEROXIDE TYPE F, LIQUID                         |
| S4AN(+)             | TU3 TU13<br>TU30 TE12<br>TA2 TM4 | AT                        | 2 (D)  | V1                              |       | CV15<br>CV22<br>CV24                 |           | 539                       | 3110   | ORGANIC PEROXIDE TYPE F, SOLID                          |
|                     |                                  |                           | 1 (B)  | V8                              |       | CV15<br>CV20<br>CV21<br>CV22<br>CV24 | S4 S9 S16 |                           | 3111   | ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED |
|                     |                                  |                           | 1 (B)  | V8                              |       | CV15<br>CV20<br>CV21<br>CV22<br>CV24 | S4 S9 S16 |                           | 3112   | ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED  |
|                     |                                  |                           | 1 (D)  | V8                              |       | CV15<br>CV20<br>CV21<br>CV22<br>CV24 | S4 S8 S17 |                           | 3113   | ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED |
|                     |                                  |                           | 1 (D)  | V8                              |       | CV15<br>CV20<br>CV21<br>CV22<br>CV24 | S4 S8 S17 |                           | 3114   | ORGANIC PEROXIDE TYPE C, SOLID, TEMPERATURE CONTROLLED  |
|                     |                                  |                           | 1 (D)  | V8                              |       | CV15<br>CV21<br>CV22<br>CV24         | S4 S18    |                           | 3115   | ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED |
|                     |                                  |                           | 1 (D)  | V8                              |       | CV15<br>CV21<br>CV22<br>CV24         | S4 S18    |                           | 3116   | ORGANIC PEROXIDE TYPE D, SOLID, TEMPERATURE CONTROLLED  |
|                     |                                  |                           | 1 (D)  | V8                              |       | CV15<br>CV21<br>CV22<br>CV24         | S4 S19    |                           | 3117   | ORGANIC PEROXIDE TYPE E, LIQUID, TEMPERATURE CONTROLLED |
|                     |                                  |                           | 1 (D)  | V8                              |       | CV15<br>CV21<br>CV22<br>CV24         | S4 S19    |                           | 3118   | ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED  |
| L4BN(+)             | TU3 TU13<br>TU30 TE12<br>TA2 TM4 | AT                        | 1 (D)  | V8                              |       | CV15<br>CV21<br>CV22<br>CV24         | S4        | 539                       | 3119   | ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED |
| S4AN(+)             | TU3 TU13<br>TU30 TE12<br>TA2 TM4 | AT                        | 1 (D)  | V8                              |       | CV15<br>CV21<br>CV22<br>CV24         | S4        | 539                       | 3120   | ORGANIC PEROXIDE TYPE F, SOLID, TEMPERATURE CONTROLLED  |
| CARRIAGE PROHIBITED |                                  |                           |  |                                 |       |                                      |           |                           | 3121   | OXIDIZING SOLID, WATER-REACTIVE, N.O.S.                 |
| L10CH               | TU14 TU15<br>TE19 TE21           | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28                  | S9 S14    | 665                       | 3122   | TOXIC LIQUID, OXIDIZING, N.O.S.                         |
| L4BH                | TU15 TE19                        | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                         | S9 S19    | 65                        | 3122   | TOXIC LIQUID, OXIDIZING, N.O.S.                         |
| L10CH               | TU14 TU15<br>TE19 TE21           | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28                  | S9 S14    | 623                       | 3123   | TOXIC LIQUID, WATER-REACTIVE, N.O.S.                    |
| L4BH                | TU15 TE19                        | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                         | S9 S19    | 623                       | 3123   | TOXIC LIQUID, WATER-REACTIVE, N.O.S.                    |
| S10AH<br>L10CH      | TU14 TU15<br>TE19 TE21           | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28                  | S9 S14    | 664                       | 3124   | TOXIC SOLID, SELF-HEATING, N.O.S.                       |

| UN No. | Name and description                           | Class | Classification code | Packing group       | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------------|-------------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |                     |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)                 | (5)         | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3124   | TOXIC SOLID, SELF-HEATING, N.O.S.              | 6.1   | TS                  | II                  | 6.1<br>+4.2 | 274                | LQ18                            | E4      | P002<br>IBC06              |                                  | MP10                            | T3                                 | TP33                       |
| 3125   | TOXIC SOLID, WATER-REACTIVE, N.O.S.            | 6.1   | TW2                 | I                   | 6.1<br>+4.3 | 274                | LQ0                             | E5      | P099                       |                                  | MP18                            | T6                                 | TP33                       |
| 3125   | TOXIC SOLID, WATER-REACTIVE, N.O.S.            | 6.1   | TW2                 | II                  | 6.1<br>+4.3 | 274                | LQ18                            | E4      | P002<br>IBC06              |                                  | MP10                            | T3                                 | TP33                       |
| 3126   | SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S. | 4.2   | SC2                 | II                  | 4.2<br>+8   | 274                | LQ0                             | E2      | P410<br>IBC05              |                                  | MP14                            | T3                                 | TP33                       |
| 3126   | SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S. | 4.2   | SC2                 | III                 | 4.2<br>+8   | 274                | LQ0                             | E1      | P002<br>IBC08<br>R001      | B3                               | MP14                            | T1                                 | TP33                       |
| 3127   | SELF-HEATING SOLID, OXIDIZING, N.O.S.          | 4.2   | SO                  | CARRIAGE PROHIBITED |             |                    |                                 |         |                            |                                  |                                 |                                    |                            |
| 3128   | SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.     | 4.2   | ST2                 | II                  | 4.2<br>+6.1 | 274                | LQ0                             | E2      | P410<br>IBC05              |                                  | MP14                            | T3                                 | TP33                       |
| 3128   | SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.     | 4.2   | ST2                 | III                 | 4.2<br>+6.1 | 274                | LQ0                             | E1      | P002<br>IBC08<br>R001      | B3                               | MP14                            | T1                                 | TP33                       |
| 3129   | WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.       | 4.3   | WC1                 | I                   | 4.3<br>+8   | 274                | LQ0                             | E0      | P402                       | RR7 RR8                          | MP2                             | T14                                | TP2<br>TP7                 |
| 3129   | WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.       | 4.3   | WC1                 | II                  | 4.3<br>+8   | 274                | LQ10                            | E2      | P402<br>IBC01              | RR7 RR8                          | MP15                            | T11                                | TP2                        |
| 3129   | WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.       | 4.3   | WC1                 | III                 | 4.3<br>+8   | 274                | LQ13                            | E1      | P001<br>IBC02<br>R001      |                                  | MP15                            | T7                                 | TP1                        |
| 3130   | WATER-REACTIVE LIQUID, TOXIC, N.O.S.           | 4.3   | WT1                 | I                   | 4.3<br>+6.1 | 274                | LQ0                             | E0      | P402                       | RR4 RR8                          | MP2                             |                                    |                            |
| 3130   | WATER-REACTIVE LIQUID, TOXIC, N.O.S.           | 4.3   | WT1                 | II                  | 4.3<br>+6.1 | 274                | LQ10                            | E2      | P402<br>IBC01              | RR4<br>RR8<br>BB1                | MP15                            |                                    |                            |
| 3130   | WATER-REACTIVE LIQUID, TOXIC, N.O.S.           | 4.3   | WT1                 | III                 | 4.3<br>+6.1 | 274                | LQ13                            | E1      | P001<br>IBC02<br>R001      |                                  | MP15                            |                                    |                            |
| 3131   | WATER-REACTIVE SOLID, CORROSIVE, N.O.S.        | 4.3   | WC2                 | I                   | 4.3<br>+8   | 274                | LQ0                             | E0      | P403                       |                                  | MP2                             | T9                                 | TP7<br>TP33                |
| 3131   | WATER-REACTIVE SOLID, CORROSIVE, N.O.S.        | 4.3   | WC2                 | II                  | 4.3<br>+8   | 274                | LQ11                            | E2      | P410<br>IBC06              |                                  | MP14                            | T3                                 | TP33                       |
| 3131   | WATER-REACTIVE SOLID, CORROSIVE, N.O.S.        | 4.3   | WC2                 | III                 | 4.3<br>+8   | 274                | LQ12                            | E1      | P410<br>IBC08<br>R001      | B4                               | MP14                            | T1                                 | TP33                       |
| 3132   | WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.        | 4.3   | WF2                 | I                   | 4.3<br>+4.1 | 274                | LQ0                             | E0      | P403<br>IBC99              |                                  | MP2                             |                                    |                            |
| 3132   | WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.        | 4.3   | WF2                 | II                  | 4.3<br>+4.1 | 274                | LQ11                            | E2      | P410<br>IBC04              |                                  | MP14                            | T3                                 | TP33                       |
| 3132   | WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.        | 4.3   | WF2                 | III                 | 4.3<br>+4.1 | 274                | LQ12                            | E1      | P410<br>IBC06              |                                  | MP14                            | T1                                 | TP33                       |
| 3133   | WATER-REACTIVE SOLID, OXIDIZING, N.O.S.        | 4.3   | WO                  | CARRIAGE PROHIBITED |             |                    |                                 |         |                            |                                  |                                 |                                    |                            |
| 3134   | WATER-REACTIVE SOLID, TOXIC, N.O.S.            | 4.3   | WT2                 | I                   | 4.3<br>+6.1 | 274                | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 3134   | WATER-REACTIVE SOLID, TOXIC, N.O.S.            | 4.3   | WT2                 | II                  | 4.3<br>+6.1 | 274                | LQ11                            | E2      | P410<br>IBC05              |                                  | MP14                            | T3                                 | TP33                       |
| 3134   | WATER-REACTIVE SOLID, TOXIC, N.O.S.            | 4.3   | WT2                 | III                 | 4.3<br>+6.1 | 274                | LQ12                            | E1      | P410<br>IBC08<br>R001      | B4                               | MP14                            | T1                                 | TP33                       |
| 3135   | WATER-REACTIVE SOLID, SELF HEATING, N.O.S.     | 4.3   | WS                  | I                   | 4.3<br>+4.2 | 274                | LQ0                             | E0      | P403                       |                                  | MP2                             |                                    |                            |
| 3135   | WATER-REACTIVE SOLID, SELF HEATING, N.O.S.     | 4.3   | WS                  | II                  | 4.3<br>+4.2 | 274                | LQ11                            | E2      | P410<br>IBC05              |                                  | MP14                            | T3                                 | TP33                       |

| ADR tank            |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                           |
|---------------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code           | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3                 | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)                | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| SGAH L4BH           | TU15 TE19              | AT                        | 2 (D/E)                                      | V11 V12                         |       | CV13 CV28                       | S9 S19    | 64                        | 3124   | TOXIC SOLID, SELF-HEATING, N.O.S.              |
| S10AH L10CH         | TU14 TU15 TE19 TE21    | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 642                       | 3125   | TOXIC SOLID, WATER-REACTIVE, N.O.S.            |
| SGAH L4BH           | TU15 TE19              | AT                        | 2 (D/E)                                      | V11 V12                         |       | CV13 CV28                       | S9 S19    | 642                       | 3125   | TOXIC SOLID, WATER-REACTIVE, N.O.S.            |
| SGAN                |                        | AT                        | 2 (D/E)                                      | V1                              |       |                                 |           | 48                        | 3126   | SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S. |
| SGAN                |                        | AT                        | 3 (E)  | V1                              |       |                                 |           | 48                        | 3126   | SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S. |
| CARRIAGE PROHIBITED |                        |                           |  |                                 |       |                                 |           |                           | 3127   | SELF-HEATING SOLID, OXIDIZING, N.O.S.          |
| SGAN                |                        | AT                        | 2 (D/E)                                      | V1                              |       | CV28                            |           | 46                        | 3128   | SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.     |
| SGAN                |                        | AT                        | 3 (E)  | V1                              |       | CV28                            |           | 46                        | 3128   | SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.     |
| L10DH               | TU14 TE21 TM2          | AT                        | 0 (B/E)                                      | V1                              |       | CV23                            | S20       | X382                      | 3129   | WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.       |
| L4DH                | TU14 TE21 TM2          | AT                        | 0 (D/E)                                      | V1                              |       | CV23                            |           | 382                       | 3129   | WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.       |
| L4DH                | TU14 TE21 TM2          | AT                        | 0 (E)  | V1                              |       | CV23                            |           | 382                       | 3129   | WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.       |
| L10DH               | TU14 TE21 TM2          | AT                        | 0 (B/E)                                      | V1                              |       | CV23 CV28                       | S20       | X362                      | 3130   | WATER-REACTIVE LIQUID, TOXIC, N.O.S.           |
| L4DH                | TU14 TE21 TM2          | AT                        | 0 (D/E)                                      | V1                              |       | CV23 CV28                       |           | 362                       | 3130   | WATER-REACTIVE LIQUID, TOXIC, N.O.S.           |
| L4DH                | TU14 TE21 TM2          | AT                        | 0 (E)  | V1                              |       | CV23 CV28                       |           | 362                       | 3130   | WATER-REACTIVE LIQUID, TOXIC, N.O.S.           |
| S10AN L10DH         | TU4 TU14 TU22 TE21 TM2 | AT                        | 0 (E)  | V1                              |       | CV23                            | S20       | X482                      | 3131   | WATER-REACTIVE SOLID, CORROSIVE, N.O.S.        |
| SGAN                |                        | AT                        | 0 (D/E)                                      | V1 V12                          |       | CV23                            |           | 482                       | 3131   | WATER-REACTIVE SOLID, CORROSIVE, N.O.S.        |
| SGAN                |                        | AT                        | 0 (E)  | V1                              |       | CV23                            |           | 482                       | 3131   | WATER-REACTIVE SOLID, CORROSIVE, N.O.S.        |
|                     |                        |                           | 0 (B/E)                                      | V1                              |       | CV23                            | S20       |                           | 3132   | WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.        |
| SGAN L4DH           | TU14 TE21 TM2          | AT                        | 0 (D/E)                                      | V1                              |       | CV23                            |           | 423                       | 3132   | WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.        |
| SGAN L4DH           | TU14 TE21 TM2          | AT                        | 0 (E)  | V1                              |       | CV23                            |           | 423                       | 3132   | WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.        |
| CARRIAGE PROHIBITED |                        |                           |  |                                 |       |                                 |           |                           | 3133   | WATER-REACTIVE SOLID, OXIDIZING, N.O.S.        |
|                     |                        |                           | 0 (E)  | V1                              |       | CV23 CV28                       | S20       |                           | 3134   | WATER-REACTIVE SOLID, TOXIC, N.O.S.            |
| SGAN                |                        | AT                        | 0 (D/E)                                      | V1                              |       | CV23 CV28                       |           | 462                       | 3134   | WATER-REACTIVE SOLID, TOXIC, N.O.S.            |
| SGAN                |                        | AT                        | 0 (E)  | V1                              |       | CV23 CV28                       |           | 462                       | 3134   | WATER-REACTIVE SOLID, TOXIC, N.O.S.            |
|                     |                        |                           | 1 (B/E)                                      | V1                              |       | CV23                            | S20       |                           | 3135   | WATER-REACTIVE SOLID, SELF HEATING, N.O.S.     |
| SGAN L4DH           | TU14 TE21 TM2          | AT                        | 2 (D/E)                                      | V1                              |       | CV23                            |           | 423                       | 3135   | WATER-REACTIVE SOLID, SELF HEATING, N.O.S.     |

| UN No. | Name and description  | Class | Classification code | Packing group       | Labels   | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------------|----------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |                     |          |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)                 | (5)      | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3135   | WATER-REACTIVE SOLID, SELF HEATING, N.O.S.  | 4.3   | WS                  | III                 | 4.3 +4.2 | 274                | LQ12                            | E1      | P410 IBC08                 | B4                               | MP14                            | T1                                 | TP33                       |
| 3136   | TRIFLUOROMETHANE, REFRIGERATED LIQUID   | 2     | 3A                  |                     | 2.2      | 593                | LQ1                             | E1      | P203                       |                                  | MP9                             | T75                                | TP5                        |
| 3137   | OXIDIZING SOLID, FLAMMABLE, N.O.S.  | 5.1   | OF                  | CARRIAGE PROHIBITED |          |                    |                                 |         |                            |                                  |                                 |                                    |                            |
| 3138   | ETHYLENE, ACETYLENE AND PROPYLENE MIXTURE, REFRIGERATED LIQUID containing at least 71.5% ethylene with not more than 22.5% acetylene and not more than 6% propylene | 2     | 3F                  |                     | 2.1      |                    | LQ0                             | E0      | P203                       |                                  | MP9                             | T75                                | TP5                        |
| 3139   | OXIDIZING LIQUID, N.O.S.  | 5.1   | O1                  | I                   | 5.1      | 274                | LQ0                             | E0      | P502                       |                                  | MP2                             |                                    |                            |
| 3139   | OXIDIZING LIQUID, N.O.S.  | 5.1   | O1                  | II                  | 5.1      | 274                | LQ10                            | E2      | P504 IBC02                 |                                  | MP2                             |                                    |                            |
| 3139   | OXIDIZING LIQUID, N.O.S.  | 5.1   | O1                  | III                 | 5.1      | 274                | LQ13                            | E1      | P504 IBC02 R001            |                                  | MP2                             |                                    |                            |
| 3140   | ALKALOIDS, LIQUID, N.O.S. or ALKALOID SALTS, LIQUID, N.O.S.   | 6.1   | T1                  | I                   | 6.1      | 43 274             | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        |                                    |                            |
| 3140   | ALKALOIDS, LIQUID, N.O.S. or ALKALOID SALTS, LIQUID, N.O.S.   | 6.1   | T1                  | II                  | 6.1      | 43 274             | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            |                                    |                            |
| 3140   | ALKALOIDS, LIQUID, N.O.S. or ALKALOID SALTS, LIQUID, N.O.S.   | 6.1   | T1                  | III                 | 6.1      | 43 274             | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            |                                    |                            |
| 3141   | ANTIMONY COMPOUND, INORGANIC, LIQUID, N.O.S.  | 6.1   | T4                  | III                 | 6.1      | 45 274 512         | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            |                                    |                            |
| 3142   | DISINFECTANT, LIQUID, TOXIC, N.O.S.   | 6.1   | T1                  | I                   | 6.1      | 274                | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        |                                    |                            |
| 3142   | DISINFECTANT, LIQUID, TOXIC, N.O.S.   | 6.1   | T1                  | II                  | 6.1      | 274                | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            |                                    |                            |
| 3142   | DISINFECTANT, LIQUID, TOXIC, N.O.S.   | 6.1   | T1                  | III                 | 6.1      | 274                | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            |                                    |                            |
| 3143   | DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.   | 6.1   | T2                  | I                   | 6.1      | 274                | LQ0                             | E5      | P002 IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3143   | DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.   | 6.1   | T2                  | II                  | 6.1      | 274                | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3143   | DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.   | 6.1   | T2                  | III                 | 6.1      | 274                | LQ9                             | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1                                 | TP33                       |
| 3144   | NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.   | 6.1   | T1                  | I                   | 6.1      | 43 274             | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        |                                    |                            |
| 3144   | NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.   | 6.1   | T1                  | II                  | 6.1      | 43 274             | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            |                                    |                            |
| 3144   | NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.   | 6.1   | T1                  | III                 | 6.1      | 43 274             | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            |                                    |                            |
| 3145   | ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)   | 8     | C3                  | I                   | 8        | 274                | LQ0                             | E0      | P001                       |                                  | MP8 MP17                        | T14                                | TP2                        |



| ADR tank            |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|---------------------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code           | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3                 | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)                | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAN L4DH           | TU14 TE21 TM2       | AT                        | 3 (E)  | V1                              |       | CV23                            |           | 423                       | 3135   | WATER-REACTIVE SOLID, SELF HEATING, N.O.S.  |
| RxBN                | TU19 TA4 TT9        | AT                        | 3 (C/E)                                      | V5                              |       | CV9 CV11 CV36                   | S20       | 22                        | 3136   | TRIFLUOROMETHANE, REFRIGERATED LIQUID   |
| CARRIAGE PROHIBITED |                     |                           |  |                                 |       |                                 |           |                           | 3137   | OXIDIZING SOLID, FLAMMABLE, N.O.S.  |
| RxBN                | TU18 TA4 TT9        | FL                        | 2 (B/D)                                      | V5                              |       | CV9 CV11 CV36                   | S2 S17    | 223                       | 3138   | ETHYLENE, ACETYLENE AND PROPYLENE MIXTURE, REFRIGERATED LIQUID containing at least 71.5% ethylene with not more than 22.5% acetylene and not more than 6% propylene |
|                     |                     |                           | 1 (E)  |                                 |       | CV24                            | S20       |                           | 3139   | OXIDIZING LIQUID, N.O.S.  |
|                     |                     |                           | 2 (E)  |                                 |       | CV24                            |           |                           | 3139   | OXIDIZING LIQUID, N.O.S.  |
|                     |                     |                           | 3 (E)  |                                 |       | CV24                            |           |                           | 3139   | OXIDIZING LIQUID, N.O.S.  |
| L10CH               | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 3140   | ALKALOIDS, LIQUID, N.O.S. or ALKALOID SALTS, LIQUID, N.O.S.   |
| L4BH                | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 3140   | ALKALOIDS, LIQUID, N.O.S. or ALKALOID SALTS, LIQUID, N.O.S.   |
| L4BH                | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 3140   | ALKALOIDS, LIQUID, N.O.S. or ALKALOID SALTS, LIQUID, N.O.S.   |
| L4BH                | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 3141   | ANTIMONY COMPOUND, INORGANIC, LIQUID, N.O.S.  |
| L10CH               | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 3142   | DISINFECTANT, LIQUID, TOXIC, N.O.S.   |
| L4BH                | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 3142   | DISINFECTANT, LIQUID, TOXIC, N.O.S.   |
| L4BH                | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 3142   | DISINFECTANT, LIQUID, TOXIC, N.O.S.   |
| S10AH L10CH         | TU15 TE19           | AT                        | 1 (C/E)                                      | V10 V12                         |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 3143   | DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.   |
| SGAH L4BH           | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 3143   | DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.   |
| SGAH L4BH           | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 3143   | DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.   |
| L10CH               | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 3144   | NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.   |
| L4BH                | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 3144   | NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.   |
| L4BH                | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 3144   | NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.   |
| L10BH               |                     | AT                        | 1 (E)  |                                 |       |                                 | S20       | 88                        | 3145   | ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)   |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels   | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|----------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |          |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)      | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3145   | ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)                                    | 8     | C3                  | II            | 8        | 274                | LQ22                            | E2      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |
| 3145   | ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)                                    | 8     | C3                  | III           | 8        | 274                | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T7                                 | TP1 TP28                   |
| 3146   | ORGANOTIN COMPOUND, SOLID, N.O.S.  | 6.1   | T3                  | I             | 6.1      | 43 274             | LQ0                             | E5      | P002 IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3146   | ORGANOTIN COMPOUND, SOLID, N.O.S.  | 6.1   | T3                  | II            | 6.1      | 43 274             | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3146   | ORGANOTIN COMPOUND, SOLID, N.O.S.  | 6.1   | T3                  | III           | 6.1      | 43 274             | LQ9                             | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1                                 | TP33                       |
| 3147   | DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.  | 8     | C10                 | I             | 8        | 274                | LQ0                             | E0      | P002 IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3147   | DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.  | 8     | C10                 | II            | 8        | 274                | LQ23                            | E2      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3147   | DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.  | 8     | C10                 | III           | 8        | 274                | LQ24                            | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1                                 | TP33                       |
| 3148   | WATER-REACTIVE LIQUID, N.O.S.  | 4.3   | W1                  | I             | 4.3      | 274                | LQ0                             | E0      | P402                       | RR8                              | MP2                             | T9                                 | TP2 TP7                    |
| 3148   | WATER-REACTIVE LIQUID, N.O.S.  | 4.3   | W1                  | II            | 4.3      | 274                | LQ10                            | E2      | P402 IBC01                 | RR8                              | MP15                            | T7                                 | TP2                        |
| 3148   | WATER-REACTIVE LIQUID, N.O.S.  | 4.3   | W1                  | III           | 4.3      | 274                | LQ13                            | E1      | P001 IBC02 R001            |                                  | MP15                            | T7                                 | TP1                        |
| 3149   | HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE with acid(s), water and not more than 5% peroxyacetic acid, STABILIZED | 5.1   | OC1                 | II            | 5.1 +8   | 196 553            | LQ10                            | E2      | P504 IBC02                 | PP10 B5                          | MP15                            | T7                                 | TP2 TP6 TP24               |
| 3150   | DEVICES, SMALL, HYDROCARBON GAS POWERED or HYDROCARBON GAS REFILLS FOR SMALL DEVICES with release device               | 2     | 6F                  |               | 2.1      |                    | LQ0                             | E0      | P206                       |                                  | MP9                             |                                    |                            |
| 3151   | POLYHALOGENATED BIPHENYLS, LIQUID or POLYHALOGENATED TERPHENYLS, LIQUID  | 9     | M2                  | II            | 9        | 203 305            | LQ26                            | E2      | P906 IBC02                 |                                  | MP15                            |                                    |                            |
| 3152   | POLYHALOGENATED BIPHENYLS, SOLID or POLYHALOGENATED TERPHENYLS, SOLID  | 9     | M2                  | II            | 9        | 203 305            | LQ25                            | E2      | P906 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3153   | PERFLUORO(METHYL VINYL ETHER)  | 2     | 2F                  |               | 2.1      |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 3154   | PERFLUORO(ETHYL VINYL ETHER)   | 2     | 2F                  |               | 2.1      |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 3155   | PENTACHLOROPHENOL  | 6.1   | T2                  | II            | 6.1      | 43                 | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3156   | COMPRESSED GAS, OXIDIZING, N.O.S.  | 2     | 10                  |               | 2.2 +5.1 | 274                | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |
| 3157   | LIQUEFIED GAS, OXIDIZING, N.O.S.   | 2     | 20                  |               | 2.2 +5.1 | 274                | LQ0                             | E0      | P200                       |                                  | MP9                             | (M)                                |                            |

| ADR tank    |                      | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-------------|----------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code   | Special provisions   |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)        | (13)                 | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BN        |                      | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 3145   | ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)                                    |
| L4BN        |                      | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 3145   | ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)                                    |
| S10AH L10CH | TU14 TU15 TE19 TE21  | AT                        | 1 (C/E)                                      | V10 V12                         |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 3146   | ORGANOTIN COMPOUND, SOLID, N.O.S.  |
| SGAH L4BH   | TU15 TE19            | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 3146   | ORGANOTIN COMPOUND, SOLID, N.O.S.  |
| SGAH L4BH   | TU15 TE19            | AT                        | 2 (E)  |                                 | VV9   | CV13 CV28                       | S9        | 60                        | 3146   | ORGANOTIN COMPOUND, SOLID, N.O.S.  |
| S10AN L10BH |                      | AT                        | 1 (E)  | V10 V12                         |       |                                 | S20       | 88                        | 3147   | DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.  |
| SGAN L4BN   |                      | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 3147   | DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.  |
| SGAV L4BN   |                      | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 3147   | DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.  |
| L10DH       | TU14 TE21 TM2        | AT                        | 0 (B/E)                                      | V1                              |       | CV23                            | S20       | X323                      | 3148   | WATER-REACTIVE LIQUID, N.O.S.  |
| L4DH        | TU14 TE21 TM2        | AT                        | 0 (D/E)                                      | V1                              |       | CV23                            |           | 323                       | 3148   | WATER-REACTIVE LIQUID, N.O.S.  |
| L4DH        | TU14 TE21 TM2        | AT                        | 0 (E)  | V1                              |       | CV23                            |           | 323                       | 3148   | WATER-REACTIVE LIQUID, N.O.S.  |
| L4BV(+)     | TU3 TC2 TE8 TE11 TT1 | AT                        | 2 (E)  |                                 |       | CV24                            |           | 58                        | 3149   | HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE with acid(s), water and not more than 5% peroxyacetic acid, STABILIZED |
|             |                      |                           | 2 (D)  |                                 |       | CV9                             | S2        |                           | 3150   | DEVICES, SMALL, HYDROCARBON GAS POWERED or HYDROCARBON GAS REFILLS FOR SMALL DEVICES with release device               |
| L4BH        | TU15                 | AT                        | 0 (D/E)                                      |                                 | VV15  | CV1 CV13 CV28                   | S19       | 90                        | 3151   | POLYHALOGENATED BIPHENYLS, LIQUID or POLYHALOGENATED TERPHENYLS, LIQUID  |
| S4AH L4BH   | TU15                 | AT                        | 0 (D/E)                                      | V11                             | VV15  | CV1 CV13 CV28                   | S19       | 90                        | 3152   | POLYHALOGENATED BIPHENYLS, SOLID or POLYHALOGENATED TERPHENYLS, SOLID  |
| PxBN(M)     | TA4 TT9              | FL                        | 2 (B/D)                                      |                                 |       | CV9 CV10 CV36                   | S2 S20    | 23                        | 3153   | PERFLUORO(METHYL VINYL ETHER)  |
| PxBN(M)     | TA4 TT9              | FL                        | 2 (B/D)                                      |                                 |       | CV9 CV10 CV36                   | S2 S20    | 23                        | 3154   | PERFLUORO(ETHYL VINYL ETHER)   |
| SGAH        | TU15 TE19            | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 3155   | PENTACHLOROPHENOL  |
| CxBN(M)     | TA4 TT9              | AT                        | 3 (E)  |                                 |       | CV9 CV10 CV36                   |           | 25                        | 3156   | COMPRESSED GAS, OXIDIZING, N.O.S.  |
| PxBN(M)     | TA4 TT9              | AT                        | 3 (C/E)                                      |                                 |       | CV9 CV10 CV36                   |           | 25                        | 3157   | LIQUEFIED GAS, OXIDIZING, N.O.S.   |

| UN No. | Name and description  | Class | Classification code | Packing group      | Labels          | Special provisions | Limited and excepted quantities |      | Packaging                     |                                     |                                    | Portable tanks and bulk containers |                               |
|--------|---|-------|---------------------|--------------------|-----------------|--------------------|---------------------------------|------|-------------------------------|-------------------------------------|------------------------------------|------------------------------------|-------------------------------|
|        |   |       |                     |                    |                 |                    |                                 |      | Packing instructions<br>4.1.4 | Special packing provisions<br>4.1.4 | Mixed packing provisions<br>4.1.10 | Instructions<br>4.2.5.2<br>7.3.2   | Special provisions<br>4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)                | (5)             | (6)                | (7a)                            | (7b) | (8)                           | (9a)                                | (9b)                               | (10)                               | (11)                          |
| 3158   | GAS, REFRIGERATED LIQUID, N.O.S.  | 2     | 3A                  |                    | 2.2             | 274<br>593         | LQ1                             | E1   | P203                          |                                     | MP9                                | T75                                | TP5                           |
| 3159   | 1,1,1,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 134a)  | 2     | 2A                  |                    | 2.2             |                    | LQ1                             | E1   | P200                          |                                     | MP9                                | (M)<br>T50                         |                               |
| 3160   | LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S.   | 2     | 2TF                 |                    | 2.3<br>+2.1     | 274                | LQ0                             | E0   | P200                          |                                     | MP9                                | (M)                                |                               |
| 3161   | LIQUEFIED GAS, FLAMMABLE, N.O.S.  | 2     | 2F                  |                    | 2.1             | 274                | LQ0                             | E0   | P200                          |                                     | MP9                                | (M)<br>T50                         |                               |
| 3162   | LIQUEFIED GAS, TOXIC, N.O.S.  | 2     | 2T                  |                    | 2.3             | 274                | LQ0                             | E0   | P200                          |                                     | MP9                                | (M)                                |                               |
| 3163   | LIQUEFIED GAS, N.O.S.   | 2     | 2A                  |                    | 2.2             | 274                | LQ1                             | E1   | P200                          |                                     | MP9                                | (M)<br>T50                         |                               |
| 3164   | ARTICLES, PRESSURIZED, PNEUMATIC or HYDRAULIC (containing non-flammable gas)  | 2     | 6A                  |                    | 2.2             | 283<br>594         | LQ0                             | E0   | P003                          |                                     | MP9                                |                                    |                               |
| 3165   | AIRCRAFT HYDRAULIC POWER UNIT FUEL TANK (containing a mixture of anhydrous hydrazine and methylhydrazine) (M86 fuel)                | 3     | FTC                 | I                  | 3<br>+6.1<br>+8 |                    | LQ0                             | E0   | P301                          |                                     | MP7                                |                                    |                               |
| 3166   | Engine, internal combustion or vehicle, flammable gas powered or vehicle, flammable liquid powered                                  | 9     | M11                 | NOT SUBJECT TO ADR |                 |                    |                                 |      |                               |                                     |                                    |                                    |                               |
| 3167   | GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, N.O.S., not refrigerated liquid   | 2     | 7F                  |                    | 2.1             | 274                | LQ0                             | E0   | P201                          |                                     | MP9                                |                                    |                               |
| 3168   | GAS SAMPLE, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S., not refrigerated liquid  | 2     | 7TF                 |                    | 2.3<br>+2.1     | 274                | LQ0                             | E0   | P201                          |                                     | MP9                                |                                    |                               |
| 3169   | GAS SAMPLE, NON-PRESSURIZED, TOXIC, N.O.S., not refrigerated liquid   | 2     | 7T                  |                    | 2.3             | 274                | LQ0                             | E0   | P201                          |                                     | MP9                                |                                    |                               |
| 3170   | ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS   | 4.3   | W2                  | II                 | 4.3             | 244                | LQ11                            | E2   | P410<br>IBC07                 |                                     | MP14                               | T3<br>BK1 BK2                      | TP33                          |
| 3170   | ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS   | 4.3   | W2                  | III                | 4.3             | 244                | LQ12                            | E1   | P002<br>IBC08<br>R001         | B4                                  | MP14                               | T1<br>BK1 BK2                      | TP33                          |
| 3171   | Battery-powered vehicle or Battery-powered equipment  | 9     | M11                 | NOT SUBJECT TO ADR |                 |                    |                                 |      |                               |                                     |                                    |                                    |                               |
| 3172   | TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.   | 6.1   | T1                  | I                  | 6.1             | 210<br>274         | LQ0                             | E5   | P001                          |                                     | MP8<br>MP17                        |                                    |                               |
| 3172   | TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.   | 6.1   | T1                  | II                 | 6.1             | 210<br>274         | LQ17                            | E4   | P001<br>IBC02                 |                                     | MP15                               |                                    |                               |
| 3172   | TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.   | 6.1   | T1                  | III                | 6.1             | 210<br>274         | LQ7                             | E1   | P001<br>IBC03<br>LP01<br>R001 |                                     | MP19                               |                                    |                               |
| 3174   | TITANIUM DISULPHIDE   | 4.2   | S4                  | III                | 4.2             |                    | LQ0                             | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                                  | MP14                               | T1                                 | TP33                          |
| 3175   | SOLIDS or mixtures of solids (such as preparations and wastes) CONTAINING FLAMMABLE LIQUID, N.O.S. having a flash-point up to 60 °C | 4.1   | F1                  | II                 | 4.1             | 216<br>274         | LQ8                             | E2   | P002<br>IBC06<br>R001         | PP9                                 | MP11                               | T3<br>BK1 BK2                      | TP33                          |

| ADR tank           |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |            |                                 |           | Hazard identification No. | UN No. | Name and description   |
|--------------------|------------------------|---------------------------|--|---------------------------------|------------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code          | Special provisions     |                           |  | Packages                        | Bulk       | Loading, unloading and handling | Operation |                           |        |  |
| 4.3                | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3      | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)               | (13)                   | (14)                      | (15)   | (16)                            | (17)       | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| RxBN               | TU19<br>TA4<br>TT9     | AT                        | 3<br>(C/E)                                   | V5                              |            | CV9<br>CV11<br>CV36             |           | S20                       | 22     | 3158 GAS, REFRIGERATED LIQUID, N.O.S.  |
| PxBN(M)            | TA4<br>TT9             | AT                        | 3<br>(C/E)                                   |                                 |            | CV9<br>CV10<br>CV36             |           |                           | 20     | 3159 1,1,1,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 134a)  |
| PxBH(M)            | TU6<br>TA4<br>TT9      | FL                        | 1<br>(B/D)                                   |                                 |            | CV9<br>CV10<br>CV36             | S2 S14    |                           | 263    | 3160 LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S.   |
| PxBN(M)            | TA4<br>TT9             | FL                        | 2<br>(B/D)                                   |                                 |            | CV9<br>CV10<br>CV36             | S2 S20    |                           | 23     | 3161 LIQUEFIED GAS, FLAMMABLE, N.O.S.  |
| PxBH(M)            | TU6<br>TA4<br>TT9      | AT                        | 1<br>(C/D)                                   |                                 |            | CV9<br>CV10<br>CV36             | S14       |                           | 26     | 3162 LIQUEFIED GAS, TOXIC, N.O.S.  |
| PxBN(M)            | TA4<br>TT9             | AT                        | 3<br>(C/E)                                   |                                 |            | CV9<br>CV10<br>CV36             |           |                           | 20     | 3163 LIQUEFIED GAS, N.O.S.   |
|                    |                        |                           | 3<br>(E)                                     |                                 |            | CV9                             |           |                           |        | 3164 ARTICLES, PRESSURIZED, PNEUMATIC or HYDRAULIC (containing non-flammable gas)  |
|                    |                        |                           | 1<br>(E)                                     |                                 |            | CV13<br>CV28                    | S2 S19    |                           |        | 3165 AIRCRAFT HYDRAULIC POWER UNIT FUEL TANK (containing a mixture of anhydrous hydrazine and methylhydrazine) (M86 fuel)                |
| NOT SUBJECT TO ADR |                        |                           |  |                                 |            |                                 |           |                           | 3166   | Engine, internal combustion or vehicle, flammable gas powered or vehicle, flammable liquid powered                                       |
|                    |                        |                           | 2<br>(D)                                     |                                 |            | CV9                             | S2        |                           |        | 3167 GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, N.O.S., not refrigerated liquid   |
|                    |                        |                           | 1<br>(D)                                     |                                 |            | CV9                             | S2        |                           |        | 3168 GAS SAMPLE, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S., not refrigerated liquid  |
|                    |                        |                           | 1<br>(D)                                     |                                 |            | CV9                             |           |                           |        | 3169 GAS SAMPLE, NON-PRESSURIZED, TOXIC, N.O.S., not refrigerated liquid   |
| SGAN               |                        | AT                        | 2<br>(D/E)                                   | V1<br>V12                       | VV3        | CV23                            |           |                           | 423    | 3170 ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS   |
| SGAN               |                        | AT                        | 3<br>(E)                                     | V1                              | VV1<br>VV5 | CV23                            |           |                           | 423    | 3170 ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS   |
| NOT SUBJECT TO ADR |                        |                           |  |                                 |            |                                 |           |                           | 3171   | Battery-powered vehicle or Battery-powered equipment   |
| L10CH              | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |            | CV1<br>CV13<br>CV28             | S9 S14    |                           | 66     | 3172 TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.   |
| L4BH               | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |            | CV13<br>CV28                    | S9 S19    |                           | 60     | 3172 TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.   |
| L4BH               | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |            | CV13<br>CV28                    | S9        |                           | 60     | 3172 TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.   |
| SGAN               |                        | AT                        | 3<br>(E)                                     | V1                              |            |                                 |           |                           | 40     | 3174 TITANIUM DISULPHIDE   |
|                    |                        |                           | 2<br>(E)                                     | V11<br>V12                      | VV3        |                                 |           |                           | 40     | 3175 SOLIDS or mixtures of solids (such as preparations and wastes) CONTAINING FLAMMABLE LIQUID, N.O.S. having a flash-point up to 60 °C |

| UN No. | Name and description                                | Class | Classification code | Packing group | Labels   | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|----------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |          |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)      | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3176   | FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.            | 4.1   | F2                  | II            | 4.1      | 274                | LQ0                             | E0      |                            |                                  |                                 | T3                                 | TP3 TP26                   |
| 3176   | FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.            | 4.1   | F2                  | III           | 4.1      | 274                | LQ0                             | E0      |                            |                                  |                                 | T1                                 | TP3 TP26                   |
| 3178   | FLAMMABLE SOLID, INORGANIC, N.O.S.                  | 4.1   | F3                  | II            | 4.1      | 274                | LQ8                             | E2      | P002 IBC08                 | B4                               | MP11                            | T3                                 | TP33                       |
| 3178   | FLAMMABLE SOLID, INORGANIC, N.O.S.                  | 4.1   | F3                  | III           | 4.1      | 274                | LQ9                             | E1      | P002 IBC08 LP02 R001       | B3                               | MP11                            | T1                                 | TP33                       |
| 3179   | FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.           | 4.1   | FT2                 | II            | 4.1 +6.1 | 274                | LQ0                             | E2      | P002 IBC06                 |                                  | MP10                            | T3                                 | TP33                       |
| 3179   | FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.           | 4.1   | FT2                 | III           | 4.1 +6.1 | 274                | LQ0                             | E1      | P002 IBC06 R001            |                                  | MP10                            | T1                                 | TP33                       |
| 3180   | FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.       | 4.1   | FC2                 | II            | 4.1 +8   | 274                | LQ0                             | E2      | P002 IBC06                 |                                  | MP10                            | T3                                 | TP33                       |
| 3180   | FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.       | 4.1   | FC2                 | III           | 4.1 +8   | 274                | LQ0                             | E1      | P002 IBC06 R001            |                                  | MP10                            | T1                                 | TP33                       |
| 3181   | METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S. | 4.1   | F3                  | II            | 4.1      | 274                | LQ8                             | E2      | P002 IBC08                 | B4                               | MP11                            | T3                                 | TP33                       |
| 3181   | METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S. | 4.1   | F3                  | III           | 4.1      | 274                | LQ9                             | E1      | P002 IBC08 LP02 R001       | B3                               | MP11                            | T1                                 | TP33                       |
| 3182   | METAL HYDRIDES, FLAMMABLE, N.O.S.                   | 4.1   | F3                  | II            | 4.1      | 274 554            | LQ8                             | E2      | P410 IBC04                 | PP40                             | MP11                            | T3                                 | TP33                       |
| 3182   | METAL HYDRIDES, FLAMMABLE, N.O.S.                   | 4.1   | F3                  | III           | 4.1      | 274 554            | LQ9                             | E1      | P002 IBC04 R001            |                                  | MP11                            | T1                                 | TP33                       |
| 3183   | SELF-HEATING LIQUID, ORGANIC, N.O.S.                | 4.2   | S1                  | II            | 4.2      | 274                | LQ0                             | E2      | P001 IBC02                 |                                  | MP15                            |                                    |                            |
| 3183   | SELF-HEATING LIQUID, ORGANIC, N.O.S.                | 4.2   | S1                  | III           | 4.2      | 274                | LQ0                             | E1      | P001 IBC02 R001            |                                  | MP15                            |                                    |                            |
| 3184   | SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.         | 4.2   | ST1                 | II            | 4.2 +6.1 | 274                | LQ0                             | E2      | P402 IBC02                 |                                  | MP15                            |                                    |                            |
| 3184   | SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.         | 4.2   | ST1                 | III           | 4.2 +6.1 | 274                | LQ0                             | E1      | P001 IBC02 R001            |                                  | MP15                            |                                    |                            |
| 3185   | SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.     | 4.2   | SC1                 | II            | 4.2 +8   | 274                | LQ0                             | E2      | P402 IBC02                 |                                  | MP15                            |                                    |                            |
| 3185   | SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.     | 4.2   | SC1                 | III           | 4.2 +8   | 274                | LQ0                             | E1      | P001 IBC02 R001            |                                  | MP15                            |                                    |                            |
| 3186   | SELF-HEATING LIQUID, INORGANIC, N.O.S.              | 4.2   | S3                  | II            | 4.2      | 274                | LQ0                             | E2      | P001 IBC02                 |                                  | MP15                            |                                    |                            |
| 3186   | SELF-HEATING LIQUID, INORGANIC, N.O.S.              | 4.2   | S3                  | III           | 4.2      | 274                | LQ0                             | E1      | P001 IBC02 R001            |                                  | MP15                            |                                    |                            |
| 3187   | SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.       | 4.2   | ST3                 | II            | 4.2 +6.1 | 274                | LQ0                             | E2      | P402 IBC02                 |                                  | MP15                            |                                    |                            |
| 3187   | SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.       | 4.2   | ST3                 | III           | 4.2 +6.1 | 274                | LQ0                             | E1      | P001 IBC02 R001            |                                  | MP15                            |                                    |                            |
| 3188   | SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.   | 4.2   | SC3                 | II            | 4.2 +8   | 274                | LQ0                             | E2      | P402 IBC02                 |                                  | MP15                            |                                    |                            |
| 3188   | SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.   | 4.2   | SC3                 | III           | 4.2 +8   | 274                | LQ0                             | E1      | P001 IBC02 R001            |                                  | MP15                            |                                    |                            |
| 3189   | METAL POWDER, SELF-HEATING, N.O.S.                  | 4.2   | S4                  | II            | 4.2      | 274 555            | LQ0                             | E2      | P410 IBC06                 |                                  | MP14                            | T3                                 | TP33                       |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                                |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| LGBV      | TU27 TE4 TE6       | AT                        | 2 (E)  |                                 |       |                                 |           | 44                        | 3176   | FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.            |
| LGBV      | TU27 TE4 TE6       | AT                        | 3 (E)  |                                 |       |                                 |           | 44                        | 3176   | FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.            |
| SGAN      |                    | AT                        | 2 (E)  | V11                             |       |                                 |           | 40                        | 3178   | FLAMMABLE SOLID, INORGANIC, N.O.S.                  |
| SGAV      |                    | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 3178   | FLAMMABLE SOLID, INORGANIC, N.O.S.                  |
| SGAN      |                    | AT                        | 2 (E)  | V11 V12                         |       | CV28                            |           | 46                        | 3179   | FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.           |
| SGAN      |                    | AT                        | 3 (E)  | V12                             |       | CV28                            |           | 46                        | 3179   | FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.           |
| SGAN      |                    | AT                        | 2 (E)  | V11 V12                         |       |                                 |           | 48                        | 3180   | FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.       |
| SGAN      |                    | AT                        | 3 (E)  | V12                             |       |                                 |           | 48                        | 3180   | FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.       |
| SGAN      |                    | AT                        | 2 (E)  | V11                             |       |                                 |           | 40                        | 3181   | METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S. |
| SGAV      |                    | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 3181   | METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S. |
| SGAN      |                    | AT                        | 2 (E)  |                                 |       |                                 |           | 40                        | 3182   | METAL HYDRIDES, FLAMMABLE, N.O.S.                   |
| SGAV      |                    | AT                        | 3 (E)  |                                 | VV1   |                                 |           | 40                        | 3182   | METAL HYDRIDES, FLAMMABLE, N.O.S.                   |
| L4DH      | TU14 TE21          | AT                        | 2 (D/E)                                      | V1                              |       |                                 |           | 30                        | 3183   | SELF-HEATING LIQUID, ORGANIC, N.O.S.                |
| L4DH      | TU14 TE21          | AT                        | 3 (E)  | V1                              |       |                                 |           | 30                        | 3183   | SELF-HEATING LIQUID, ORGANIC, N.O.S.                |
| L4DH      | TU14 TE21          | AT                        | 2 (D/E)                                      | V1                              |       | CV28                            |           | 36                        | 3184   | SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.         |
| L4DH      | TU14 TE21          | AT                        | 3 (E)  | V1                              |       | CV28                            |           | 36                        | 3184   | SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.         |
| L4DH      | TU14 TE21          | AT                        | 2 (D/E)                                      | V1                              |       |                                 |           | 38                        | 3185   | SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.     |
| L4DH      | TU14 TE21          | AT                        | 3 (E)  | V1                              |       |                                 |           | 38                        | 3185   | SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.     |
| L4DH      | TU14 TE21          | AT                        | 2 (D/E)                                      | V1                              |       |                                 |           | 30                        | 3186   | SELF-HEATING LIQUID, INORGANIC, N.O.S.              |
| L4DH      | TU14 TE21          | AT                        | 3 (E)  | V1                              |       |                                 |           | 30                        | 3186   | SELF-HEATING LIQUID, INORGANIC, N.O.S.              |
| L4DH      | TU14 TE21          | AT                        | 2 (D/E)                                      | V1                              |       | CV28                            |           | 36                        | 3187   | SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.       |
| L4DH      | TU14 TE21          | AT                        | 3 (E)  | V1                              |       | CV28                            |           | 36                        | 3187   | SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.       |
| L4DH      | TU14 TE21          | AT                        | 2 (D/E)                                      | V1                              |       |                                 |           | 38                        | 3188   | SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.   |
| L4DH      | TU14 TE21          | AT                        | 3 (E)  | V1                              |       |                                 |           | 38                        | 3188   | SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.   |
| SGAN      |                    | AT                        | 2 (D/E)                                      | V1 V12                          |       |                                 |           | 40                        | 3189   | METAL POWDER, SELF-HEATING, N.O.S.                  |

| UN No. | Name and description                                      | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3189   | METAL POWDER, SELF-HEATING, N.O.S.                        | 4.2   | S4                  | III           | 4.2         | 274<br>555         | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP14                            | T1                                 | TP33                       |
| 3190   | SELF-HEATING SOLID, INORGANIC, N.O.S.                     | 4.2   | S4                  | II            | 4.2         | 274                | LQ0                             | E2      | P410<br>IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 3190   | SELF-HEATING SOLID, INORGANIC, N.O.S.                     | 4.2   | S4                  | III           | 4.2         | 274                | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP14                            | T1                                 | TP33                       |
| 3191   | SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.              | 4.2   | ST4                 | II            | 4.2<br>+6.1 | 274                | LQ0                             | E2      | P410<br>IBC05                 |                                  | MP14                            | T3                                 | TP33                       |
| 3191   | SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.              | 4.2   | ST4                 | III           | 4.2<br>+6.1 | 274                | LQ0                             | E1      | P002<br>IBC08<br>R001         | B3                               | MP14                            | T1                                 | TP33                       |
| 3192   | SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.          | 4.2   | SC4                 | II            | 4.2<br>+8   | 274                | LQ0                             | E2      | P410<br>IBC05                 |                                  | MP14                            | T3                                 | TP33                       |
| 3192   | SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.          | 4.2   | SC4                 | III           | 4.2<br>+8   | 274                | LQ0                             | E1      | P002<br>IBC08<br>R001         | B3                               | MP14                            | T1                                 | TP33                       |
| 3194   | PYROPHORIC LIQUID, INORGANIC, N.O.S.                      | 4.2   | S3                  | I             | 4.2         | 274                | LQ0                             | E0      | P400                          |                                  | MP2                             |                                    |                            |
| 3200   | PYROPHORIC SOLID, INORGANIC, N.O.S.                       | 4.2   | S4                  | I             | 4.2         | 274                | LQ0                             | E0      | P404                          |                                  | MP13                            | T21                                | TP7<br>TP33                |
| 3205   | ALKALINE EARTH METAL ALCOHOLATES, N.O.S.                  | 4.2   | S4                  | II            | 4.2         | 183<br>274         | LQ0                             | E2      | P410<br>IBC06                 |                                  | MP14                            | T3                                 | TP33                       |
| 3205   | ALKALINE EARTH METAL ALCOHOLATES, N.O.S.                  | 4.2   | S4                  | III           | 4.2         | 183<br>274         | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP14                            | T1                                 | TP33                       |
| 3206   | ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S. | 4.2   | SC4                 | II            | 4.2<br>+8   | 182<br>274         | LQ0                             | E2      | P410<br>IBC05                 |                                  | MP14                            | T3                                 | TP33                       |
| 3206   | ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S. | 4.2   | SC4                 | III           | 4.2<br>+8   | 182<br>274         | LQ0                             | E1      | P002<br>IBC08<br>R001         | B3                               | MP14                            | T1                                 | TP33                       |
| 3208   | METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.                | 4.3   | W2                  | I             | 4.3         | 274<br>557         | LQ0                             | E0      | P403<br>IBC99                 |                                  | MP2                             |                                    |                            |
| 3208   | METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.                | 4.3   | W2                  | II            | 4.3         | 274<br>557         | LQ11                            | E2      | P410<br>IBC07                 |                                  | MP14                            | T3                                 | TP33                       |
| 3208   | METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.                | 4.3   | W2                  | III           | 4.3         | 274<br>557         | LQ12                            | E1      | P410<br>IBC08<br>R001         | B4                               | MP14                            | T1                                 | TP33                       |
| 3209   | METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.  | 4.3   | WS                  | I             | 4.3<br>+4.2 | 274<br>558         | LQ0                             | E0      | P403                          |                                  | MP2                             |                                    |                            |
| 3209   | METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.  | 4.3   | WS                  | II            | 4.3<br>+4.2 | 274<br>558         | LQ11                            | E2      | P410<br>IBC05                 |                                  | MP14                            | T3                                 | TP33                       |
| 3209   | METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.  | 4.3   | WS                  | III           | 4.3<br>+4.2 | 274<br>558         | LQ12                            | E1      | P410<br>IBC08<br>R001         | B4                               | MP14                            | T1                                 | TP33                       |
| 3210   | CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.            | 5.1   | O1                  | II            | 5.1         | 274<br>605         | LQ10                            | E2      | P504<br>IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 3210   | CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.            | 5.1   | O1                  | III           | 5.1         | 274<br>605         | LQ13                            | E1      | P504<br>IBC02<br>R001         |                                  | MP2                             | T4                                 | TP1                        |
| 3211   | PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.         | 5.1   | O1                  | II            | 5.1         | 274                | LQ10                            | E2      | P504<br>IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 3211   | PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.         | 5.1   | O1                  | III           | 5.1         | 274                | LQ13                            | E1      | P504<br>IBC02<br>R001         |                                  | MP2                             | T4                                 | TP1                        |



| ADR tank  |                      | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                                      |
|-----------|----------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions   |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4         | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)                 | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAN      |                      | AT                        | 3 (E)  | V1                              | VV4   |                                 |           | 40                        | 3189   | METAL POWDER, SELF-HEATING, N.O.S.                        |
| SGAN      |                      | AT                        | 2 (D/E)                                      | V1<br>V12                       |       |                                 |           | 40                        | 3190   | SELF-HEATING SOLID, INORGANIC, N.O.S.                     |
| SGAN      |                      | AT                        | 3 (E)  | V1                              | VV4   |                                 |           | 40                        | 3190   | SELF-HEATING SOLID, INORGANIC, N.O.S.                     |
| SGAN      |                      | AT                        | 2 (D/E)                                      | V1                              |       | CV28                            |           | 46                        | 3191   | SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.              |
| SGAN      |                      | AT                        | 3 (E)  | V1                              |       | CV28                            |           | 46                        | 3191   | SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.              |
| SGAN      |                      | AT                        | 2 (D/E)                                      | V1                              |       |                                 |           | 48                        | 3192   | SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.          |
| SGAN      |                      | AT                        | 3 (E)  | V1                              |       |                                 |           | 48                        | 3192   | SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.          |
| L21DH     | TU14 TC1<br>TE21 TM1 | AT                        | 0 (B/E)                                      | V1                              |       |                                 | S20       | 333                       | 3194   | PYROPHORIC LIQUID, INORGANIC, N.O.S.                      |
|           |                      | AT                        | 0 (B/E)                                      | V1                              |       |                                 | S20       | 43                        | 3200   | PYROPHORIC SOLID, INORGANIC, N.O.S.                       |
| SGAN      |                      | AT                        | 2 (D/E)                                      | V1<br>V12                       |       |                                 |           | 40                        | 3205   | ALKALINE EARTH METAL ALCOHOLATES, N.O.S.                  |
| SGAN      |                      | AT                        | 3 (E)  | V1                              |       |                                 |           | 40                        | 3205   | ALKALINE EARTH METAL ALCOHOLATES, N.O.S.                  |
| SGAN      |                      | AT                        | 2 (D/E)                                      | V1                              |       |                                 |           | 48                        | 3206   | ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S. |
| SGAN      |                      | AT                        | 3 (E)  | V1                              |       |                                 |           | 48                        | 3206   | ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S. |
|           |                      |                           | 1 (E)  | V1                              |       | CV23                            | S20       |                           | 3208   | METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.                |
| SGAN      |                      | AT                        | 2 (D/E)                                      | V1<br>V12                       |       | CV23                            |           | 423                       | 3208   | METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.                |
| SGAN      |                      | AT                        | 3 (E)  | V1                              | VV5   | CV23                            |           | 423                       | 3208   | METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.                |
|           |                      |                           | 1 (E)  | V1                              |       | CV23                            | S20       |                           | 3209   | METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.  |
| SGAN      |                      | AT                        | 2 (D/E)                                      | V1                              |       | CV23                            |           | 423                       | 3209   | METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.  |
| SGAN      |                      | AT                        | 3 (E)  | V1                              | VV5   | CV23                            |           | 423                       | 3209   | METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.  |
| L4BN      | TU3                  | AT                        | 2 (E)  |                                 |       | CV24                            |           | 50                        | 3210   | CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.            |
| LGBV      | TU3                  | AT                        | 3 (E)  |                                 |       | CV24                            |           | 50                        | 3210   | CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.            |
| L4BN      | TU3                  | AT                        | 2 (E)  |                                 |       | CV24                            |           | 50                        | 3211   | PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.         |
| LGBV      | TU3                  | AT                        | 3 (E)  |                                 |       | CV24                            |           | 50                        | 3211   | PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.         |

| UN No. | Name and description                                | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |        |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3212   | HYPOCHLORITES, INORGANIC, N.O.S.                    | 5.1   | O2                  | II            | 5.1    | 274 559            | LQ11                            | E2      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3213   | BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.       | 5.1   | O1                  | II            | 5.1    | 274 604            | LQ10                            | E2      | P504 IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 3213   | BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.       | 5.1   | O1                  | III           | 5.1    | 274 604            | LQ13                            | E1      | P504 IBC02 R001            |                                  | MP15                            | T4                                 | TP1                        |
| 3214   | PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.  | 5.1   | O1                  | II            | 5.1    | 274 608            | LQ10                            | E2      | P504 IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 3215   | PERSULPHATES, INORGANIC, N.O.S.                     | 5.1   | O2                  | III           | 5.1    | 274                | LQ12                            | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1                                 | TP33                       |
| 3216   | PERSULPHATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.   | 5.1   | O1                  | III           | 5.1    | 274                | LQ13                            | E1      | P504 IBC02 R001            |                                  | MP15                            | T4                                 | TP1 TP29                   |
| 3218   | NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.       | 5.1   | O1                  | II            | 5.1    | 270 274 511        | LQ10                            | E2      | P504 IBC02                 |                                  | MP15                            | T4                                 | TP1                        |
| 3218   | NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.       | 5.1   | O1                  | III           | 5.1    | 270 274 511        | LQ13                            | E1      | P504 IBC02 R001            |                                  | MP15                            | T4                                 | TP1                        |
| 3219   | NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.       | 5.1   | O1                  | II            | 5.1    | 103 274            | LQ10                            | E2      | P504 IBC01                 |                                  | MP15                            | T4                                 | TP1                        |
| 3219   | NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.       | 5.1   | O1                  | III           | 5.1    | 103 274            | LQ13                            | E1      | P504 IBC02 R001            |                                  | MP15                            | T4                                 | TP1                        |
| 3220   | PENTAFLUOROETHANE (REFRIGERANT GAS R 125)           | 2     | 2A                  |               | 2.2    |                    | LQ1                             | E1      | P200                       |                                  | MP9                             | (M) T50                            |                            |
| 3221   | SELF-REACTIVE LIQUID TYPE B                         | 4.1   | SR1                 |               | 4.1 +1 | 181 194 274        | LQ14                            | E0      | P520                       | PP21                             | MP2                             |                                    |                            |
| 3222   | SELF-REACTIVE SOLID TYPE B                          | 4.1   | SR1                 |               | 4.1 +1 | 181 194 274        | LQ15                            | E0      | P520                       | PP21                             | MP2                             |                                    |                            |
| 3223   | SELF-REACTIVE LIQUID TYPE C                         | 4.1   | SR1                 |               | 4.1    | 194 274            | LQ14                            | E0      | P520                       | PP21                             | MP2                             |                                    |                            |
| 3224   | SELF-REACTIVE SOLID TYPE C                          | 4.1   | SR1                 |               | 4.1    | 194 274            | LQ15                            | E0      | P520                       | PP21                             | MP2                             |                                    |                            |
| 3225   | SELF-REACTIVE LIQUID TYPE D                         | 4.1   | SR1                 |               | 4.1    | 194 274            | LQ16                            | E0      | P520                       |                                  | MP2                             |                                    |                            |
| 3226   | SELF-REACTIVE SOLID TYPE D                          | 4.1   | SR1                 |               | 4.1    | 194 274            | LQ11                            | E0      | P520                       |                                  | MP2                             |                                    |                            |
| 3227   | SELF-REACTIVE LIQUID TYPE E                         | 4.1   | SR1                 |               | 4.1    | 194 274            | LQ16                            | E0      | P520                       |                                  | MP2                             |                                    |                            |
| 3228   | SELF-REACTIVE SOLID TYPE E                          | 4.1   | SR1                 |               | 4.1    | 194 274            | LQ11                            | E0      | P520                       |                                  | MP2                             |                                    |                            |
| 3229   | SELF-REACTIVE LIQUID TYPE F                         | 4.1   | SR1                 |               | 4.1    | 194 274            | LQ16                            | E0      | P520 IBC99                 |                                  | MP2                             | T23                                |                            |
| 3230   | SELF-REACTIVE SOLID TYPE F                          | 4.1   | SR1                 |               | 4.1    | 194 274            | LQ11                            | E0      | P520 IBC99                 |                                  | MP2                             | T23                                |                            |
| 3231   | SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED | 4.1   | SR2                 |               | 4.1 +1 | 181 194 274        | LQ0                             | E0      | P520                       | PP21                             | MP2                             |                                    |                            |
| 3232   | SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED  | 4.1   | SR2                 |               | 4.1 +1 | 181 194 274        | LQ0                             | E0      | P520                       | PP21                             | MP2                             |                                    |                            |
| 3233   | SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED | 4.1   | SR2                 |               | 4.1    | 194 274            | LQ0                             | E0      | P520                       | PP21                             | MP2                             |                                    |                            |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                                |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAN      | TU3                | AT                        | 2 (E)  | V11                             |       | CV24                            |           | 50                        | 3212   | HYPOCHLORITES, INORGANIC, N.O.S.                    |
| L4BN      | TU3                | AT                        | 2 (E)  |                                 |       | CV24                            |           | 50                        | 3213   | BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.       |
| LGBV      | TU3                | AT                        | 3 (E)  |                                 |       | CV24                            |           | 50                        | 3213   | BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.       |
| L4BN      | TU3                | AT                        | 2 (E)  |                                 |       | CV24                            |           | 50                        | 3214   | PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.  |
| SGAV      | TU3                | AT                        | 3 (E)  |                                 | VV8   | CV24                            |           | 50                        | 3215   | PERSULPHATES, INORGANIC, N.O.S.                     |
| LGBV      | TU3                | AT                        | 3 (E)  |                                 |       | CV24                            |           | 50                        | 3216   | PERSULPHATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.   |
| L4BN      | TU3                | AT                        | 2 (E)  |                                 |       | CV24                            |           | 50                        | 3218   | NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.       |
| LGBV      | TU3                | AT                        | 3 (E)  |                                 |       | CV24                            |           | 50                        | 3218   | NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.       |
| L4BN      | TU3                | AT                        | 2 (E)  |                                 |       | CV24                            |           | 50                        | 3219   | NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.       |
| LGBV      | TU3                | AT                        | 3 (E)  |                                 |       | CV24                            |           | 50                        | 3219   | NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.       |
| PxBN(M)   | TA4 TT9            | AT                        | 3 (C/E)                                      |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 3220   | PENTAFLUOROETHANE (REFRIGERANT GAS R 125)           |
|           |                    |                           | 1 (B)  | V1                              |       | CV15<br>CV20<br>CV22            | S9 S17    |                           | 3221   | SELF-REACTIVE LIQUID TYPE B                         |
|           |                    |                           | 1 (B)  | V1                              |       | CV15<br>CV20<br>CV22            | S9 S17    |                           | 3222   | SELF-REACTIVE SOLID TYPE B                          |
|           |                    |                           | 1 (D)  | V1                              |       | CV15<br>CV20<br>CV22            | S8 S18    |                           | 3223   | SELF-REACTIVE LIQUID TYPE C                         |
|           |                    |                           | 1 (D)  | V1                              |       | CV15<br>CV20<br>CV22            | S8 S18    |                           | 3224   | SELF-REACTIVE SOLID TYPE C                          |
|           |                    |                           | 2 (D)  | V1                              |       | CV15<br>CV22                    | S19       |                           | 3225   | SELF-REACTIVE LIQUID TYPE D                         |
|           |                    |                           | 2 (D)  | V1                              |       | CV15<br>CV22                    | S19       |                           | 3226   | SELF-REACTIVE SOLID TYPE D                          |
|           |                    |                           | 2 (D)  | V1                              |       | CV15<br>CV22                    |           |                           | 3227   | SELF-REACTIVE LIQUID TYPE E                         |
|           |                    |                           | 2 (D)  | V1                              |       | CV15<br>CV22                    |           |                           | 3228   | SELF-REACTIVE SOLID TYPE E                          |
|           |                    | AT                        | 2 (D)  | V1                              |       | CV15<br>CV22                    |           | 40                        | 3229   | SELF-REACTIVE LIQUID TYPE F                         |
|           |                    | AT                        | 2 (D)  | V1                              |       | CV15<br>CV22                    |           | 40                        | 3230   | SELF-REACTIVE SOLID TYPE F                          |
|           |                    |                           | 1 (B)  | V8                              |       | CV15<br>CV20<br>CV21<br>CV22    | S4 S9 S16 |                           | 3231   | SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED |
|           |                    |                           | 1 (B)  | V8                              |       | CV15<br>CV20<br>CV21<br>CV22    | S4 S9 S16 |                           | 3232   | SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED  |
|           |                    |                           | 1 (D)  | V8                              |       | CV15<br>CV20<br>CV21<br>CV22    | S4 S8 S17 |                           | 3233   | SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|--------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |        |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)    | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3234   | SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED   | 4.1   | SR2                 |               | 4.1    | 194 274            | LQ0                             | E0      | P520                       | PP21                             | MP2                             |                                    |                            |
| 3235   | SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED  | 4.1   | SR2                 |               | 4.1    | 194 274            | LQ0                             | E0      | P520                       |                                  | MP2                             |                                    |                            |
| 3236   | SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED   | 4.1   | SR2                 |               | 4.1    | 194 274            | LQ0                             | E0      | P520                       |                                  | MP2                             |                                    |                            |
| 3237   | SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED  | 4.1   | SR2                 |               | 4.1    | 194 274            | LQ0                             | E0      | P520                       |                                  | MP2                             |                                    |                            |
| 3238   | SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED   | 4.1   | SR2                 |               | 4.1    | 194 274            | LQ0                             | E0      | P520                       |                                  | MP2                             |                                    |                            |
| 3239   | SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED  | 4.1   | SR2                 |               | 4.1    | 194 274            | LQ0                             | E0      | P520                       |                                  | MP2                             | T23                                |                            |
| 3240   | SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED   | 4.1   | SR2                 |               | 4.1    | 194 274            | LQ0                             | E0      | P520                       |                                  | MP2                             | T23                                |                            |
| 3241   | 2-BROMO-2-NITROPROPANE-1,3-DIOL  | 4.1   | SR1                 | III           | 4.1    | 638                | LQ0                             | E1      | P520 IBC08                 | PP22 B3                          | MP2                             |                                    |                            |
| 3242   | AZODICARBONAMIDE   | 4.1   | SR1                 | II            | 4.1    | 215 638            | LQ0                             | E2      | P409                       |                                  | MP2                             | T3                                 | TP33                       |
| 3243   | SOLIDS CONTAINING TOXIC LIQUID, N.O.S.   | 6.1   | T9                  | II            | 6.1    | 217 274            | LQ18                            | E4      | P002 IBC02                 | PP9                              | MP10                            | T3 BK1 BK2                         | TP33                       |
| 3244   | SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S.   | 8     | C10                 | II            | 8      | 218 274            | LQ23                            | E2      | P002 IBC05                 | PP9                              | MP10                            | T3 BK1 BK2                         | TP33                       |
| 3245   | GENETICALLY MODIFIED MICROORGANISMS or GENETICALLY MODIFIED ORGANISMS                                  | 9     | M8                  |               | 9      | 219 637            | LQ0                             | E0      | P904 IBC08                 |                                  | MP6                             |                                    |                            |
| 3245   | GENETICALLY MODIFIED MICROORGANISMS or GENETICALLY MODIFIED ORGANISMS, in refrigerated liquid nitrogen | 9     | M8                  |               | 9 +2.2 | 219 637            | LQ0                             | E0      | P904 IBC08                 |                                  | MP6                             |                                    |                            |
| 3246   | METHANESULPHONYL CHLORIDE  | 6.1   | TC1                 | I             | 6.1 +8 |                    | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        | T14                                | TP2                        |
| 3247   | SODIUM PEROXOBORATE, ANHYDROUS   | 5.1   | O2                  | II            | 5.1    |                    | LQ11                            | E2      | P002 IBC08                 | B4                               | MP2                             | T3                                 | TP33                       |
| 3248   | MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.   | 3     | FT1                 | II            | 3 +6.1 | 220 221 274 601    | LQ0                             | E2      | P001                       |                                  | MP19                            |                                    |                            |
| 3248   | MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.   | 3     | FT1                 | III           | 3 +6.1 | 220 221 274 601    | LQ7                             | E1      | P001 R001                  |                                  | MP19                            |                                    |                            |
| 3249   | MEDICINE, SOLID, TOXIC, N.O.S.   | 6.1   | T2                  | II            | 6.1    | 221 274 601        | LQ18                            | E4      | P002                       |                                  | MP10                            | T3                                 | TP33                       |
| 3249   | MEDICINE, SOLID, TOXIC, N.O.S.   | 6.1   | T2                  | III           | 6.1    | 221 274 601        | LQ9                             | E1      | P002 LP02 R001             |                                  | MP10                            | T1                                 | TP33                       |
| 3250   | CHLOROACETIC ACID, MOLTEN  | 6.1   | TC1                 | II            | 6.1 +8 |                    | LQ0                             | E0      |                            |                                  |                                 | T7                                 | TP3 TP28                   |
| 3251   | ISOSORBIDE-5-MONONITRATE   | 4.1   | SR1                 | III           | 4.1    | 226 638            | LQ0                             | E1      | P409                       |                                  | MP2                             |                                    |                            |
| 3252   | DIFLUOROMETHANE (REFRIGERANT GAS R 32)   | 2     | 2F                  |               | 2.1    |                    | LQ0                             | E0      | P200                       |                                  | MP9                             | (M) T50                            |                            |

| ADR tank  |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                     |           | Hazard identification No. | UN No. | Name and description   |
|-----------|---------------------|---------------------------|--|---------------------------------|-------|-------------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling     | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                              | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                                | (19)      | (20)                      | (1)    | (2)  |
|           |                     |                           | 1 (D)  | V8                              |       | CV15<br>CV20<br>CV21<br>CV22        | S4 S8 S17 |                           | 3234   | SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED   |
|           |                     |                           | 1 (D)  | V8                              |       | CV15<br>CV21<br>CV22                | S4 S18    |                           | 3235   | SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED  |
|           |                     |                           | 1 (D)  | V8                              |       | CV15<br>CV21<br>CV22                | S4 S18    |                           | 3236   | SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED   |
|           |                     |                           | 1 (D)  | V8                              |       | CV15<br>CV21<br>CV22                | S4 S19    |                           | 3237   | SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED  |
|           |                     |                           | 1 (D)  | V8                              |       | CV15<br>CV21<br>CV22                | S4 S19    |                           | 3238   | SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED   |
|           |                     | AT                        | 1 (D)  | V8                              |       | CV15<br>CV21<br>CV22                | S4        | 40                        | 3239   | SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED  |
|           |                     | AT                        | 1 (D)  | V8                              |       | CV15<br>CV21<br>CV22                | S4        | 40                        | 3240   | SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED   |
|           |                     |                           | 3 (D)  |                                 |       | CV14                                | S24       |                           | 3241   | 2-BROMO-2-NITROPROPANE-1,3-DIOL  |
|           |                     | AT                        | 2 (D)  |                                 |       | CV14                                | S24       | 40                        | 3242   | AZODICARBONAMIDE   |
| SGAH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 | VV10  | CV13<br>CV28                        | S9 S19    | 60                        | 3243   | SOLIDS CONTAINING TOXIC LIQUID, N.O.S.   |
| SGAV      |                     | AT                        | 2 (E)  |                                 | VV10  |                                     |           | 80                        | 3244   | SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S.   |
|           |                     |                           | 2 (E)  |                                 |       | CV1<br>CV13<br>CV26<br>CV27<br>CV28 | S17       |                           | 3245   | GENETICALLY MODIFIED MICROORGANISMS or GENETICALLY MODIFIED ORGANISMS                                  |
|           |                     |                           | 2 (E)  |                                 |       | CV1<br>CV13<br>CV26<br>CV27<br>CV28 | S17       |                           | 3245   | GENETICALLY MODIFIED MICROORGANISMS or GENETICALLY MODIFIED ORGANISMS, in refrigerated liquid nitrogen |
| L10CH     | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28                 | S9 S14    | 668                       | 3246   | METHANESULPHONYL CHLORIDE  |
| SGAN      | TU3                 | AT                        | 2 (E)  | V11                             |       | CV24                                |           | 50                        | 3247   | SODIUM PEROXOBORATE, ANHYDROUS   |
| L4BH      | TU15                | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                        | S2 S19    | 336                       | 3248   | MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.   |
| L4BH      | TU15                | FL                        | 3 (D/E)                                      |                                 |       | CV13<br>CV28                        | S2        | 36                        | 3248   | MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.   |
| SGAH L4BH | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                        | S9 S19    | 60                        | 3249   | MEDICINE, SOLID, TOXIC, N.O.S.   |
| SGAH L4BH | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                        | S9        | 60                        | 3249   | MEDICINE, SOLID, TOXIC, N.O.S.   |
| L4BH      | TU15 TC4 TE19       | AT                        | 0 (D/E)                                      |                                 |       | CV13                                | S9 S19    | 68                        | 3250   | CHLOROACETIC ACID, MOLTEN  |
|           |                     |                           | 3 (D)  |                                 |       | CV14                                | S24       |                           | 3251   | ISOSORBIDE-5-MONONITRATE   |
| PxBN(M)   | TA4 TT9             | FL                        | 2 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36                 | S2 S20    | 23                        | 3252   | DIFLUOROMETHANE (REFRIGERANT GAS R 32)   |

| UN No. | Name and description  | Class | Classification code | Packing group       | Labels | Special provisions | Limited and excepted quantities |      | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------------|--------|--------------------|---------------------------------|------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |                     |        |                    |                                 |      | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)                 | (5)    | (6)                | (7a)                            | (7b) | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3253   | DISODIUM TRIOXOSILICATE   | 8     | C6                  | III                 | 8      |                    | LQ24                            | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3254   | TRIBUTYLPHOSPHANE   | 4.2   | S1                  | I                   | 4.2    |                    | LQ0                             | E0   | P400                          |                                  | MP2                             | T21                                | TP2<br>TP7                 |
| 3255   | tert-BUTYL HYPOCHLORITE   | 4.2   | SC1                 | CARRIAGE PROHIBITED |        |                    |                                 |      |                               |                                  |                                 |                                    |                            |
| 3256   | ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash-point above 60 °C, at or above its flash-point  | 3     | F2                  | III                 | 3      | 274<br>560         | LQ0                             | E0   | P099<br>IBC99                 |                                  | MP2                             | T3                                 | TP3 TP29                   |
| 3257   | ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 °C and below its flash-point (including molten metals, molten salts, etc.), filled at a temperature higher than 190 °C | 9     | M9                  | III                 | 9      | 274<br>580<br>643  | LQ0                             | E0   | P099<br>IBC99                 |                                  |                                 | T3                                 | TP3 TP29                   |
| 3257   | ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 °C and below its flash-point (including molten metals, molten salts, etc.), filled at or below 190 °C                  | 9     | M9                  | III                 | 9      | 274<br>580<br>643  | LQ0                             | E0   | P099<br>IBC99                 |                                  |                                 | T3                                 | TP3 TP29                   |
| 3258   | ELEVATED TEMPERATURE SOLID, N.O.S., at or above 240 °C  | 9     | M10                 | III                 | 9      | 274<br>580<br>643  | LQ0                             | E0   | P099<br>IBC99                 |                                  |                                 |                                    |                            |
| 3259   | AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.  | 8     | C8                  | I                   | 8      | 274                | LQ0                             | E0   | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3259   | AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.  | 8     | C8                  | II                  | 8      | 274                | LQ23                            | E2   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3259   | AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.  | 8     | C8                  | III                 | 8      | 274                | LQ24                            | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3260   | CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  | 8     | C2                  | I                   | 8      | 274                | LQ0                             | E0   | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3260   | CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  | 8     | C2                  | II                  | 8      | 274                | LQ23                            | E2   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3260   | CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  | 8     | C2                  | III                 | 8      | 274                | LQ24                            | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3261   | CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.  | 8     | C4                  | I                   | 8      | 274                | LQ0                             | E0   | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3261   | CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.  | 8     | C4                  | II                  | 8      | 274                | LQ23                            | E2   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3261   | CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.  | 8     | C4                  | III                 | 8      | 274                | LQ24                            | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3262   | CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.   | 8     | C6                  | I                   | 8      | 274                | LQ0                             | E0   | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3262   | CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.   | 8     | C6                  | II                  | 8      | 274                | LQ23                            | E2   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3262   | CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.   | 8     | C6                  | III                 | 8      | 274                | LQ24                            | E1   | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3263   | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.   | 8     | C8                  | I                   | 8      | 274                | LQ0                             | E0   | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3263   | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.   | 8     | C8                  | II                  | 8      | 274                | LQ23                            | E2   | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |

| ADR tank            |                             | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|---------------------|-----------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code           | Special provisions          |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3                 | 4.3.5, 6.8.4                | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)                | (13)                        | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAV                |                             | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 3253   | DISODIUM TRIOXOSILICATE   |
|                     |                             | AT                        | 0 (B/E)                                      | V1                              |       |                                 | S20       | 333                       | 3254   | TRIBUTYLPHOSPHANE   |
| CARRIAGE PROHIBITED |                             |                           |  |                                 |       |                                 |           |                           | 3255   | tert-BUTYL HYPOCHLORITE   |
| LGAV                | TU35 TE24                   | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 3256   | ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash-point above 60 °C, at or above its flash-point  |
| LGAV                | TU35 TC7 TE6 TE14 TE18 TE24 | AT                        | 3 (D)  |                                 | VV12  |                                 |           | 99                        | 3257   | ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 °C and below its flash-point (including molten metals, molten salts, etc.), filled at a temperature higher than 190 °C |
| LGAV                | TU35 TC7 TE6 TE14 TE24      | AT                        | 3 (D)  |                                 | VV12  |                                 |           | 99                        | 3257   | ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 °C and below its flash-point (including molten metals, molten salts, etc.), filled at or below 190 °C                  |
|                     |                             |                           | 3 (D)  |                                 | VV13  |                                 |           | 99                        | 3258   | ELEVATED TEMPERATURE SOLID, N.O.S., at or above 240 °C  |
| S10AN L10BH         |                             | AT                        | 1 (E)  | V10 V12                         |       |                                 | S20       | 88                        | 3259   | AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.  |
| SGAN L4BN           |                             | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 3259   | AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.  |
| SGAV L4BN           |                             | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 3259   | AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.  |
| S10AN               |                             | AT                        | 1 (E)  | V10 V12                         |       |                                 | S20       | 88                        | 3260   | CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  |
| SGAN                |                             | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 3260   | CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  |
| SGAV                |                             | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 3260   | CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  |
| S10AN L10BH         |                             | AT                        | 1 (E)  | V10 V12                         |       |                                 | S20       | 88                        | 3261   | CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.  |
| SGAN L4BN           |                             | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 3261   | CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.  |
| SGAV L4BN           |                             | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 3261   | CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.  |
| S10AN L10BH         |                             | AT                        | 1 (E)  | V10 V12                         |       |                                 | S20       | 88                        | 3262   | CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.   |
| SGAN L4BN           |                             | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 3262   | CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.   |
| SGAV L4BN           |                             | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 3262   | CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.   |
| S10AN L10BH         |                             | AT                        | 1 (E)  | V10 V12                         |       |                                 | S20       | 88                        | 3263   | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.   |
| SGAN L4BN           |                             | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 3263   | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.   |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3263   | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.   | 8     | C8                  | III           | 8         | 274                | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3264   | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.                                     | 8     | C1                  | I             | 8         | 274                | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3264   | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.                                     | 8     | C1                  | II            | 8         | 274                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3264   | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.                                     | 8     | C1                  | III           | 8         | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 3265   | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.                                       | 8     | C3                  | I             | 8         | 274                | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3265   | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.                                       | 8     | C3                  | II            | 8         | 274                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3265   | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.                                       | 8     | C3                  | III           | 8         | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 3266   | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.                                      | 8     | C5                  | I             | 8         | 274                | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3266   | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.                                      | 8     | C5                  | II            | 8         | 274                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3266   | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.                                      | 8     | C5                  | III           | 8         | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 3267   | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.  | 8     | C7                  | I             | 8         | 274                | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3267   | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.  | 8     | C7                  | II            | 8         | 274                | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3267   | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.  | 8     | C7                  | III           | 8         | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 3268   | AIR BAG INFLATORS or AIR BAG MODULES or SEAT-BELT PRETENSIONERS                 | 9     | M5                  | III           | 9         | 280<br>289         | LQ0                             | E0      | P902<br>LP902                 |                                  |                                 |                                    |                            |
| 3269   | POLYESTER RESIN KIT   | 3     | F1                  | II            | 3         | 236<br>340         | LQ6                             | E0      | P302<br>R001                  |                                  |                                 |                                    |                            |
| 3269   | POLYESTER RESIN KIT   | 3     | F1                  | III           | 3         | 236<br>340         | LQ7                             | E0      | P302<br>R001                  |                                  |                                 |                                    |                            |
| 3270   | NITROCELLULOSE MEMBRANE FILTERS, with not more than 12.6% nitrogen, by dry mass | 4.1   | F1                  | II            | 4.1       | 237<br>286         | LQ8                             | E2      | P411                          |                                  | MP11                            |                                    |                            |
| 3271   | ETHERS, N.O.S.  | 3     | F1                  | II            | 3         | 274                | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 3271   | ETHERS, N.O.S.  | 3     | F1                  | III           | 3         | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 3272   | ESTERS, N.O.S.  | 3     | F1                  | II            | 3         | 274<br>601         | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 3272   | ESTERS, N.O.S.  | 3     | F1                  | III           | 3         | 274<br>601         | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 3273   | NITRILES, FLAMMABLE, TOXIC, N.O.S.  | 3     | FT1                 | I             | 3<br>+6.1 | 274                | LQ0                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 3273   | NITRILES, FLAMMABLE, TOXIC, N.O.S.  | 3     | FT1                 | II            | 3<br>+6.1 | 274                | LQ0                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 3274   | ALCOHOLATES SOLUTION, N.O.S., in alcohol  | 3     | FC                  | II            | 3<br>+8   | 274                | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            |                                    |                            |



| ADR tank     |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|--------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code    | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3          | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)         | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAV<br>L4BN |                    | AT                        | 3<br>(E)                                     |                                 | VV9   |                                 |           | 80                        | 3263   | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.   |
| L10BH        |                    | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | 88                        | 3264   | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.                                     |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 3264   | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.                                     |
| L4BN         |                    | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 3264   | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.                                     |
| L10BH        |                    | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | 88                        | 3265   | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.                                       |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 3265   | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.                                       |
| L4BN         |                    | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 3265   | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.                                       |
| L10BH        |                    | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | 88                        | 3266   | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.                                      |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 3266   | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.                                      |
| L4BN         |                    | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 3266   | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.                                      |
| L10BH        |                    | AT                        | 1<br>(E)                                     |                                 |       |                                 | S20       | 88                        | 3267   | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.  |
| L4BN         |                    | AT                        | 2<br>(E)                                     |                                 |       |                                 |           | 80                        | 3267   | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.  |
| L4BN         |                    | AT                        | 3<br>(E)                                     |                                 |       |                                 |           | 80                        | 3267   | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.  |
|              |                    |                           | 4<br>(E)                                     |                                 |       |                                 |           |                           | 3268   | AIR BAG INFLATORS or AIR BAG MODULES or SEAT-BELT PRETENSIONERS                 |
|              |                    |                           | 2<br>(E)                                     |                                 |       |                                 | S2 S20    |                           | 3269   | POLYESTER RESIN KIT   |
|              |                    |                           | 3<br>(E)                                     |                                 |       |                                 | S2        |                           | 3269   | POLYESTER RESIN KIT   |
|              |                    |                           | 2<br>(E)                                     |                                 |       |                                 |           |                           | 3270   | NITROCELLULOSE MEMBRANE FILTERS, with not more than 12.6% nitrogen, by dry mass |
| LGBF         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 3271   | ETHERS, N.O.S.  |
| LGBF         |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 3271   | ETHERS, N.O.S.  |
| LGBF         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 3272   | ESTERS, N.O.S.  |
| LGBF         |                    | FL                        | 3<br>(D/E)                                   |                                 |       |                                 | S2        | 30                        | 3272   | ESTERS, N.O.S.  |
| L10CH        | TU14 TU15<br>TE21  | FL                        | 1<br>(C/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 3273   | NITRILES, FLAMMABLE, TOXIC, N.O.S.  |
| L4BH         | TU15               | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 3273   | NITRILES, FLAMMABLE, TOXIC, N.O.S.  |
| L4BH         |                    | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 3274   | ALCOHOLATES SOLUTION, N.O.S., in alcohol  |

| UN No. | Name and description                                | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3275   | NITRILES, TOXIC, FLAMMABLE, N.O.S.                  | 6.1   | TF1                 | I             | 6.1<br>+3 | 274<br>315         | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3275   | NITRILES, TOXIC, FLAMMABLE, N.O.S.                  | 6.1   | TF1                 | II            | 6.1<br>+3 | 274                | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3276   | NITRILES, TOXIC, LIQUID, N.O.S.                     | 6.1   | T1                  | I             | 6.1       | 274<br>315         | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3276   | NITRILES, TOXIC, LIQUID, N.O.S.                     | 6.1   | T1                  | II            | 6.1       | 274                | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3276   | NITRILES, TOXIC, LIQUID, N.O.S.                     | 6.1   | T1                  | III           | 6.1       | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 3277   | CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.            | 6.1   | TC1                 | II            | 6.1<br>+8 | 274<br>561         | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T8                                 | TP2<br>TP28                |
| 3278   | ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.    | 6.1   | T1                  | I             | 6.1       | 43<br>274<br>315   | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3278   | ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.    | 6.1   | T1                  | II            | 6.1       | 43<br>274          | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3278   | ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.    | 6.1   | T1                  | III           | 6.1       | 43<br>274          | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 3279   | ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S. | 6.1   | TF1                 | I             | 6.1<br>+3 | 43<br>274<br>315   | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3279   | ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S. | 6.1   | TF1                 | II            | 6.1<br>+3 | 43<br>274          | LQ17                            | E4      | P001                          |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3280   | ORGANOARSENIC COMPOUND, LIQUID, N.O.S.              | 6.1   | T3                  | I             | 6.1       | 274<br>315         | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3280   | ORGANOARSENIC COMPOUND, LIQUID, N.O.S.              | 6.1   | T3                  | II            | 6.1       | 274                | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3280   | ORGANOARSENIC COMPOUND, LIQUID, N.O.S.              | 6.1   | T3                  | III           | 6.1       | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 3281   | METAL CARBONYLS, LIQUID, N.O.S.                     | 6.1   | T3                  | I             | 6.1       | 274<br>315<br>562  | LQ0                             | E5      | P601                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3281   | METAL CARBONYLS, LIQUID, N.O.S.                     | 6.1   | T3                  | II            | 6.1       | 274<br>562         | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3281   | METAL CARBONYLS, LIQUID, N.O.S.                     | 6.1   | T3                  | III           | 6.1       | 274<br>562         | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 3282   | ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S.      | 6.1   | T3                  | I             | 6.1       | 274<br>562         | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3282   | ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S.      | 6.1   | T3                  | II            | 6.1       | 274<br>562         | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3282   | ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S.      | 6.1   | T3                  | III           | 6.1       | 274<br>562         | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 3283   | SELENIUM COMPOUND, SOLID, N.O.S.                    | 6.1   | T5                  | I             | 6.1       | 274<br>563         | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3283   | SELENIUM COMPOUND, SOLID, N.O.S.                    | 6.1   | T5                  | II            | 6.1       | 274<br>563         | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3283   | SELENIUM COMPOUND, SOLID, N.O.S.                    | 6.1   | T5                  | III           | 6.1       | 274<br>563         | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |

| ADR tank       |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                                      |
|----------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code      | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3            | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)           | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L10CH          | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3275   | NITRILES, TOXIC,<br>FLAMMABLE, N.O.S.                     |
| L4BH           | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3275   | NITRILES, TOXIC,<br>FLAMMABLE, N.O.S.                     |
| L10CH          | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3276   | NITRILES, TOXIC, LIQUID,<br>N.O.S.                        |
| L4BH           | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3276   | NITRILES, TOXIC, LIQUID,<br>N.O.S.                        |
| L4BH           | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3276   | NITRILES, TOXIC, LIQUID,<br>N.O.S.                        |
| L4BH           | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 68                        | 3277   | CHLOROFORMATES,<br>TOXIC, CORROSIVE, N.O.S.               |
| L10CH          | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3278   | ORGANOPHOSPHORUS<br>COMPOUND, TOXIC,<br>LIQUID, N.O.S.    |
| L4BH           | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3278   | ORGANOPHOSPHORUS<br>COMPOUND, TOXIC,<br>LIQUID, N.O.S.    |
| L4BH           | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3278   | ORGANOPHOSPHORUS<br>COMPOUND, TOXIC,<br>LIQUID, N.O.S.    |
| L10CH          | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3279   | ORGANOPHOSPHORUS<br>COMPOUND, TOXIC,<br>FLAMMABLE, N.O.S. |
| L4BH           | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3279   | ORGANOPHOSPHORUS<br>COMPOUND, TOXIC,<br>FLAMMABLE, N.O.S. |
| L10CH          | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3280   | ORGANOARSENIC<br>COMPOUND, LIQUID, N.O.S.                 |
| L4BH           | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3280   | ORGANOARSENIC<br>COMPOUND, LIQUID, N.O.S.                 |
| L4BH           | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3280   | ORGANOARSENIC<br>COMPOUND, LIQUID, N.O.S.                 |
| L10CH          | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3281   | METAL CARBONYLS,<br>LIQUID, N.O.S.                        |
| L4BH           | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3281   | METAL CARBONYLS,<br>LIQUID, N.O.S.                        |
| L4BH           | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3281   | METAL CARBONYLS,<br>LIQUID, N.O.S.                        |
| L10CH          | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3282   | ORGANOMETALLIC<br>COMPOUND, TOXIC,<br>LIQUID, N.O.S.      |
| L4BH           | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3282   | ORGANOMETALLIC<br>COMPOUND, TOXIC,<br>LIQUID, N.O.S.      |
| L4BH           | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3282   | ORGANOMETALLIC<br>COMPOUND, TOXIC,<br>LIQUID, N.O.S.      |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3283   | SELENIUM COMPOUND,<br>SOLID, N.O.S.                       |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3283   | SELENIUM COMPOUND,<br>SOLID, N.O.S.                       |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3283   | SELENIUM COMPOUND,<br>SOLID, N.O.S.                       |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3284   | TELLURIUM COMPOUND, N.O.S.   | 6.1   | T5                  | I             | 6.1       | 274                | LQ0                             | E5      | P002 IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3284   | TELLURIUM COMPOUND, N.O.S.   | 6.1   | T5                  | II            | 6.1       | 274                | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3284   | TELLURIUM COMPOUND, N.O.S.   | 6.1   | T5                  | III           | 6.1       | 274                | LQ9                             | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1                                 | TP33                       |
| 3285   | VANADIUM COMPOUND, N.O.S.  | 6.1   | T5                  | I             | 6.1       | 274 564            | LQ0                             | E5      | P002 IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3285   | VANADIUM COMPOUND, N.O.S.  | 6.1   | T5                  | II            | 6.1       | 274 564            | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3285   | VANADIUM COMPOUND, N.O.S.  | 6.1   | T5                  | III           | 6.1       | 274 564            | LQ9                             | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1                                 | TP33                       |
| 3286   | FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.   | 3     | FTC                 | I             | 3 +6.1 +8 | 274                | LQ0                             | E0      | P001                       |                                  | MP7 MP17                        | T14                                | TP2 TP27                   |
| 3286   | FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.   | 3     | FTC                 | II            | 3 +6.1 +8 | 274                | LQ0                             | E2      | P001 IBC02                 |                                  | MP19                            | T11                                | TP2 TP27                   |
| 3287   | TOXIC LIQUID, INORGANIC, N.O.S.  | 6.1   | T4                  | I             | 6.1       | 274 315            | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        | T14                                | TP2 TP27                   |
| 3287   | TOXIC LIQUID, INORGANIC, N.O.S.  | 6.1   | T4                  | II            | 6.1       | 274                | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |
| 3287   | TOXIC LIQUID, INORGANIC, N.O.S.  | 6.1   | T4                  | III           | 6.1       | 274                | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T7                                 | TP1 TP28                   |
| 3288   | TOXIC SOLID, INORGANIC, N.O.S.   | 6.1   | T5                  | I             | 6.1       | 274                | LQ0                             | E5      | P002 IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3288   | TOXIC SOLID, INORGANIC, N.O.S.   | 6.1   | T5                  | II            | 6.1       | 274                | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3288   | TOXIC SOLID, INORGANIC, N.O.S.   | 6.1   | T5                  | III           | 6.1       | 274                | LQ9                             | E1      | P002 IBC08 LP02 R001       | B3                               | MP10                            | T1                                 | TP33                       |
| 3289   | TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.   | 6.1   | TC3                 | I             | 6.1 +8    | 274 315            | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        | T14                                | TP2 TP27                   |
| 3289   | TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.   | 6.1   | TC3                 | II            | 6.1 +8    | 274                | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |
| 3290   | TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.  | 6.1   | TC4                 | I             | 6.1 +8    | 274                | LQ0                             | E5      | P002 IBC05                 |                                  | MP18                            | T6                                 | TP33                       |
| 3290   | TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.  | 6.1   | TC4                 | II            | 6.1 +8    | 274                | LQ18                            | E4      | P002 IBC06                 |                                  | MP10                            | T3                                 | TP33                       |
| 3291   | CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S.                                  | 6.2   | I3                  | II            | 6.2       | 565                | LQ0                             | E0      | P621 IBC620 LP621          |                                  | MP6                             | BK2                                |                            |
| 3291   | CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S., in refrigerated liquid nitrogen | 6.2   | I3                  | II            | 6.2 +2.2  | 565                | LQ0                             | E0      | P621 IBC620 LP621          |                                  | MP6                             |                                    |                            |
| 3292   | BATTERIES, CONTAINING SODIUM, or CELLS, CONTAINING SODIUM  | 4.3   | W3                  | II            | 4.3       | 239 295            | LQ0                             | E0      | P408                       |                                  |                                 |                                    |                            |

| ADR tank       |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|----------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code      | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3            | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)           | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3284   | TELLURIUM COMPOUND, N.O.S.   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3284   | TELLURIUM COMPOUND, N.O.S.   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3284   | TELLURIUM COMPOUND, N.O.S.   |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3285   | VANADIUM COMPOUND, N.O.S.  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3285   | VANADIUM COMPOUND, N.O.S.  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3285   | VANADIUM COMPOUND, N.O.S.  |
| L10CH          | TU14 TU15<br>TE21      | FL                        | 1<br>(C/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 368                       | 3286   | FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.   |
| L4BH           | TU15                   | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 368                       | 3286   | FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.   |
| L10CH          | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3287   | TOXIC LIQUID, INORGANIC, N.O.S.  |
| L4BH           | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3287   | TOXIC LIQUID, INORGANIC, N.O.S.  |
| L4BH           | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3287   | TOXIC LIQUID, INORGANIC, N.O.S.  |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3288   | TOXIC SOLID, INORGANIC, N.O.S.   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3288   | TOXIC SOLID, INORGANIC, N.O.S.   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3288   | TOXIC SOLID, INORGANIC, N.O.S.   |
| L10CH          | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 668                       | 3289   | TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.   |
| L4BH           | TU15 TE19              | AT                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S9 S19    | 68                        | 3289   | TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.   |
| S10AH<br>L10CH | TU15 TE19              | AT                        | 1<br>(C/E)                                   | V10                             |       | CV1<br>CV13<br>CV28             | S9 S14    | 668                       | 3290   | TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11<br>V12                      |       | CV13<br>CV28                    | S9 S19    | 68                        | 3290   | TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.  |
| S4AH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(-)                                     | V1                              | VV11  | CV13<br>CV25<br>CV28            | S3        | 606                       | 3291   | CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S.                                  |
|                |                        |                           | 2<br>(-)                                     | V1                              |       | CV13<br>CV25<br>CV28            | S3        |                           | 3291   | CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S., in refrigerated liquid nitrogen |
|                |                        |                           | 2<br>(E)                                     | V1                              |       | CV23                            |           |                           | 3292   | BATTERIES, CONTAINING SODIUM, or CELLS, CONTAINING SODIUM  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels            | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-------------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |                   |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)               | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3293   | HYDRAZINE, AQUEOUS SOLUTION with not more than 37% hydrazine, by mass                     | 6.1   | T4                  | III           | 6.1               | 566                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 3294   | HYDROGEN CYANIDE, SOLUTION IN ALCOHOL with not more than 45% hydrogen cyanide             | 6.1   | TF1                 | I             | 6.1<br>+3         | 610                | LQ0                             | E5      | P601                          |                                  | MP8<br>MP17                     | T14                                | TP2                        |
| 3295   | HYDROCARBONS, LIQUID, N.O.S.  | 3     | F1                  | I             | 3                 | 649                | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP1<br>TP8                 |
| 3295   | HYDROCARBONS, LIQUID, N.O.S. (vapour pressure at 50 °C more than 110 kPa)                 | 3     | F1                  | II            | 3                 | 640C<br>649        | LQ4                             | E2      | P001                          |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 3295   | HYDROCARBONS, LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)             | 3     | F1                  | II            | 3                 | 640D<br>649        | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 3295   | HYDROCARBONS, LIQUID, N.O.S.  | 3     | F1                  | III           | 3                 |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 3296   | HEPTAFLUOROPROPANE (REFRIGERANT GAS R 227)  | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)<br>T50                         |                            |
| 3297   | ETHYLENE OXIDE AND CHLOROTETRAFLUOROETHANE MIXTURE with not more than 8.8% ethylene oxide | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)<br>T50                         |                            |
| 3298   | ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE with not more than 7.9% ethylene oxide       | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)<br>T50                         |                            |
| 3299   | ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE with not more than 5.6% ethylene oxide       | 2     | 2A                  |               | 2.2               |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)<br>T50                         |                            |
| 3300   | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 87% ethylene oxide               | 2     | 2TF                 |               | 2.3<br>+2.1       |                    | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 3301   | CORROSIVE LIQUID, SELF-HEATING, N.O.S.  | 8     | CS1                 | I             | 8<br>+4.2         | 274                | LQ0                             | E0      | P001                          |                                  | MP8<br>MP17                     |                                    |                            |
| 3301   | CORROSIVE LIQUID, SELF-HEATING, N.O.S.  | 8     | CS1                 | II            | 8<br>+4.2         | 274                | LQ22                            | E2      | P001                          |                                  | MP15                            |                                    |                            |
| 3302   | 2-DIMETHYLAMINOETHYL ACRYLATE   | 6.1   | T1                  | II            | 6.1               |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 3303   | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S.  | 2     | 1TO                 |               | 2.3<br>+5.1       | 274                | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 3304   | COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S.  | 2     | 1TC                 |               | 2.3<br>+8         | 274                | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 3305   | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.                                       | 2     | 1TFC                |               | 2.3<br>+2.1<br>+8 | 274                | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 3306   | COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.                                       | 2     | 1TOC                |               | 2.3<br>+5.1<br>+8 | 274                | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 3307   | LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S.   | 2     | 2TO                 |               | 2.3<br>+5.1       | 274                | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 3308   | LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.   | 2     | 2TC                 |               | 2.3<br>+8         | 274                | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 3309   | LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.  | 2     | 2TFC                |               | 2.3<br>+2.1<br>+8 | 274                | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 3310   | LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.  | 2     | 2TOC                |               | 2.3<br>+5.1<br>+8 | 274                | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BH      | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3293   | HYDRAZINE, AQUEOUS SOLUTION with not more than 37% hydrazine, by mass                     |
| L15DH(+)  | TU14 TU15<br>TE19 TE21 | FL                        | 0 (C/D)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3294   | HYDROGEN CYANIDE, SOLUTION IN ALCOHOL with not more than 45% hydrogen cyanide             |
| L4BN      |                        | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 3295   | HYDROCARBONS, LIQUID, N.O.S.  |
| L1.5BN    |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 3295   | HYDROCARBONS, LIQUID, N.O.S. (vapour pressure at 50 °C more than 110 kPa)                 |
| LGBF      |                        | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 3295   | HYDROCARBONS, LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)             |
| LGBF      |                        | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 30                        | 3295   | HYDROCARBONS, LIQUID, N.O.S.  |
| PxBN(M)   | TA4<br>TT9             | AT                        | 3 (C/E)                                      |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 3296   | HEPTAFLUOROPROPANE (REFRIGERANT GAS R 227)  |
| PxBN(M)   | TA4<br>TT9             | AT                        | 3 (C/E)                                      |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 3297   | ETHYLENE OXIDE AND CHLOROTETRAFLUOROETHANE MIXTURE with not more than 8.8% ethylene oxide |
| PxBN(M)   | TA4<br>TT9             | AT                        | 3 (C/E)                                      |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 3298   | ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE with not more than 7.9% ethylene oxide       |
| PxBN(M)   | TA4<br>TT9             | AT                        | 3 (C/E)                                      |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 3299   | ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE with not more than 5.6% ethylene oxide       |
| PxBH(M)   | TA4<br>TT9             | FL                        | 1 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 3300   | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 87% ethylene oxide               |
| L10BH     |                        | AT                        | 1 (E)  |                                 |       |                                 | S14       | 884                       | 3301   | CORROSIVE LIQUID, SELF-HEATING, N.O.S.  |
| L4BN      |                        | AT                        | 2 (E)  |                                 |       |                                 |           | 84                        | 3301   | CORROSIVE LIQUID, SELF-HEATING, N.O.S.  |
| L4BH      | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3302   | 2-DIMETHYLAMINOETHYL ACRYLATE   |
| CxBH(M)   | TU6<br>TA4<br>TT9      | AT                        | 1 (C/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S14       | 265                       | 3303   | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S.  |
| CxBH(M)   | TU6<br>TA4<br>TT9      | AT                        | 1 (C/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S14       | 268                       | 3304   | COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S.  |
| CxBH(M)   | TU6<br>TA4<br>TT9      | FL                        | 1 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 3305   | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.                                       |
| CxBH(M)   | TU6<br>TA4<br>TT9      | AT                        | 1 (C/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S14       | 265                       | 3306   | COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.                                       |
| PxBH(M)   | TU6<br>TA4<br>TT9      | AT                        | 1 (C/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S14       | 265                       | 3307   | LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S.   |
| PxBH(M)   | TU6<br>TA4<br>TT9      | AT                        | 1 (C/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S14       | 268                       | 3308   | LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.   |
| PxBH(M)   | TU6<br>TA4<br>TT9      | FL                        | 1 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 3309   | LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.  |
| PxBH(M)   | TU6<br>TA4<br>TT9      | AT                        | 1 (C/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S14       | 265                       | 3310   | LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.  |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels   | Special provisions       | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|----------|--------------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |          |                          | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)      | (6)                      | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3311   | GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.  | 2     | 3O                  |               | 2.2 +5.1 | 274                      | LQ0                             | E0      | P203                          |                                  | MP9                             | T75                                | TP5<br>TP22                |
| 3312   | GAS, REFRIGERATED LIQUID, FLAMMABLE, N.O.S.  | 2     | 3F                  |               | 2.1      | 274                      | LQ0                             | E0      | P203                          |                                  | MP9                             | T75                                | TP5                        |
| 3313   | ORGANIC PIGMENTS, SELF-HEATING   | 4.2   | S2                  | II            | 4.2      |                          | LQ0                             | E2      | P002<br>IBC08                 | B4                               | MP14                            | T3                                 | TP33                       |
| 3313   | ORGANIC PIGMENTS, SELF-HEATING   | 4.2   | S2                  | III           | 4.2      |                          | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP14                            | T1                                 | TP33                       |
| 3314   | PLASTICS MOULDING COMPOUND in dough, sheet or extruded rope form evolving flammable vapour   | 9     | M3                  | III           | None     | 207<br>633               | LQ27                            | E1      | P002<br>IBC08<br>R001         | PP14<br>B3 B6                    | MP10                            |                                    |                            |
| 3315   | CHEMICAL SAMPLE, TOXIC   | 6.1   | T8                  | I             | 6.1      | 250                      | LQ0                             | E5      | P099                          |                                  | MP8<br>MP17                     |                                    |                            |
| 3316   | CHEMICAL KIT or FIRST AID KIT  | 9     | M11                 | II            | 9        | 251<br>340               | LQ0                             | E0      | P901                          |                                  |                                 |                                    |                            |
| 3316   | CHEMICAL KIT or FIRST AID KIT  | 9     | M11                 | III           | 9        | 251<br>340               | LQ0                             | E0      | P901                          |                                  |                                 |                                    |                            |
| 3317   | 2-AMINO-4,6-DINITROPHENOL, WETTED with not less than 20% water, by mass  | 4.1   | D                   | I             | 4.1      |                          | LQ0                             | E0      | P406                          | PP26                             | MP2                             |                                    |                            |
| 3318   | AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 50% ammonia   | 2     | 4TC                 |               | 2.3 +8   | 23                       | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)<br>T50                         |                            |
| 3319   | NITROGLYCERIN MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 2% but not more than 10% nitroglycerin, by mass                          | 4.1   | D                   | II            | 4.1      | 272<br>274               | LQ0                             | E0      | P099<br>IBC99                 |                                  | MP2                             |                                    |                            |
| 3320   | SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, with not more than 12% sodium borohydride and not more than 40% sodium hydroxide by mass | 8     | C5                  | II            | 8        |                          | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 3320   | SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, with not more than 12% sodium borohydride and not more than 40% sodium hydroxide by mass | 8     | C5                  | III           | 8        |                          | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP2                        |
| 3321   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), non fissile or fissile-excepted  | 7     |                     |               | 7X       | 172<br>317<br>325<br>336 | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 | T5                                 | TP4                        |
| 3322   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III), non fissile or fissile-excepted   | 7     |                     |               | 7X       | 172<br>317<br>325<br>336 | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 | T5                                 | TP4                        |
| 3323   | RADIOACTIVE MATERIAL, TYPE C PACKAGE, non fissile or fissile-excepted  | 7     |                     |               | 7X       | 172<br>317               | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |
| 3324   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), FISSIONABLE  | 7     |                     |               | 7X +7E   | 172<br>326<br>336        | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |
| 3325   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, (LSA-III), FISSIONABLE  | 7     |                     |               | 7X +7E   | 172<br>326<br>336        | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |
| 3326   | RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), FISSIONABLE  | 7     |                     |               | 7X +7E   | 172<br>336               | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |
| 3327   | RADIOACTIVE MATERIAL, TYPE A PACKAGE, FISSIONABLE, non-special form  | 7     |                     |               | 7X +7E   | 172<br>326               | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |



| ADR tank                 |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |                   | Hazard identification No. | UN No. | Name and description   |
|--------------------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-------------------|---------------------------|--------|--|
| Tank code                | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation         |                           |        |  |
| 4.3                      | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5               | 5.3.2.3                   |        | 3.1.2  |
| (12)                     | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)              | (20)                      | (1)    | (2)  |
| RxBN                     | TU7 TU19<br>TA4<br>TT9 | AT                        | 3<br>(C/E)                                   | V5                              |       | CV9<br>CV11<br>CV36             | S20               | 225                       | 3311   | GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.  |
| RxBN                     | TU18<br>TA4<br>TT9     | FL                        | 2<br>(B/D)                                   | V5                              |       | CV9<br>CV11<br>CV36             | S2 S17            | 223                       | 3312   | GAS, REFRIGERATED LIQUID, FLAMMABLE, N.O.S.  |
| SGAV                     |                        | AT                        | 2<br>(D/E)                                   | V1                              |       |                                 |                   | 40                        | 3313   | ORGANIC PIGMENTS, SELF-HEATING   |
| SGAV                     |                        | AT                        | 3<br>(E)                                     | V1                              |       |                                 |                   | 40                        | 3313   | ORGANIC PIGMENTS, SELF-HEATING   |
|                          |                        |                           | 3<br>(D/E)                                   |                                 | VV3   |                                 |                   | 90                        | 3314   | PLASTICS MOULDING COMPOUND in dough, sheet or extruded rope form evolving flammable vapour   |
|                          |                        |                           | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14            |                           | 3315   | CHEMICAL SAMPLE, TOXIC   |
|                          |                        |                           | 2<br>(E)                                     |                                 |       |                                 |                   |                           | 3316   | CHEMICAL KIT or FIRST AID KIT  |
|                          |                        |                           | 3<br>(E)                                     |                                 |       |                                 |                   |                           | 3316   | CHEMICAL KIT or FIRST AID KIT  |
|                          |                        |                           | 1<br>(B)                                     |                                 |       |                                 | S14               |                           | 3317   | 2-AMINO-4,6-DINITROPHENOL, WETTED with not less than 20% water, by mass  |
| PxBH(M)                  | TA4<br>TT9             | AT                        | 1<br>(C/D)                                   |                                 |       | CV9<br>CV10                     | S14               | 268                       | 3318   | AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 50% ammonia   |
|                          |                        |                           | 2<br>(B)                                     |                                 |       |                                 | S14               |                           | 3319   | NITROGLYCERIN MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 2% but not more than 10% nitroglycerin, by mass                          |
| L4BN                     |                        | AT                        | 2<br>(E)                                     |                                 |       |                                 |                   | 80                        | 3320   | SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, with not more than 12% sodium borohydride and not more than 40% sodium hydroxide by mass |
| L4BN                     |                        | AT                        | 3<br>(E)                                     |                                 |       |                                 |                   | 80                        | 3320   | SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, with not more than 12% sodium borohydride and not more than 40% sodium hydroxide by mass |
| S2.65AN(+)<br>L2.65CN(+) | TU36 TT7<br>TM7        | AT                        | 0<br>(E)                                     |                                 |       | CV33                            | S6 S11 S13<br>S21 | 70                        | 3321   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), non fissile or fissile-excepted  |
| S2.65AN(+)<br>L2.65CN(+) | TU36 TT7<br>TM7        | AT                        | 0<br>(E)                                     |                                 |       | CV33                            | S6 S11 S13<br>S21 | 70                        | 3322   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III), non fissile or fissile-excepted   |
|                          |                        |                           | 0<br>(E)                                     |                                 |       | CV33                            | S6 S11 S13<br>S21 | 70                        | 3323   | RADIOACTIVE MATERIAL, TYPE C PACKAGE, non fissile or fissile-excepted  |
|                          |                        |                           | 0<br>(E)                                     |                                 |       | CV33                            | S6 S11 S13<br>S21 | 70                        | 3324   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), FISSILE  |
|                          |                        |                           | 0<br>(E)                                     |                                 |       | CV33                            | S6 S11 S13<br>S21 | 70                        | 3325   | RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, (LSA-III), FISSILE  |
|                          |                        |                           | 0<br>(E)                                     |                                 |       | CV33                            | S6 S11 S13<br>S21 | 70                        | 3326   | RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), FISSILE  |
|                          |                        |                           | 0<br>(E)                                     |                                 |       | CV33                            | S6 S11 S13<br>S21 | 70                        | 3327   | RADIOACTIVE MATERIAL, TYPE A PACKAGE, FISSILE, non-special form  |

| UN No. | Name and description  | Class | Classification code | Packing group      | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|--------------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |                    |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)                | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3328   | RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, FISSILE  | 7     |                     |                    | 7X<br>+7E | 172<br>337         | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |
| 3329   | RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, FISSILE  | 7     |                     |                    | 7X<br>+7E | 172<br>337         | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |
| 3330   | RADIOACTIVE MATERIAL, TYPE C PACKAGE, FISSILE   | 7     |                     |                    | 7X<br>+7E | 172                | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |
| 3331   | RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, FISSILE  | 7     |                     |                    | 7X<br>+7E | 172                | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |
| 3332   | RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, non fissile or fissile-excepted   | 7     |                     |                    | 7X        | 172<br>317         | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |
| 3333   | RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, FISSILE   | 7     |                     |                    | 7X<br>+7E | 172                | LQ0                             | E0      | See 2.2.7 and 4.1.9           | See 4.1.9.1.3                    |                                 |                                    |                            |
| 3334   | Aviation regulated liquid, n.o.s.   | 9     | M11                 | NOT SUBJECT TO ADR |           |                    |                                 |         |                               |                                  |                                 |                                    |                            |
| 3335   | Aviation regulated solid, n.o.s.  | 9     | M11                 | NOT SUBJECT TO ADR |           |                    |                                 |         |                               |                                  |                                 |                                    |                            |
| 3336   | MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.   | 3     | F1                  | I                  | 3         | 274                | LQ3                             | E3      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2                        |
| 3336   | MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S. (vapour pressure at 50 °C more than 110 kPa)  | 3     | F1                  | II                 | 3         | 274<br>640C        | LQ4                             | E2      | P001                          |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 3336   | MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)  | 3     | F1                  | II                 | 3         | 274<br>640D        | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP8<br>TP28         |
| 3336   | MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.   | 3     | F1                  | III                | 3         | 274                | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1<br>TP29                |
| 3337   | REFRIGERANT GAS R 404A (Pentafluoroethane, 1,1,1-trifluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 44% pentafluoroethane and 52% 1,1,1-trifluoroethane) | 2     | 2A                  |                    | 2.2       |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)<br>T50                         |                            |
| 3338   | REFRIGERANT GAS R 407A (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 20% difluoromethane and 40% pentafluoroethane)             | 2     | 2A                  |                    | 2.2       |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)<br>T50                         |                            |
| 3339   | REFRIGERANT GAS R 407B (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 10% difluoromethane and 70% pentafluoroethane)             | 2     | 2A                  |                    | 2.2       |                    | LQ1                             | E1      | P200                          |                                  | MP9                             | (M)<br>T50                         |                            |

| ADR tank           |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |                    | Hazard identification No. | UN No. | Name and description  |
|--------------------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|--------------------|---------------------------|--------|---|
| Tank code          | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation          |                           |        |   |
| 4.3                | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5                | 5.3.2.3                   |        | 3.1.2   |
| (12)               | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)               | (20)                      | (1)    | (2)   |
|                    |                    |                           | 0 (E)  |                                 |       | CV33                            | S6 S11 S13 S21     | 70                        | 3328   | RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, FISSION  |
|                    |                    |                           | 0 (E)  |                                 |       | CV33                            | S6 S11 S13 S21     | 70                        | 3329   | RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, FISSION  |
|                    |                    |                           | 0 (E)  |                                 |       | CV33                            | S6 S11 S13 S21     | 70                        | 3330   | RADIOACTIVE MATERIAL, TYPE C PACKAGE, FISSION   |
|                    |                    |                           | 0 (-)  |                                 |       | CV33                            | S6 S11 S13 S21     | 70                        | 3331   | RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, FISSION  |
|                    |                    |                           | 0 (E)  |                                 |       | CV33                            | S6 S11 S12 S13 S21 | 70                        | 3332   | RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, non fissile or fissile-excepted   |
|                    |                    |                           | 0 (E)  |                                 |       | CV33                            | S6 S11 S13 S21     | 70                        | 3333   | RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, FISSION   |
| NOT SUBJECT TO ADR |                    |                           |  |                                 |       |                                 |                    |                           | 3334   | Aviation regulated liquid, n.o.s.   |
| NOT SUBJECT TO ADR |                    |                           |  |                                 |       |                                 |                    |                           | 3335   | Aviation regulated solid, n.o.s.  |
| L4BN               |                    | FL                        | 1 (D/E)                                      |                                 |       |                                 | S2 S20             | 33                        | 3336   | MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.   |
| L1.5BN             |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20             | 33                        | 3336   | MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S. (vapour pressure at 50 °C more than 110 kPa)  |
| LGBF               |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20             | 33                        | 3336   | MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)  |
| LGBF               |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2                 | 30                        | 3336   | MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.   |
| PxBN(M)            | TA4 TT9            | AT                        | 3 (C/E)                                      |                                 |       | CV9 CV10 CV36                   |                    | 20                        | 3337   | REFRIGERANT GAS R 404A (Pentafluoroethane, 1,1,1-trifluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 44% pentafluoroethane and 52% 1,1,1-trifluoroethane) |
| PxBN(M)            | TA4 TT9            | AT                        | 3 (C/E)                                      |                                 |       | CV9 CV10 CV36                   |                    | 20                        | 3338   | REFRIGERANT GAS R 407A (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 20% difluoromethane and 40% pentafluoroethane)             |
| PxBN(M)            | TA4 TT9            | AT                        | 3 (C/E)                                      |                                 |       | CV9 CV10 CV36                   |                    | 20                        | 3339   | REFRIGERANT GAS R 407B (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 10% difluoromethane and 70% pentafluoroethane)             |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                            |                          | Portable tanks and bulk containers |                    |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |  |       |                     |               |           |                    |                                 |         | Packing instructions          | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2  | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2     | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                         | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                       | (9b)                     | (10)                               | (11)               |
| 3340   | REFRIGERANT GAS R 407C<br>(Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 23% difluoromethane and 25% pentafluoroethane) | 2     | 2A                  |               | 2.2       |                    | LQ1                             | E1      | P200                          |                            | MP9                      | (M)<br>T50                         |                    |
| 3341   | THIOUREA DIOXIDE   | 4.2   | S2                  | II            | 4.2       |                    | LQ0                             | E2      | P002<br>IBC06                 |                            | MP14                     | T3                                 | TP33               |
| 3341   | THIOUREA DIOXIDE   | 4.2   | S2                  | III           | 4.2       |                    | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                         | MP14                     | T1                                 | TP33               |
| 3342   | XANTHATES  | 4.2   | S2                  | II            | 4.2       |                    | LQ0                             | E2      | P002<br>IBC06                 |                            | MP14                     | T3                                 | TP33               |
| 3342   | XANTHATES  | 4.2   | S2                  | III           | 4.2       |                    | LQ0                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                         | MP14                     | T1                                 | TP33               |
| 3343   | NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, FLAMMABLE, N.O.S. with not more than 30% nitroglycerin, by mass   | 3     | D                   |               | 3         | 274<br>278         | LQ0                             | E0      | P099                          |                            | MP2                      |                                    |                    |
| 3344   | PENTAERYTHRITOL TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN) MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 10% but not more than 20% PETN, by mass                    | 4.1   | D                   | II            | 4.1       | 272<br>274         | LQ0                             | E0      | P099                          |                            | MP2                      |                                    |                    |
| 3345   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                            | MP18                     | T6                                 | TP33               |
| 3345   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | II            | 6.1       | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                         | MP10                     | T3                                 | TP33               |
| 3345   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | III           | 6.1       | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                         | MP10                     | T1                                 | TP33               |
| 3346   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C   | 3     | FT2                 | I             | 3<br>+6.1 | 61<br>274          | LQ3                             | E0      | P001                          |                            | MP7<br>MP17              | T14                                | TP2<br>TP27        |
| 3346   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C   | 3     | FT2                 | II            | 3<br>+6.1 | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                            | MP19                     | T11                                | TP2<br>TP27        |
| 3347   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C   | 6.1   | TF2                 | I             | 6.1<br>+3 | 61<br>274          | LQ0                             | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |
| 3347   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C   | 6.1   | TF2                 | II            | 6.1<br>+3 | 61<br>274          | LQ17                            | E4      | P001<br>IBC02                 |                            | MP15                     | T11                                | TP2<br>TP27        |
| 3347   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C   | 6.1   | TF2                 | III           | 6.1<br>+3 | 61<br>274          | LQ7                             | E1      | P001<br>IBC03<br>R001         |                            | MP19                     | T7                                 | TP2<br>TP28        |
| 3348   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | I             | 6.1       | 61<br>274<br>648   | LQ0                             | E5      | P001                          |                            | MP8<br>MP17              | T14                                | TP2<br>TP27        |

| ADR tank       |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|----------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code      | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3            | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)           | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| PxBN(M)        | TA4<br>TT9             | AT                        | 3<br>(C/E)                                   |                                 |       | CV9<br>CV10<br>CV36             |           | 20                        | 3340   | REFRIGERANT GAS R 407C (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 23% difluoromethane and 25% pentafluoroethane) |
| SGAV           |                        | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |       |                                 |           | 40                        | 3341   | THIOUREA DIOXIDE  |
| SGAV           |                        | AT                        | 3<br>(E)                                     | V1                              |       |                                 |           | 40                        | 3341   | THIOUREA DIOXIDE  |
| SGAV           |                        | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |       |                                 |           | 40                        | 3342   | XANTHATES   |
| SGAV           |                        | AT                        | 3<br>(E)                                     | V1                              |       |                                 |           | 40                        | 3342   | XANTHATES   |
|                |                        |                           | 0<br>(B)                                     |                                 |       |                                 | S2 S14    |                           | 3343   | NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, FLAMMABLE, N.O.S. with not more than 30% nitroglycerin, by mass  |
|                |                        |                           | 2<br>(B)                                     |                                 |       |                                 | S14       |                           | 3344   | PENTAERYTHRITOL TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN) MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 10% but not more than 20% PETN, by mass                 |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3345   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3345   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3345   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC   |
| L10CH          | TU14 TU15<br>TE21      | FL                        | 1<br>(C/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 3346   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C  |
| L4BH           | TU15                   | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 3346   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C  |
| L10CH          | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3347   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C  |
| L4BH           | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3347   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C  |
| L4BH           | TU15 TE19              | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 3347   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C  |
| L10CH          | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3348   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC  |

| UN No. | Name and description  | Class | Classification code | Packing group      | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|--------------------|-------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |                    |             |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)                | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3348   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | II                 | 6.1         | 61<br>274<br>648   | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3348   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC  | 6.1   | T6                  | III                | 6.1         | 61<br>274<br>648   | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP2<br>TP28                |
| 3349   | PYRETHROID PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | I                  | 6.1         | 61<br>274<br>648   | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3349   | PYRETHROID PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | II                 | 6.1         | 61<br>274<br>648   | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3349   | PYRETHROID PESTICIDE, SOLID, TOXIC  | 6.1   | T7                  | III                | 6.1         | 61<br>274<br>648   | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3350   | PYRETHROID PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C                       | 3     | FT2                 | I                  | 3<br>+6.1   | 61<br>274          | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T14                                | TP2<br>TP27                |
| 3350   | PYRETHROID PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C                       | 3     | FT2                 | II                 | 3<br>+6.1   | 61<br>274          | LQ4                             | E2      | P001<br>IBC02<br>R001         |                                  | MP19                            | T11                                | TP2<br>TP27                |
| 3351   | PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C                   | 6.1   | TF2                 | I                  | 6.1<br>+3   | 61<br>274          | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3351   | PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C                   | 6.1   | TF2                 | II                 | 6.1<br>+3   | 61<br>274          | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3351   | PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C                   | 6.1   | TF2                 | III                | 6.1<br>+3   | 61<br>274          | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP2<br>TP28                |
| 3352   | PYRETHROID PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | I                  | 6.1         | 61<br>274<br>648   | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3352   | PYRETHROID PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | II                 | 6.1         | 61<br>274<br>648   | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3352   | PYRETHROID PESTICIDE, LIQUID, TOXIC   | 6.1   | T6                  | III                | 6.1         | 61<br>274<br>648   | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T7                                 | TP2<br>TP28                |
| 3354   | INSECTICIDE GAS, FLAMMABLE, N.O.S.  | 2     | 2F                  |                    | 2.1         | 274                | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 3355   | INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.   | 2     | 2TF                 |                    | 2.3<br>+2.1 | 274                | LQ0                             | E0      | P200                          |                                  | MP9                             | (M)                                |                            |
| 3356   | OXYGEN GENERATOR, CHEMICAL  | 5.1   | O3                  | II                 | 5.1         | 284                | LQ0                             | E0      | P500                          |                                  | MP2                             |                                    |                            |
| 3357   | NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, N.O.S. with not more than 30% nitroglycerin, by mass | 3     | D                   | II                 | 3           | 274<br>288         | LQ0                             | E0      | P099                          |                                  | MP2                             |                                    |                            |
| 3358   | REFRIGERATING MACHINES containing flammable, non-toxic, liquefied gas                             | 2     | 6F                  |                    | 2.1         | 291                | LQ0                             | E0      | P003                          | PP32                             | MP9                             |                                    |                            |
| 3359   | FUMIGATED UNIT  | 9     | M11                 |                    |             | 302                |                                 |         |                               |                                  |                                 |                                    |                            |
| 3360   | Fibres, vegetable, dry  | 4.1   | F1                  | NOT SUBJECT TO ADR |             |                    |                                 |         |                               |                                  |                                 |                                    |                            |
| 3361   | CHLOROSILANES, TOXIC, CORROSIVE, N.O.S.   | 6.1   | TC1                 | II                 | 6.1<br>+8   | 274                | LQ0                             | E4      | P010                          |                                  | MP15                            | T14                                | TP2 TP7<br>TP27            |

| ADR tank           |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|--------------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code          | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3                | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)               | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BH               | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3348   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC  |
| L4BH               | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3348   | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC  |
| S10AH<br>L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3349   | PYRETHROID PESTICIDE, SOLID, TOXIC  |
| SGAH<br>L4BH       | TU15 TE19              | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3349   | PYRETHROID PESTICIDE, SOLID, TOXIC  |
| SGAH<br>L4BH       | TU15 TE19              | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3349   | PYRETHROID PESTICIDE, SOLID, TOXIC  |
| L10CH              | TU14 TU15<br>TE21      | FL                        | 1 (C/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 3350   | PYRETHROID PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C                       |
| L4BH               | TU15                   | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S22    | 336                       | 3350   | PYRETHROID PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C                       |
| L10CH              | TU14 TU15<br>TE19 TE21 | FL                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3351   | PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C                   |
| L4BH               | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 63                        | 3351   | PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C                   |
| L4BH               | TU15 TE19              | FL                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S2 S9     | 63                        | 3351   | PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C                   |
| L10CH              | TU14 TU15<br>TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3352   | PYRETHROID PESTICIDE, LIQUID, TOXIC   |
| L4BH               | TU15 TE19              | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3352   | PYRETHROID PESTICIDE, LIQUID, TOXIC   |
| L4BH               | TU15 TE19              | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3352   | PYRETHROID PESTICIDE, LIQUID, TOXIC   |
| PxBN(M)            | TA4<br>TT9             | FL                        | 2 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    | 23                        | 3354   | INSECTICIDE GAS, FLAMMABLE, N.O.S.  |
| PxBH(M)            | TU6<br>TA4<br>TT9      | FL                        | 1 (B/D)                                      |                                 |       | CV9<br>CV10<br>CV36             | S2 S14    | 263                       | 3355   | INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.   |
|                    |                        |                           | 2 (E)  |                                 |       | CV24                            |           |                           | 3356   | OXYGEN GENERATOR, CHEMICAL  |
|                    |                        |                           | 2 (B)  |                                 |       |                                 | S2 S14    |                           | 3357   | NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, N.O.S. with not more than 30% nitroglycerin, by mass |
|                    |                        |                           | 2 (D)  |                                 |       | CV9                             | S2        |                           | 3358   | REFRIGERATING MACHINES containing flammable, non-toxic, liquefied gas                             |
|                    |                        |                           | (-)  |                                 |       |                                 |           |                           | 3359   | FUMIGATED UNIT  |
| NOT SUBJECT TO ADR |                        |                           |  |                                 |       |                                 |           |                           | 3360   | Fibres, vegetable, dry  |
| L4BH               | TU15<br>TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 68                        | 3361   | CHLOROSILANES, TOXIC, CORROSIVE, N.O.S.   |

| UN No. | Name and description   | Class | Classification code | Packing group                             | Labels          | Special provisions | Limited and excepted quantities |         | Packaging                     |                            |                          | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---|-----------------|--------------------|---------------------------------|---------|-------------------------------|----------------------------|--------------------------|------------------------------------|----------------------------|
|        |  |       |                     |   |                 |                    |                                 |         | Packing instructions          | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions         |
|        | 3.1.2  | 2.2   | 2.2                 | 2.1.1.3                                   | 5.2.2           | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                         | 4.1.4                      | 4.1.10                   | 4.2.5.2 7.3.2                      | 4.2.5.3                    |
| (1)    | (2)  | (3a)  | (3b)                | (4)                                       | (5)             | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                       | (9b)                     | (10)                               | (11)                       |
| 3362   | CHLOROSILANES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.   | 6.1   | TFC                 | II  | 6.1<br>+3<br>+8 | 274                | LQ0                             | E4      | P010                          |                            | MP15                     | T14                                | TP2 TP7 TP27               |
| 3363   | Dangerous goods in machinery or dangerous goods in apparatus                                 | 9     | M11                 | NOT SUBJECT TO ADR [see also 1.1.3.1 (b)] |                 |                    |                                 |         |                               |                            |                          |                                    |                            |
| 3364   | TRINITROPHENOL (PICRIC ACID), WETTED with not less than 10% water, by mass                   | 4.1   | D                   | I   | 4.1             |                    | LQ0                             | E0      | P406                          | PP24                       | MP2                      |                                    |                            |
| 3365   | TRINITROCHLORO-BENZENE (PICRYL CHLORIDE), WETTED with not less than 10% water, by mass       | 4.1   | D                   | I   | 4.1             |                    | LQ0                             | E0      | P406                          | PP24                       | MP2                      |                                    |                            |
| 3366   | TRINITROTOLUENE (TNT), WETTED with not less than 10% water, by mass                          | 4.1   | D                   | I   | 4.1             |                    | LQ0                             | E0      | P406                          | PP24                       | MP2                      |                                    |                            |
| 3367   | TRINITROBENZENE, WETTED with not less than 10% water, by mass                                | 4.1   | D                   | I   | 4.1             |                    | LQ0                             | E0      | P406                          | PP24                       | MP2                      |                                    |                            |
| 3368   | TRINITROBENZOIC ACID, WETTED with not less than 10% water, by mass                           | 4.1   | D                   | I   | 4.1             |                    | LQ0                             | E0      | P406                          | PP24                       | MP2                      |                                    |                            |
| 3369   | SODIUM DINITRO-o-CRESOLATE, WETTED with not less than 10% water, by mass                     | 4.1   | DT                  | I   | 4.1<br>+6.1     |                    | LQ0                             | E0      | P406                          | PP24                       | MP2                      |                                    |                            |
| 3370   | UREA NITRATE, WETTED with not less than 10% water, by mass                                   | 4.1   | D                   | I   | 4.1             |                    | LQ0                             | E0      | P406                          | PP78                       | MP2                      |                                    |                            |
| 3371   | 2-METHYLBUTANAL  | 3     | F1                  | II  | 3               |                    | LQ4                             | E2      | P001<br>IBC02<br>R001         |                            | MP19                     | T4                                 | TP1                        |
| 3373   | BIOLOGICAL SUBSTANCE, CATEGORY B   | 6.2   | I4                  |   | 6.2             | 319                | LQ0                             | E0      | P650                          |                            |                          | T1                                 | TP1                        |
| 3373   | BIOLOGICAL SUBSTANCE, CATEGORY B (animal material only)                                      | 6.2   | I4                  |   | 6.2             | 319                | LQ0                             | E0      | P650                          |                            |                          | T1<br>BK1 BK2                      | TP1                        |
| 3374   | ACETYLENE, SOLVENT FREE  | 2     | 2F                  |   | 2.1             |                    | LQ0                             | E0      | P200                          |                            | MP9                      |                                    |                            |
| 3375   | AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, liquid | 5.1   | O1                  | II  | 5.1             | 309                | LQ0                             | E2      | P099<br>IBC99                 |                            | MP2                      | T1                                 | TP1<br>TP9<br>TP17<br>TP32 |
| 3375   | AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, solid  | 5.1   | O2                  | II  | 5.1             | 309                | LQ0                             | E2      | P099<br>IBC99                 |                            | MP2                      | T1                                 | TP1<br>TP9<br>TP17<br>TP32 |
| 3376   | 4-NITROPHENYL-HYDRAZINE, with not less than 30% water, by mass                               | 4.1   | D                   | I   | 4.1             |                    | LQ0                             | E0      | P406                          | PP26                       | MP2                      |                                    |                            |
| 3377   | SODIUM PERBORATE MONOHYDRATE   | 5.1   | O2                  | III                                       | 5.1             |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                         | MP10                     | T1<br>BK1 BK2                      | TP33                       |
| 3378   | SODIUM CARBONATE PEROXYHYDRATE   | 5.1   | O2                  | II  | 5.1             |                    | LQ11                            | E2      | P002<br>IBC08                 | B4                         | MP10                     | T3<br>BK1 BK2                      | TP33                       |
| 3378   | SODIUM CARBONATE PEROXYHYDRATE   | 5.1   | O2                  | III                                       | 5.1             |                    | LQ12                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                         | MP10                     | T1<br>BK1 BK2                      | TP33                       |
| 3379   | DESENSITIZED EXPLOSIVE, LIQUID, N.O.S.   | 3     | D                   | I   | 3               | 274<br>311         | LQ0                             | E0      | P099                          |                            | MP2                      |                                    |                            |
| 3380   | DESENSITIZED EXPLOSIVE, SOLID, N.O.S.  | 4.1   | D                   | I   | 4.1             | 274<br>311         | LQ0                             | E0      | P099                          |                            | MP2                      |                                    |                            |



| ADR tank                                  |                                       | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|---|---------------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code                                 | Special provisions                    |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3                                       | 4.3.5, 6.8.4                          | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)                                      | (13)                                  | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L4BH                                      | TU15<br>TE19                          | FL                        | 2<br>(D/E)                                   |                                 |       | CV13<br>CV28                    | S2 S9 S19 | 638                       | 3362   | CHLOROSILANES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.   |
| NOT SUBJECT TO ADR [see also 1.1.3.1 (b)] |                                       |                           |  |                                 |       |                                 |           |                           | 3363   | Dangerous goods in machinery or dangerous goods in apparatus                                 |
|   |                                       |                           | 1<br>(B)                                     |                                 |       |                                 | S14       |                           | 3364   | TRINITROPHENOL (PICRIC ACID), WETTED with not less than 10% water, by mass                   |
|   |                                       |                           | 1<br>(B)                                     |                                 |       |                                 | S14       |                           | 3365   | TRINITROCHLORO-BENZENE (PICRYL CHLORIDE), WETTED with not less than 10% water, by mass       |
|   |                                       |                           | 1<br>(B)                                     |                                 |       |                                 | S14       |                           | 3366   | TRINITROTOLUENE (TNT), WETTED with not less than 10% water, by mass                          |
|   |                                       |                           | 1<br>(B)                                     |                                 |       |                                 | S14       |                           | 3367   | TRINITROBENZENE, WETTED with not less than 10% water, by mass                                |
|   |                                       |                           | 1<br>(B)                                     |                                 |       |                                 | S14       |                           | 3368   | TRINITROBENZOIC ACID, WETTED with not less than 10% water, by mass                           |
|   |                                       |                           | 1<br>(B)                                     |                                 |       | CV13<br>CV28                    | S14       |                           | 3369   | SODIUM DINITRO-o-CRESOLATE, WETTED with not less than 10% water, by mass                     |
|   |                                       |                           | 1<br>(B)                                     |                                 |       |                                 | S14       |                           | 3370   | UREA NITRATE, WETTED with not less than 10% water, by mass                                   |
| LGBF                                      |                                       | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 33                        | 3371   | 2-METHYLBUTANAL  |
| L4BH                                      | TU15 TU37<br>TE19                     | AT                        | (-)  |                                 |       |                                 | S3        | 606                       | 3373   | BIOLOGICAL SUBSTANCE, CATEGORY B   |
| L4BH                                      | TU15 TU37<br>TE19                     | AT                        | -<br>(-)                                     |                                 |       |                                 | S3        | 606                       | 3373   | BIOLOGICAL SUBSTANCE, CATEGORY B (animal material only)                                      |
|   |                                       |                           | 2<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    |                           | 3374   | ACETYLENE, SOLVENT FREE  |
| LGAV(+)                                   | TU3 TU12<br>TU39 TE10<br>TE23 TA1 TA3 | AT                        | 2<br>(E)                                     |                                 |       | CV24                            | S9 S23    | 50                        | 3375   | AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, liquid |
| SGAV(+)                                   | TU3 TU12<br>TU39 TE10<br>TE23 TA1 TA3 | AT                        | 2<br>(E)                                     |                                 |       | CV24                            | S9 S23    | 50                        | 3375   | AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, solid  |
|   |                                       |                           | 1<br>(B)                                     | V1                              |       |                                 | S14       |                           | 3376   | 4-NITROPHENYL-HYDRAZINE, with not less than 30% water, by mass                               |
| SGAV                                      | TU3                                   | AT                        | 3<br>(E)                                     |                                 | VV8   | CV24                            |           | 50                        | 3377   | SODIUM PERBORATE MONOHYDRATE   |
| SGAV                                      | TU3                                   | AT                        | 2<br>(E)                                     | V11                             | VV8   | CV24                            |           | 50                        | 3378   | SODIUM CARBONATE PEROXYHYDRATE   |
| SGAV                                      | TU3                                   | AT                        | 3<br>(E)                                     |                                 | VV8   | CV24                            |           | 50                        | 3378   | SODIUM CARBONATE PEROXYHYDRATE   |
|   |                                       |                           | 1<br>(B)                                     |                                 |       |                                 | S2 S14    |                           | 3379   | DESENSITIZED EXPLOSIVE, LIQUID, N.O.S.   |
|   |                                       |                           | 1<br>(B)                                     |                                 |       |                                 | S14       |                           | 3380   | DESENSITIZED EXPLOSIVE, SOLID, N.O.S.  |

| UN No. | Name and description   | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging            |                            |                          | Portable tanks and bulk containers |                    |
|--------|--|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|----------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |  |       |                     |               |             |                    |                                 |         | Packing instructions | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2  | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2       | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                  | (9a)                       | (9b)                     | (10)                               | (11)               |
| 3381   | TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>                 | 6.1   | T1 or T4            | I             | 6.1         | 274                | LQ0                             | E5      | P601                 |                            | MP8<br>MP17              | T22                                | TP2                |
| 3382   | TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>                 | 6.1   | T1 or T4            | I             | 6.1         | 274                | LQ0                             | E5      | P602                 |                            | MP8<br>MP17              | T20                                | TP2                |
| 3383   | TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>      | 6.1   | TF1                 | I             | 6.1<br>+3   | 274                | LQ0                             | E5      | P601                 |                            | MP8<br>MP17              | T22                                | TP2                |
| 3384   | TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>      | 6.1   | TF1                 | I             | 6.1<br>+3   | 274                | LQ0                             | E5      | P602                 |                            | MP8<br>MP17              | T20                                | TP2                |
| 3385   | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub> | 6.1   | TW1                 | I             | 6.1<br>+4.3 | 274                | LQ0                             | E5      | P601                 |                            | MP8<br>MP17              | T22                                | TP2                |
| 3386   | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub> | 6.1   | TW1                 | I             | 6.1<br>+4.3 | 274                | LQ0                             | E5      | P602                 |                            | MP8<br>MP17              | T20                                | TP2                |
| 3387   | TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>      | 6.1   | TO1                 | I             | 6.1<br>+5.1 | 274                | LQ0                             | E5      | P601                 |                            | MP8<br>MP17              | T22                                | TP2                |
| 3388   | TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>      | 6.1   | TO1                 | I             | 6.1<br>+5.1 | 274                | LQ0                             | E5      | P602                 |                            | MP8<br>MP17              | T20                                | TP2                |
| 3389   | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>      | 6.1   | TC1 or TC3          | I             | 6.1<br>+8   | 274                | LQ0                             | E5      | P601                 |                            | MP8<br>MP17              | T22                                | TP2                |
| 3390   | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>      | 6.1   | TC1 or TC3          | I             | 6.1<br>+8   | 274                | LQ0                             | E5      | P602                 |                            | MP8<br>MP17              | T20                                | TP2                |

| ADR tank  |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description   |
|-----------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3       | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)      | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3381   | TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>                 |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3382   | TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>                 |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3383   | TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>      |
| L10CH     | TU14 TU15<br>TE19 TE21 | FL                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S2 S9 S14 | 663                       | 3384   | TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>      |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 623                       | 3385   | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub> |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 623                       | 3386   | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub> |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 665                       | 3387   | TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>      |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 665                       | 3388   | TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>      |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 668                       | 3389   | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>      |
| L10CH     | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/D)                                   |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 668                       | 3390   | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>      |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels      | Special provisions | Limited and excepted quantities |         | Packaging                     |                                     |                                    | Portable tanks and bulk containers |                               |
|--------|---|-------|---------------------|---------------|-------------|--------------------|---------------------------------|---------|-------------------------------|-------------------------------------|------------------------------------|------------------------------------|-------------------------------|
|        |   |       |                     |               |             |                    |                                 |         | Packing instructions<br>4.1.4 | Special packing provisions<br>4.1.4 | Mixed packing provisions<br>4.1.10 | Instructions<br>4.2.5.2<br>7.3.2   | Special provisions<br>4.2.5.3 |
|        | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2       | 3.3                | 3.4.6                           | 3.5.1.2 |                               |                                     |                                    |                                    |                               |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)         | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                                | (9b)                               | (10)                               | (11)                          |
| 3391   | ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC                   | 4.2   | S5                  | I             | 4.2         | 274                | LQ0                             | E0      | P404                          | PP86                                | MP2                                | T21                                | TP7<br>TP33                   |
| 3392   | ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC                  | 4.2   | S5                  | I             | 4.2         | 274                | LQ0                             | E0      | P400                          | PP86                                | MP2                                | T21                                | TP2<br>TP7                    |
| 3393   | ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE   | 4.2   | SW                  | I             | 4.2<br>+4.3 | 274                | LQ0                             | E0      | P404                          | PP86                                | MP2                                | T21                                | TP7<br>TP33                   |
| 3394   | ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE  | 4.2   | SW                  | I             | 4.2<br>+4.3 | 274                | LQ0                             | E0      | P400                          | PP86                                | MP2                                | T21                                | TP2<br>TP7                    |
| 3395   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE               | 4.3   | W2                  | I             | 4.3         | 274                | LQ0                             | E0      | P403                          |                                     | MP2                                | T9                                 | TP7<br>TP33                   |
| 3395   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE               | 4.3   | W2                  | II            | 4.3         | 274                | LQ11                            | E2      | P410<br>IBC04                 |                                     | MP14                               | T3                                 | TP33                          |
| 3395   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE               | 4.3   | W2                  | III           | 4.3         | 274                | LQ12                            | E1      | P410<br>IBC06                 |                                     | MP14                               | T1                                 | TP33                          |
| 3396   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE    | 4.3   | WF2                 | I             | 4.3<br>+4.1 | 274                | LQ0                             | E0      | P403                          |                                     | MP2                                | T9                                 | TP7<br>TP33                   |
| 3396   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE    | 4.3   | WF2                 | II            | 4.3<br>+4.1 | 274                | LQ11                            | E2      | P410<br>IBC04                 |                                     | MP14                               | T3                                 | TP33                          |
| 3396   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE    | 4.3   | WF2                 | III           | 4.3<br>+4.1 | 274                | LQ12                            | E1      | P410<br>IBC06                 |                                     | MP14                               | T1                                 | TP33                          |
| 3397   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING | 4.3   | WS                  | I             | 4.3<br>+4.2 | 274                | LQ0                             | E0      | P403                          |                                     | MP2                                | T9                                 | TP7<br>TP33                   |
| 3397   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING | 4.3   | WS                  | II            | 4.3<br>+4.2 | 274                | LQ11                            | E2      | P410<br>IBC04                 |                                     | MP14                               | T3                                 | TP33                          |
| 3397   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING | 4.3   | WS                  | III           | 4.3<br>+4.2 | 274                | LQ12                            | E1      | P410<br>IBC06                 |                                     | MP14                               | T1                                 | TP33                          |
| 3398   | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE              | 4.3   | W1                  | I             | 4.3         | 274                | LQ0                             | E0      | P402                          |                                     | MP2                                | T13                                | TP2<br>TP7                    |
| 3398   | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE              | 4.3   | W1                  | II            | 4.3         | 274                | LQ10                            | E2      | P001<br>IBC01                 |                                     | MP15                               | T7                                 | TP2<br>TP7                    |
| 3398   | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE              | 4.3   | W1                  | III           | 4.3         | 274                | LQ13                            | E1      | P001<br>IBC02                 |                                     | MP15                               | T7                                 | TP2<br>TP7                    |
| 3399   | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE   | 4.3   | WF1                 | I             | 4.3<br>+3   | 274                | LQ0                             | E0      | P402                          |                                     | MP2                                | T13                                | TP2<br>TP7                    |
| 3399   | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE   | 4.3   | WF1                 | II            | 4.3<br>+3   | 274                | LQ10                            | E2      | P001<br>IBC01                 |                                     | MP15                               | T7                                 | TP2<br>TP7                    |
| 3399   | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE   | 4.3   | WF1                 | III           | 4.3<br>+3   | 274                | LQ13                            | E1      | P001<br>IBC02<br>R001         |                                     | MP15                               | T7                                 | TP2<br>TP7                    |
| 3400   | ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING                 | 4.2   | S5                  | II            | 4.2         | 274                | LQ18                            | E2      | P410<br>IBC06                 |                                     | MP14                               | T3                                 | TP33                          |

| ADR tank       |                                  | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|----------------|----------------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code      | Special provisions               |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3            | 4.3.5, 6.8.4                     | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)           | (13)                             | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L21DH          | TU4 TU14<br>TU22 TC1<br>TE21 TM1 | AT                        | 0<br>(B/E)                                   | V1                              |       |                                 | S20       | 43                        | 3391   | ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC                   |
| L21DH          | TU4 TU14<br>TU22 TC1<br>TE21 TM1 | AT                        | 0<br>(B/E)                                   | V1                              |       |                                 | S20       | 333                       | 3392   | ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC                  |
| L21DH          | TU4 TU14<br>TU22 TC1<br>TE21 TM1 | AT                        | 0<br>(B/E)                                   | V1                              |       |                                 | S20       | X432                      | 3393   | ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE   |
| L21DH          | TU4 TU14<br>TU22 TC1<br>TE21 TM1 | AT                        | 0<br>(B/E)                                   | V1                              |       |                                 | S20       | X333                      | 3394   | ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE  |
| S10AN<br>L10DH | TU4 TU14<br>TU22 TE21<br>TM2     | AT                        | 1<br>(B/E)                                   | V1                              |       | CV23                            | S20       | X423                      | 3395   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE               |
| SGAN<br>L4DH   | TU14 TE21<br>TM2                 | AT                        | 2<br>(D/E)                                   | V1                              |       | CV23                            |           | 423                       | 3395   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE               |
| SGAN<br>L4DH   | TU14 TE21<br>TM2                 | AT                        | 3<br>(E)                                     | V1                              |       | CV23                            |           | 423                       | 3395   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE               |
| S10AN<br>L10DH | TU4 TU14<br>TU22 TE21<br>TM2     | AT                        | 0<br>(B/E)                                   | V1                              |       | CV23                            | S20       | X423                      | 3396   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE    |
| SGAN<br>L4DH   | TU14 TE21<br>TM2                 | AT                        | 0<br>(D/E)                                   | V1                              |       | CV23                            |           | 423                       | 3396   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE    |
| SGAN<br>L4DH   | TU14 TE21<br>TM2                 | AT                        | 0<br>(E)                                     | V1                              |       | CV23                            |           | 423                       | 3396   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE    |
| S10AN<br>L10DH | TU14 TE21<br>TM2                 | AT                        | 1<br>(B/E)                                   | V1                              |       | CV23                            | S20       | X423                      | 3397   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING |
| SGAN<br>L4DH   |                                  | AT                        | 2<br>(D/E)                                   | V1                              |       | CV23                            |           | 423                       | 3397   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING |
| SGAN<br>L4DH   |                                  | AT                        | 3<br>(E)                                     | V1                              |       | CV23                            |           | 423                       | 3397   | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING |
| L10DH          | TU4 TU14<br>TU22 TE21<br>TM2     | AT                        | 0<br>(B/E)                                   | V1                              |       | CV23                            | S20       | X323                      | 3398   | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE              |
| L4DH           | TU14 TE21<br>TM2                 | AT                        | 0<br>(D/E)                                   | V1                              |       | CV23                            |           | 323                       | 3398   | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE              |
| L4DH           | TU14 TE21<br>TM2                 | AT                        | 0<br>(E)                                     | V1                              |       | CV23                            |           | 323                       | 3398   | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE              |
| L10DH          | TU4 TU14<br>TU22 TE21<br>TM2     | FL                        | 0<br>(B/E)                                   | V1                              |       | CV23                            | S2 S20    | X323                      | 3399   | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE   |
| L4DH           | TU4 TU14<br>TU22 TE21<br>TM2     | FL                        | 0<br>(D/E)                                   | V1                              |       | CV23                            | S2        | 323                       | 3399   | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE   |
| L4DH           | TU14 TE21<br>TM2                 | FL                        | 0<br>(E)                                     | V1                              |       | CV23                            | S2        | 323                       | 3399   | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE   |
| SGAN<br>L4BN   |                                  | AT                        | 2<br>(D/E)                                   | V1<br>V12                       |       |                                 |           | 40                        | 3400   | ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING                 |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels   | Special provisions | Limited and excepted quantities |         | Packaging                  |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|----------|--------------------|---------------------------------|---------|----------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |          |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4 | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)      | (6)                | (7a)                            | (7b)    | (8)                        | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3400   | ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING                         | 4.2   | S5                  | III           | 4.2      | 274                | LQ11                            | E1      | P002 IBC08                 |                                  | MP14                            | T1                                 | TP33                       |
| 3401   | ALKALI METAL AMALGAM SOLID  | 4.3   | W2                  | I             | 4.3      | 182 274            | LQ0                             | E0      | P403                       |                                  | MP2                             | T9                                 | TP7 TP33                   |
| 3402   | ALKALINE EARTH METAL AMALGAM, SOLID                                   | 4.3   | W2                  | I             | 4.3      | 183 274 506        | LQ0                             | E0      | P403                       |                                  | MP2                             | T9                                 | TP7 TP33                   |
| 3403   | POTASSIUM METAL ALLOYS, SOLID   | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403                       |                                  | MP2                             | T9                                 | TP7 TP33                   |
| 3404   | POTASSIUM SODIUM ALLOYS, SOLID  | 4.3   | W2                  | I             | 4.3      |                    | LQ0                             | E0      | P403                       |                                  | MP2                             | T9                                 | TP7 TP33                   |
| 3405   | BARIUM CHLORATE SOLUTION  | 5.1   | OT1                 | II            | 5.1 +6.1 |                    | LQ10                            | E2      | P504 IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 3405   | BARIUM CHLORATE SOLUTION  | 5.1   | OT1                 | III           | 5.1 +6.1 |                    | LQ13                            | E1      | P001 IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 3406   | BARIUM PERCHLORATE SOLUTION   | 5.1   | OT1                 | II            | 5.1 +6.1 |                    | LQ10                            | E2      | P504 IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 3406   | BARIUM PERCHLORATE SOLUTION   | 5.1   | OT1                 | III           | 5.1 +6.1 |                    | LQ13                            | E1      | P001 IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 3407   | CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION                      | 5.1   | O1                  | II            | 5.1      |                    | LQ10                            | E2      | P504 IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 3407   | CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION                      | 5.1   | O1                  | III           | 5.1      |                    | LQ13                            | E1      | P504 IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 3408   | LEAD PERCHLORATE SOLUTION   | 5.1   | OT1                 | II            | 5.1 +6.1 |                    | LQ10                            | E2      | P504 IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 3408   | LEAD PERCHLORATE SOLUTION   | 5.1   | OT1                 | III           | 5.1 +6.1 |                    | LQ13                            | E1      | P001 IBC02                 |                                  | MP2                             | T4                                 | TP1                        |
| 3409   | CHLORONITRO-BENZENES, LIQUID  | 6.1   | T1                  | II            | 6.1      | 279                | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 3410   | 4-CHLORO- $\alpha$ -TOLUIDINE HYDROCHLORIDE SOLUTION                  | 6.1   | T1                  | III           | 6.1      |                    | LQ7                             | E1      | P001 IBC03 R001            |                                  | MP19                            | T4                                 | TP1                        |
| 3411   | beta-NAPHTHYLAMINE SOLUTION   | 6.1   | T1                  | II            | 6.1      |                    | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 3411   | beta-NAPHTHYLAMINE SOLUTION   | 6.1   | T1                  | III           | 6.1      |                    | LQ7                             | E1      | P001 IBC02                 |                                  | MP19                            | T7                                 | TP2                        |
| 3412   | FORMIC ACID with not less than 10% but not more than 85% acid by mass | 8     | C3                  | II            | 8        |                    | LQ22                            | E2      | P001 IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 3412   | FORMIC ACID with not less than 5% but less than 10% acid by mass      | 8     | C3                  | III           | 8        |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T4                                 | TP1                        |
| 3413   | POTASSIUM CYANIDE SOLUTION  | 6.1   | T4                  | I             | 6.1      |                    | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        | T14                                | TP2                        |
| 3413   | POTASSIUM CYANIDE SOLUTION  | 6.1   | T4                  | II            | 6.1      |                    | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |
| 3413   | POTASSIUM CYANIDE SOLUTION  | 6.1   | T4                  | III           | 6.1      |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T7                                 | TP2 TP28                   |
| 3414   | SODIUM CYANIDE SOLUTION   | 6.1   | T4                  | I             | 6.1      |                    | LQ0                             | E5      | P001                       |                                  | MP8 MP17                        | T14                                | TP2                        |
| 3414   | SODIUM CYANIDE SOLUTION   | 6.1   | T4                  | II            | 6.1      |                    | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T11                                | TP2 TP27                   |
| 3414   | SODIUM CYANIDE SOLUTION   | 6.1   | T4                  | III           | 6.1      |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T7                                 | TP2 TP28                   |
| 3415   | SODIUM FLUORIDE SOLUTION  | 6.1   | T4                  | III           | 6.1      |                    | LQ7                             | E1      | P001 IBC03 LP01 R001       |                                  | MP19                            | T4                                 | TP1                        |
| 3416   | CHLOROACETO-PHENONE, LIQUID   | 6.1   | T1                  | II            | 6.1      |                    | LQ17                            | E4      | P001 IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 3417   | XYLYL BROMIDE, SOLID  | 6.1   | T2                  | II            | 6.1      |                    | LQ18                            | E4      | P002 IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |

| ADR tank  |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| SGAN L4BN |                     | AT                        | 3 (E)  | V1                              |       |                                 |           | 40                        | 3400   | ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING                         |
| L10BN(+)  | TU1 TE5 TT3 TM2     | AT                        | 1 (B/E)                                      | V1                              |       | CV23                            | S20       | X423                      | 3401   | ALKALI METAL AMALGAM, SOLID   |
| L10BN(+)  | TU1 TE5 TT3 TM2     | AT                        | 1 (B/E)                                      | V1                              |       | CV23                            | S20       | X423                      | 3402   | ALKALINE EARTH METAL AMALGAM, SOLID                                   |
| L10BN(+)  | TU1 TE5 TT3 TM2     | AT                        | 1 (B/E)                                      | V1                              |       | CV23                            | S20       | X423                      | 3403   | POTASSIUM METAL ALLOYS, SOLID   |
| L10BN(+)  | TU1 TE5 TT3 TM2     | AT                        | 1 (B/E)                                      | V1                              |       | CV23                            | S20       | X423                      | 3404   | POTASSIUM SODIUM ALLOYS, SOLID  |
| L4BN      | TU3                 | AT                        | 2 (E)  |                                 |       | CV24 CV28                       |           | 56                        | 3405   | BARIUM CHLORATE SOLUTION  |
| LGBV      | TU3                 | AT                        | 3 (E)  |                                 |       | CV24 CV28                       |           | 56                        | 3405   | BARIUM CHLORATE SOLUTION  |
| L4BN      | TU3                 | AT                        | 2 (E)  |                                 |       | CV24 CV28                       |           | 56                        | 3406   | BARIUM PERCHLORATE SOLUTION   |
| LGBV      | TU3                 | AT                        | 3 (E)  |                                 |       | CV24 CV28                       |           | 56                        | 3406   | BARIUM PERCHLORATE SOLUTION   |
| L4BN      | TU3                 | AT                        | 2 (E)  |                                 |       | CV24                            |           | 50                        | 3407   | CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION                      |
| LGBV      | TU3                 | AT                        | 3 (E)  |                                 |       | CV24                            |           | 50                        | 3407   | CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION                      |
| L4BN      | TU3                 | AT                        | 2 (E)  |                                 |       | CV24 CV28                       |           | 56                        | 3408   | LEAD PERCHLORATE SOLUTION   |
| LGBV      | TU3                 | AT                        | 3 (E)  |                                 |       | CV24 CV28                       |           | 56                        | 3408   | LEAD PERCHLORATE SOLUTION   |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 3409   | CHLORONITRO-BENZENES, LIQUID  |
| L4BH      | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 3410   | 4-CHLORO-o-TOLUIDINE HYDROCHLORIDE SOLUTION                           |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 3411   | beta-NAPHTHYLAMINE SOLUTION   |
| L4BH      | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 3411   | beta-NAPHTHYLAMINE SOLUTION   |
| L4BN      |                     | AT                        | 2 (E)  |                                 |       |                                 |           | 80                        | 3412   | FORMIC ACID with not less than 10% but not more than 85% acid by mass |
| L4BN      |                     | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 3412   | FORMIC ACID with not less than 5% but less than 10% acid by mass      |
| L10CH     | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 3413   | POTASSIUM CYANIDE SOLUTION  |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 3413   | POTASSIUM CYANIDE SOLUTION  |
| L4BH      | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 3413   | POTASSIUM CYANIDE SOLUTION  |
| L10CH     | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1 CV13 CV28                   | S9 S14    | 66                        | 3414   | SODIUM CYANIDE SOLUTION   |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 3414   | SODIUM CYANIDE SOLUTION   |
| L4BH      | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 3414   | SODIUM CYANIDE SOLUTION   |
| L4BH      | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13 CV28                       | S9        | 60                        | 3415   | SODIUM FLUORIDE SOLUTION  |
| L4BH      | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13 CV28                       | S9 S19    | 60                        | 3416   | CHLOROACETO-PHENONE, LIQUID   |
| SGAH L4BH | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13 CV28                       | S9 S19    | 60                        | 3417   | XYLYL BROMIDE, SOLID  |

| UN No. | Name and description                            | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3418   | 2,4-TOLUYLENEDIAMINE SOLUTION                   | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 3419   | BORON TRIFLUORIDE ACETIC ACID COMPLEX, SOLID    | 8     | C4                  | II            | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3420   | BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, SOLID | 8     | C4                  | II            | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3421   | POTASSIUM HYDROGENDIFLUORIDE SOLUTION           | 8     | CT1                 | II            | 8<br>+6.1 |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 3421   | POTASSIUM HYDROGENDIFLUORIDE SOLUTION           | 8     | CT1                 | III           | 8<br>+6.1 |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T4                                 | TP1                        |
| 3422   | POTASSIUM FLUORIDE SOLUTION                     | 6.1   | T4                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 3423   | TETRAMETHYL-AMMONIUM HYDROXIDE, SOLID           | 8     | C8                  | II            | 8         |                    | LQ24                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3424   | AMMONIUM DINITRO-o-CRESOLATE SOLUTION           | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 3424   | AMMONIUM DINITRO-o-CRESOLATE SOLUTION           | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP2                        |
| 3425   | BROMOACETIC ACID, SOLID                         | 8     | C4                  | II            | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3426   | ACRYLAMIDE SOLUTION                             | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 3427   | CHLOROBENZYL CHLORIDES, SOLID                   | 6.1   | T2                  | III           | 6.1       |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3428   | 3-CHLORO-4-METHYLPHENYL ISOCYANATE, SOLID       | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3429   | CHLOROTOLUIDINES, LIQUID                        | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 3430   | XYLENOLS, LIQUID                                | 6.1   | T1                  | II            | 6.1       |                    | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 3431   | NITROBENZO-TRIFLUORIDES, SOLID                  | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3432   | POLYCHLORINATED BIPHENYLS, SOLID                | 9     | M2                  | II            | 9         | 305                | LQ25                            | E2      | P906<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3434   | NITROCRESOLS, LIQUID                            | 6.1   | T1                  | III           | 6.1       |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                                  | MP19                            | T4                                 | TP1                        |
| 3436   | HEXAFLUOROACETONE HYDRATE, SOLID                | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3437   | CHLOROCRESOLS, SOLID                            | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3438   | alpha-METHYLBENZYL ALCOHOL, SOLID               | 6.1   | T2                  | III           | 6.1       |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3439   | NITRILES, TOXIC, SOLID, N.O.S.                  | 6.1   | T2                  | I             | 6.1       | 274                | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3439   | NITRILES, TOXIC, SOLID, N.O.S.                  | 6.1   | T2                  | II            | 6.1       | 274                | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3439   | NITRILES, TOXIC, SOLID, N.O.S.                  | 6.1   | T2                  | III           | 6.1       | 274                | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |



| ADR tank    |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                            |
|-------------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code   | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3         | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)        | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3418   | 2,4-TOLUYLENEDIAMINE SOLUTION                   |
| SGAN L4BN   |                     | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 3419   | BORON TRIFLUORIDE ACETIC ACID COMPLEX, SOLID    |
| SGAN L4BN   |                     | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 3420   | BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, SOLID |
| L4DH        | TU14 TE21           | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    |           | 86                        | 3421   | POTASSIUM HYDROGENDIFLUORIDE SOLUTION           |
| L4DH        | TU14 TE21           | AT                        | 3 (E)  |                                 |       | CV13<br>CV28                    |           | 86                        | 3421   | POTASSIUM HYDROGENDIFLUORIDE SOLUTION           |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3422   | POTASSIUM FLUORIDE SOLUTION                     |
| SGAN L4BN   |                     | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 3423   | TETRAMETHYL-AMMONIUM HYDROXIDE, SOLID           |
| L4BH        | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3424   | AMMONIUM DINITRO-o-CRESOLATE SOLUTION           |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3424   | AMMONIUM DINITRO-o-CRESOLATE SOLUTION           |
| SGAN L4BN   |                     | AT                        | 2 (E)  | V11                             |       |                                 |           | 80                        | 3425   | BROMOACETIC ACID, SOLID                         |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3426   | ACRYLAMIDE SOLUTION                             |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3427   | CHLOROBENZYL CHLORIDES, SOLID                   |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3428   | 3-CHLORO-4-METHYLPHENYL ISOCYANATE, SOLID       |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3429   | CHLOROTOLUIDINES, LIQUID                        |
| L4BH        | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3430   | XYLENOLS, LIQUID                                |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3431   | NITROBENZO-TRIFLUORIDES, SOLID                  |
| S4AH L4BH   | TU15                | AT                        | 0 (D/E)                                      | V11                             | VV15  | CV1<br>CV13<br>CV28             | S19       | 90                        | 3432   | POLYCHLORINATED BIPHENYLS, SOLID                |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3434   | NITROCRESOLS, LIQUID                            |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3436   | HEXAFLUOROACETONE HYDRATE, SOLID                |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3437   | CHLOROCRESOLS, SOLID                            |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3438   | alpha-METHYLBENZYL ALCOHOL, SOLID               |
| S10AH L10CH | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3439   | NITRILES, TOXIC, SOLID, N.O.S.                  |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3439   | NITRILES, TOXIC, SOLID, N.O.S.                  |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3439   | NITRILES, TOXIC, SOLID, N.O.S.                  |

| UN No. | Name and description                                 | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|--|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |  |       |                     |               |           |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)  | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3440   | SELENIUM COMPOUND, LIQUID, N.O.S.                    | 6.1   | T4                  | I             | 6.1       | 274<br>563         | LQ0                             | E5      | P001                          |                                  | MP8<br>MP17                     | T14                                | TP2<br>TP27                |
| 3440   | SELENIUM COMPOUND, LIQUID, N.O.S.                    | 6.1   | T4                  | II            | 6.1       | 274<br>563         | LQ17                            | E4      | P001<br>IBC02                 |                                  | MP15                            | T11                                | TP2<br>TP27                |
| 3440   | SELENIUM COMPOUND, LIQUID, N.O.S.                    | 6.1   | T4                  | III           | 6.1       | 274<br>563         | LQ7                             | E1      | P001<br>IBC03<br>R001         |                                  | MP19                            | T7                                 | TP1<br>TP28                |
| 3441   | CHLORODINITRO-BENZENES, SOLID                        | 6.1   | T2                  | II            | 6.1       | 279                | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3442   | DICHLOROANILINES, SOLID                              | 6.1   | T2                  | II            | 6.1       | 279                | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3443   | DINITROBENZENES, SOLID                               | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3444   | NICOTINE HYDROCHLORIDE, SOLID                        | 6.1   | T2                  | II            | 6.1       | 43                 | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3445   | NICOTINE SULPHATE, SOLID                             | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3446   | NITROTOLUENES, SOLID                                 | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3447   | NITROXYLENES, SOLID                                  | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3448   | TEAR GAS SUBSTANCE, SOLID, N.O.S.                    | 6.1   | T2                  | I             | 6.1       | 274                | LQ0                             | E5      | P002                          |                                  | MP18                            | T6                                 | TP33                       |
| 3448   | TEAR GAS SUBSTANCE, SOLID, N.O.S.                    | 6.1   | T2                  | II            | 6.1       | 274                | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3449   | BROMOBENZYL CYANIDES, SOLID                          | 6.1   | T2                  | I             | 6.1       | 138                | LQ0                             | E5      | P002                          |                                  | MP18                            | T6                                 | TP33                       |
| 3450   | DIPHENYLCHLORO-ARSINE, SOLID                         | 6.1   | T3                  | I             | 6.1       |                    | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3451   | TOLUIDINES, SOLID                                    | 6.1   | T2                  | II            | 6.1       | 279                | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3452   | XYLIDINES, SOLID                                     | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3453   | PHOSPHORIC ACID, SOLID                               | 8     | C2                  | III           | 8         |                    | LQ24                            | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3454   | DINITROTOLUENES, SOLID                               | 6.1   | T2                  | II            | 6.1       |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3455   | CRESOLS, SOLID                                       | 6.1   | TC2                 | II            | 6.1<br>+8 |                    | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3456   | NITROSYLSULPHURIC ACID, SOLID                        | 8     | C2                  | II            | 8         |                    | LQ23                            | E2      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3457   | CHLORONITROTOLUENES, SOLID                           | 6.1   | T2                  | III           | 6.1       |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3458   | NITROANISLES, SOLID                                  | 6.1   | T2                  | III           | 6.1       | 279                | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3459   | NITROBROMOBENZENES, SOLID                            | 6.1   | T2                  | III           | 6.1       |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3460   | N-ETHYLBENZYL-TOLUIDINES, SOLID                      | 6.1   | T2                  | III           | 6.1       |                    | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3462   | TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. | 6.1   | T2                  | I             | 6.1       | 210<br>274         | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3462   | TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. | 6.1   | T2                  | II            | 6.1       | 210<br>274         | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3462   | TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. | 6.1   | T2                  | III           | 6.1       | 210<br>274         | LQ9                             | E1      | P002<br>IBC08<br>R001         | B3                               | MP10                            | T1                                 | TP33                       |

| ADR tank    |                     | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description                                 |
|-------------|---------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|--|
| Tank code   | Special provisions  |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |  |
| 4.3         | 4.3.5, 6.8.4        | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2  |
| (12)        | (13)                | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)  |
| L10CH       | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3440   | SELENIUM COMPOUND, LIQUID, N.O.S.                    |
| L4BH        | TU15 TE19           | AT                        | 2 (D/E)                                      |                                 |       | CV13<br>CV28                    | S9 S19    | 60                        | 3440   | SELENIUM COMPOUND, LIQUID, N.O.S.                    |
| L4BH        | TU15 TE19           | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    | S9        | 60                        | 3440   | SELENIUM COMPOUND, LIQUID, N.O.S.                    |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3441   | CHLORODINITRO-BENZENES, SOLID                        |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3442   | DICHLOROANILINES, SOLID                              |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3443   | DINITROBENZENES, SOLID                               |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3444   | NICOTINE HYDROCHLORIDE, SOLID                        |
| SGAH        | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3445   | NICOTINE SULPHATE, SOLID                             |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3446   | NITROTOLUENES, SOLID                                 |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3447   | NITROXYLENES, SOLID                                  |
| S10AH L10CH | TU14 TU15 TE19 TE21 | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3448   | TEAR GAS SUBSTANCE, SOLID, N.O.S.                    |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3448   | TEAR GAS SUBSTANCE, SOLID, N.O.S.                    |
| S10AH L10CH | TU15 TE19           | AT                        | 1 (C/E)                                      |                                 |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3449   | BROMOBENZYL CYANIDES, SOLID                          |
| S10AH L10CH | TU15 TE19           | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3450   | DIPHENYLCHLORO-ARSINE, SOLID                         |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3451   | TOLUIDINES, SOLID                                    |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3452   | XYLIDINES, SOLID                                     |
| SGAV L4BN   |                     | AT                        | 3 (E)  |                                 | VV9   |                                 |           | 80                        | 3453   | PHOSPHORIC ACID, SOLID                               |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3454   | DINITROTOLUENES, SOLID                               |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 68                        | 3455   | CRESOLS, SOLID                                       |
| SGAN L4BN   |                     | AT                        | 2 (E)  | V11                             |       |                                 |           | X80                       | 3456   | NITROSYLSULPHURIC ACID, SOLID                        |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3457   | CHLORONITROTOLUENES, SOLID                           |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3458   | NITROANISLES, SOLID                                  |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3459   | NITROBROMOBENZENES, SOLID                            |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3460   | N-ETHYLBENZYL-TOLUIDINES, SOLID                      |
| S10AH L10CH | TU15 TE19           | AT                        | 1 (C/E)                                      | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3462   | TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (D/E)                                      | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3462   | TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. |
| SGAH L4BH   | TU15 TE19           | AT                        | 2 (E)  |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3462   | TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels  | Special provisions | Limited and excepted quantities |         | Packaging                     |                                  |                                 | Portable tanks and bulk containers |                            |
|--------|---|-------|---------------------|---------------|---------|--------------------|---------------------------------|---------|-------------------------------|----------------------------------|---------------------------------|------------------------------------|----------------------------|
|        |   |       |                     |               |         |                    | 3.4.6                           | 3.5.1.2 | Packing instructions 4.1.4    | Special packing provisions 4.1.4 | Mixed packing provisions 4.1.10 | Instructions 4.2.5.2 7.3.2         | Special provisions 4.2.5.3 |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)     | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                             | (9b)                            | (10)                               | (11)                       |
| 3463   | PROPIONIC ACID with not less than 90% acid by mass  | 8     | CF1                 | II            | 8<br>+3 |                    | LQ22                            | E2      | P001<br>IBC02                 |                                  | MP15                            | T7                                 | TP2                        |
| 3464   | ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.   | 6.1   | T2                  | I             | 6.1     | 43<br>274          | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3464   | ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.   | 6.1   | T2                  | II            | 6.1     | 43<br>274          | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3464   | ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.   | 6.1   | T2                  | III           | 6.1     | 43<br>274          | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3465   | ORGANOARSENIC COMPOUND, SOLID, N.O.S.   | 6.1   | T3                  | I             | 6.1     | 274                | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3465   | ORGANOARSENIC COMPOUND, SOLID, N.O.S.   | 6.1   | T3                  | II            | 6.1     | 274                | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3465   | ORGANOARSENIC COMPOUND, SOLID, N.O.S.   | 6.1   | T3                  | III           | 6.1     | 274                | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3466   | METAL CARBONYLS, SOLID, N.O.S.  | 6.1   | T3                  | I             | 6.1     | 274<br>562         | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3466   | METAL CARBONYLS, SOLID, N.O.S.  | 6.1   | T3                  | II            | 6.1     | 274<br>562         | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3466   | METAL CARBONYLS, SOLID, N.O.S.  | 6.1   | T3                  | III           | 6.1     | 274<br>562         | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3467   | ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.   | 6.1   | T3                  | I             | 6.1     | 274<br>562         | LQ0                             | E5      | P002<br>IBC07                 |                                  | MP18                            | T6                                 | TP33                       |
| 3467   | ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.   | 6.1   | T3                  | II            | 6.1     | 274<br>562         | LQ18                            | E4      | P002<br>IBC08                 | B4                               | MP10                            | T3                                 | TP33                       |
| 3467   | ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.   | 6.1   | T3                  | III           | 6.1     | 274<br>562         | LQ9                             | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                               | MP10                            | T1                                 | TP33                       |
| 3468   | HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM or HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM CONTAINED IN EQUIPMENT or HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM PACKED WITH EQUIPMENT   | 2     | 1F                  |               | 2.1     | 321                | LQ0                             | E0      | P099                          |                                  | MP9                             |                                    |                            |
| 3469   | PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning and reducing compound) | 3     | FC                  | I             | 3<br>+8 | 163                | LQ3                             | E0      | P001                          |                                  | MP7<br>MP17                     | T11                                | TP2<br>TP27                |
| 3469   | PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning and reducing compound) | 3     | FC                  | II            | 3<br>+8 | 163                | LQ4                             | E2      | P001<br>IBC02                 |                                  | MP19                            | T7                                 | TP2<br>TP8<br>TP28         |

| ADR tank       |                        | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|----------------|------------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code      | Special provisions     |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3            | 4.3.5, 6.8.4           | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)           | (13)                   | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BN           |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2        | 83                        | 3463   | PROPIONIC ACID with not less than 90% acid by mass  |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3464   | ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3464   | ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3464   | ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.   |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3465   | ORGANOARSENIC COMPOUND, SOLID, N.O.S.   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3465   | ORGANOARSENIC COMPOUND, SOLID, N.O.S.   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3465   | ORGANOARSENIC COMPOUND, SOLID, N.O.S.   |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3466   | METAL CARBONYLS, SOLID, N.O.S.  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3466   | METAL CARBONYLS, SOLID, N.O.S.  |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3466   | METAL CARBONYLS, SOLID, N.O.S.  |
| S10AH<br>L10CH | TU14 TU15<br>TE19 TE21 | AT                        | 1<br>(C/E)                                   | V10<br>V12                      |       | CV1<br>CV13<br>CV28             | S9 S14    | 66                        | 3467   | ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(D/E)                                   | V11                             |       | CV13<br>CV28                    | S9 S19    | 60                        | 3467   | ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.   |
| SGAH<br>L4BH   | TU15 TE19              | AT                        | 2<br>(E)                                     |                                 | VV9   | CV13<br>CV28                    | S9        | 60                        | 3467   | ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.   |
|                |                        |                           | 2<br>(D)                                     |                                 |       | CV9<br>CV10<br>CV36             | S2 S20    |                           | 3468   | HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM or HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM CONTAINED IN EQUIPMENT or HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM PACKED WITH EQUIPMENT   |
| L10CH          | TU14 TE21              | FL                        | 1<br>(C/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 3469   | PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning and reducing compound) |
| L4BH           |                        | FL                        | 2<br>(D/E)                                   |                                 |       |                                 | S2 S20    | 338                       | 3469   | PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning and reducing compound) |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels    | Special provisions | Limited and excepted quantities |         | Packaging                     |                            |                          | Portable tanks and bulk containers |                    |
|--------|---|-------|---------------------|---------------|-----------|--------------------|---------------------------------|---------|-------------------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |   |       |                     |               |           |                    |                                 |         | Packing instructions          | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2     | 3.3                | 3.4.6                           | 3.5.1.2 | 4.1.4                         | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)       | (6)                | (7a)                            | (7b)    | (8)                           | (9a)                       | (9b)                     | (10)                               | (11)               |
| 3469   | PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning and reducing compound) | 3     | FC                  | III           | 3<br>+8   | 163                | LQ7                             | E1      | P001<br>IBC03<br>R001         |                            | MP19                     | T4                                 | TP1<br>TP29        |
| 3470   | PAINT, CORROSIVE, FLAMMABLE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, CORROSIVE, FLAMMABLE (including paint thinning and reducing compound) | 8     | CF1                 | II            | 8<br>+3   | 163                | LQ22                            | E2      | P001<br>IBC02                 |                            | MP15                     | T7                                 | TP2<br>TP8<br>TP28 |
| 3471   | HYDROGENDIFLUORIDES SOLUTION, N.O.S.  | 8     | CT1                 | II            | 8<br>+6.1 |                    | LQ22                            | E2      | P001<br>IBC02                 |                            | MP15                     | T7                                 | TP2                |
| 3471   | HYDROGENDIFLUORIDES SOLUTION, N.O.S.  | 8     | CT1                 | III           | 8<br>+6.1 |                    | LQ7                             | E1      | P001<br>IBC03<br>R001         |                            | MP19                     | T4                                 | TP1                |
| 3472   | CROTONIC ACID, LIQUID   | 8     | C3                  | III           | 8         |                    | LQ7                             | E1      | P001<br>IBC03<br>LP01<br>R001 |                            | MP19                     | T4                                 | TP1                |
| 3473   | FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT containing flammable liquids  | 3     | F1                  |               | 3         | 328                | LQ13                            | E0      | P004                          |                            |                          |                                    |                    |
| 3474   | 1-HYDROXYBENZO-TRIAZOLE, ANHYDROUS, WETTED with not less than 20% water, by mass  | 4.1   | D                   | I             | 4.1       |                    | LQ0                             | E0      | P406                          | PP48                       | MP2                      |                                    |                    |
| 3475   | ETHANOL AND GASOLINE MIXTURE or ETHANOL AND MOTOR SPIRIT MIXTURE or ETHANOL AND PETROL MIXTURE, with more than 10% ethanol  | 3     | F1                  | II            | 3         | 333                | LQ4                             | E2      | P001<br>IBC02                 |                            | MP19                     | T4                                 | TP1                |
| 3476   | FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing water-reactive substances   | 4.3   | W3                  |               | 4.3       | 328<br>334         | LQ10<br>LQ11                    | E0      | P004                          |                            |                          |                                    |                    |
| 3477   | FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing corrosive substances  | 8     | C11                 |               | 8         | 328<br>334         | LQ12<br>LQ13                    | E0      | P004                          |                            |                          |                                    |                    |

| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
| L4BN      |                    | FL                        | 3 (D/E)                                      |                                 |       |                                 | S2        | 38                        | 3469   | PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning and reducing compound) |
| L4BN      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2        | 83                        | 3470   | PAINT, CORROSIVE, FLAMMABLE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, CORROSIVE, FLAMMABLE (including paint thinning and reducing compound) |
| L4DH      | TU14 TE21          | AT                        | 2 (E)  |                                 |       | CV13<br>CV28                    |           | 86                        | 3471   | HYDROGENDIFLUORIDES SOLUTION, N.O.S.  |
| L4DH      | TU14 TE21          | AT                        | 3 (E)  |                                 |       | CV13<br>CV28                    |           | 86                        | 3471   | HYDROGENDIFLUORIDES SOLUTION, N.O.S.  |
| L4BN      |                    | AT                        | 3 (E)  |                                 |       |                                 |           | 80                        | 3472   | CROTONIC ACID, LIQUID   |
|           |                    |                           | 3 (E)  |                                 |       |                                 | S2        |                           | 3473   | FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT containing flammable liquids  |
|           |                    |                           | 1 (B)  |                                 |       |                                 | S17       |                           | 3474   | 1-HYDROXYBENZO-TRIAZOLE, ANHYDROUS, WETTED with not less than 20% water, by mass  |
| LGBF      |                    | FL                        | 2 (D/E)                                      |                                 |       |                                 | S2 S20    | 33                        | 3475   | ETHANOL AND GASOLINE MIXTURE or ETHANOL AND MOTOR SPIRIT MIXTURE or ETHANOL AND PETROL MIXTURE, with more than 10% ethanol  |
|           |                    |                           | 3 (E)  | V1                              |       | CV23                            |           |                           | 3476   | FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing water-reactive substances   |
|           |                    |                           | 3 (E)  |                                 |       |                                 |           |                           | 3477   | FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing corrosive substances  |

| UN No. | Name and description  | Class | Classification code | Packing group | Labels | Special provisions       | Limited and excepted quantities |         | Packaging              |                            |                          | Portable tanks and bulk containers |                    |
|--------|---|-------|---------------------|---------------|--------|--------------------------|---------------------------------|---------|------------------------|----------------------------|--------------------------|------------------------------------|--------------------|
|        |   |       |                     |               |        |                          |                                 |         | Packing instructions   | Special packing provisions | Mixed packing provisions | Instructions                       | Special provisions |
|        | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3       | 5.2.2  | 3.3                      | 3.4.6                           | 3.5.1.2 | 4.1.4                  | 4.1.4                      | 4.1.10                   | 4.2.5.2<br>7.3.2                   | 4.2.5.3            |
| (1)    | (2)   | (3a)  | (3b)                | (4)           | (5)    | (6)                      | (7a)                            | (7b)    | (8)                    | (9a)                       | (9b)                     | (10)                               | (11)               |
| 3478   | FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing liquefied flammable gas   | 2     | 6F                  |               | 2.1    | 328<br>338               | LQ1                             | E0      | P004                   |                            |                          |                                    |                    |
| 3479   | FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing hydrogen in metal hydride | 2     | 6F                  |               | 2.1    | 328<br>339               | LQ1                             | E0      | P004                   |                            |                          |                                    |                    |
| 3480   | LITHIUM ION BATTERIES (including lithium ion polymer batteries)   | 9     | M4                  | II            | 9      | 188<br>230<br>310<br>636 | LQ0                             | E0      | P903<br>P903a<br>P903b |                            |                          |                                    |                    |
| 3481   | LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)                   | 9     | M4                  | II            | 9      | 188<br>230<br>636        | LQ0                             | E0      | P903<br>P903a<br>P903b |                            |                          |                                    |                    |



| ADR tank  |                    | Vehicle for tank carriage | Transport category (Tunnel restriction code) | Special provisions for carriage |       |                                 |           | Hazard identification No. | UN No. | Name and description  |
|-----------|--------------------|---------------------------|--|---------------------------------|-------|---------------------------------|-----------|---------------------------|--------|---|
| Tank code | Special provisions |                           |  | Packages                        | Bulk  | Loading, unloading and handling | Operation |                           |        |   |
| 4.3       | 4.3.5, 6.8.4       | 9.1.1.2                   | 1.1.3.6 (8.6)                                | 7.2.4                           | 7.3.3 | 7.5.11                          | 8.5       | 5.3.2.3                   |        | 3.1.2   |
| (12)      | (13)               | (14)                      | (15)   | (16)                            | (17)  | (18)                            | (19)      | (20)                      | (1)    | (2)   |
|           |                    |                           | 2<br>(B/D)                                   |                                 |       | CV9<br>CV12                     | S2        |                           | 3478   | FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing liquefied flammable gas   |
|           |                    |                           | 2<br>(B/D)                                   |                                 |       | CV9<br>CV12                     | S2        |                           | 3479   | FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing hydrogen in metal hydride |
|           |                    |                           | 2<br>(E)                                     |                                 |       |                                 |           |                           | 3480   | LITHIUM ION BATTERIES (including lithium ion polymer batteries)   |
|           |                    |                           | 2<br>(E)                                     |                                 |       |                                 |           |                           | 3481   | LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)                   |

**3.2.2 Table B: Alphabetic index of substances and articles of ADR**

This index is an alphabetical list of the substances and articles which are listed in the UN numerical order in Table A of 3.2.1. It does not form an integral part of ADR. It has been submitted neither to the Working Party on the Transport of Dangerous Goods of the Inland Transport Committee for checking and approval nor to the Contracting Parties to ADR for formal acceptance. It has been prepared, with all necessary care by the Secretariat of the United Nations Economic Commission for Europe, in order to facilitate the consultation of Annexes A and B, but it cannot be relied upon as a substitute for the careful study and observance of the actual provisions of those annexes which, in case of conflict, are deemed to be authoritative.

***NOTE 1:** For the purpose of determining the alphabetical order the following information has been ignored, even when it forms part of the proper shipping name: numbers; Greek letters; the abbreviations "sec" and "tert"; and the letters "N" (nitrogen), "n" (normal), "o" (ortho), "m" (meta), "p" (para) and "N.O.S." (not otherwise specified).*

***NOTE 2:** The name of a substance or article in block capital letters indicates a proper shipping name (see 3.1.2).*

***NOTE 3:** The name of a substance or article in block capital letters followed by the word "see" indicates an alternative proper shipping name or part of a proper shipping name (except for PCBs) (see 3.1.2.1).*

***NOTE 4:** An entry in lower case letters followed by the word "see" indicates that the entry is not a proper shipping name; it is a synonym.*

***NOTE 5:** Where an entry is partly in block capital letters and partly in lower case letters, the latter part is considered not to be part of the proper shipping name (see 3.1.2.1).*

***NOTE 6:** A proper shipping name may be used in the singular or plural, as appropriate, for the purposes of documentation and package marking (see 3.1.2.3).*

***NOTE 7:** For the exact determination of a proper shipping name, see 3.1.2.*

| Name and description  | UN No. | Class | Remarks | Name and description   | UN No. | Class | Remarks |
|---|--------|-------|---------|--|--------|-------|---------|
| Accumulators, electric, see   | 2794   | 8     |         | Activated charcoal, see  | 1362   | 4.2   |         |
|   | 2795   | 8     |         | ADHESIVES containing flammable liquid  | 1133   | 3     |         |
|   | 2800   | 8     |         | ADIPONITRILE   | 2205   | 6.1   |         |
|   | 3028   | 8     |         | Aeroplane flares, see  | 0093   | 1     |         |
|   | 3292   | 4.3   |         |  | 0403   | 1     |         |
| ACETAL  | 1088   | 3     |         |  | 0404   | 1     |         |
| ACETALDEHYDE  | 1089   | 3     |         |  | 0420   | 1     |         |
| ACETALDEHYDE AMMONIA  | 1841   | 9     |         |  | 0421   | 1     |         |
| ACETALDEHYDE OXIME  | 2332   | 3     |         | AEROSOLS   | 1950   | 2     |         |
| ACETIC ACID, GLACIAL  | 2789   | 8     |         | AGENT, BLASTING, TYPE B  | 0331   | 1     |         |
| ACETIC ACID SOLUTION, more than 10% but not more than 80% acid, by mass | 2790   | 8     |         | AGENT, BLASTING, TYPE E  | 0332   | 1     |         |
| ACETIC ACID SOLUTION, more than 80% acid, by mass                       | 2789   | 8     |         | AIR BAG INFLATORS  | 0503   | 1     |         |
| ACETIC ANHYDRIDE  | 1715   | 8     |         |  | 3268   | 9     |         |
| Acetoin, see  | 2621   | 3     |         | AIR BAG MODULES  | 0503   | 1     |         |
| ACETONE   | 1090   | 3     |         |  | 3268   | 9     |         |
| ACETONE CYANOHYDRIN, STABILIZED   | 1541   | 6.1   |         | AIR, COMPRESSED  | 1002   | 2     |         |
| ACETONE OILS  | 1091   | 3     |         | Aircraft evacuation slides, see  | 2990   | 9     |         |
| ACETONITRILE  | 1648   | 3     |         | AIRCRAFT HYDRAULIC POWER UNIT FUEL TANK (containing a mixture of anhydrous hydrazine and methylhydrazine) (M86 fuel) | 3165   | 3     |         |
| ACETYL BROMIDE  | 1716   | 8     |         | Aircraft survival kits, see  | 2990   | 9     |         |
| ACETYL CHLORIDE   | 1717   | 3     |         | AIR, REFRIGERATED LIQUID   | 1003   | 2     |         |
| ACETYLENE, DISSOLVED  | 1001   | 2     |         | ALCOHOLATES SOLUTION, N.O.S., in alcohol   | 3274   | 3     |         |
| ACETYLENE, SOLVENT FREE   | 3374   | 2     |         | Alcohol, denaturated, see  | 1986   | 3     |         |
| Acetylene tetrabromide, see   | 2504   | 6.1   |         |  | 1987   | 3     |         |
| Acetylene tetrachloride, see  | 1702   | 6.1   |         | Alcohol, industrial, see   | 1986   | 3     |         |
| ACETYL IODIDE   | 1898   | 8     |         |  | 1987   | 3     |         |
| ACETYL METHYL CARBINOL  | 2621   | 3     |         | ALCOHOLS, N.O.S.   | 1987   | 3     |         |
| Acid butyl phosphate, see   | 1718   | 8     |         | ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.   | 1986   | 3     |         |
| Acid mixture, hydrofluoric and sulphuric, see                           | 1786   | 8     |         | ALCOHOLIC BEVERAGES, with more than 24% but not more than 70% alcohol by volume                                      | 3065   | 3     |         |
| Acid mixture, nitrating acid, see                                       | 1796   | 8     |         | ALCOHOLIC BEVERAGES, with more than 70% alcohol by volume  | 3065   | 3     |         |
| Acid mixture, spent, nitrating acid, see                                | 1826   | 8     |         | Aldehyde, see  | 1989   | 3     |         |
| Acraldehyde, inhibited, see   | 1092   | 6.1   |         | ALDEHYDES, N.O.S.  | 1989   | 3     |         |
| ACRIDINE  | 2713   | 6.1   |         | ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.  | 1988   | 3     |         |
| ACROLEIN DIMER, STABILIZED  | 2607   | 3     |         | ALDOL  | 2839   | 6.1   |         |
| ACROLEIN, STABILIZED  | 1092   | 6.1   |         | ALKALI METAL   | 3206   | 4.2   |         |
| ACRYLAMIDE, SOLID   | 2074   | 6.1   |         | ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.   |        |       |         |
| ACRYLAMIDE, SOLUTION  | 3426   | 6.1   |         | ALKALI METAL ALLOY, LIQUID, N.O.S.   | 1421   | 4.3   |         |
| ACRYLIC ACID, STABILIZED  | 2218   | 8     |         | ALKALI METAL AMALGAM, LIQUID   | 1389   | 4.3   |         |
| ACRYLONITRILE, STABILIZED   | 1093   | 3     |         |  |        |       |         |
| Actinolite, see   | 2590   | 9     |         |  |        |       |         |
| Activated carbon, see   | 1362   | 4.2   |         |  |        |       |         |

| Name and description  | UN No. | Class | Remarks | Name and description                         | UN No. | Class | Remarks |
|---|--------|-------|---------|--|--------|-------|---------|
| ALKALI METAL AMALGAM, SOLID   | 3401   | 4.3   |         | ALLYL GLYCIDYL ETHER                         | 2219   | 3     |         |
| ALKALI METAL AMIDES   | 1390   | 4.3   |         | ALLYL IODIDE                                 | 1723   | 3     |         |
| ALKALI METAL DISPERSION   | 1391   | 4.3   |         | ALLYL ISOTHIOCYANATE, STABILIZED             | 1545   | 6.1   |         |
| Alkaline corrosive battery fluid, see   | 2797   | 8     |         | ALLYLTRICHLOROSILANE, STABILIZED             | 1724   | 8     |         |
| ALKALINE EARTH METAL ALCOHOLATES, N.O.S.  | 3205   | 4.2   |         | Aluminium alkyls, see                        | 3394   | 4.2   |         |
| ALKALINE EARTH METAL ALLOY, N.O.S.  | 1393   | 4.3   |         | Aluminium alkyl halides, liquid, see         | 3394   | 4.2   |         |
| ALKALINE EARTH METAL AMALGAM, LIQUID  | 1392   | 4.3   |         | Aluminium alkyl halides, solid, see          | 3393   | 4.2   |         |
| ALKALINE EARTH METAL AMALGAM, SOLID   | 3402   | 4.3   |         | Aluminium alkyl hydrides, see                | 3394   | 4.2   |         |
| ALKALINE EARTH METAL DISPERSION   | 1391   | 4.3   |         | ALUMINIUM BOROHYDRIDE                        | 2870   | 4.2   |         |
| ALKALOIDS, LIQUID, N.O.S.   | 3140   | 6.1   |         | ALUMINIUM BOROHYDRIDE IN DEVICES             | 2870   | 4.2   |         |
| ALKALOIDS, SOLID, N.O.S.  | 1544   | 6.1   |         | ALUMINIUM BROMIDE, ANHYDROUS                 | 1725   | 8     |         |
| ALKALOID SALTS, LIQUID, N.O.S.  | 3140   | 6.1   |         | ALUMINIUM BROMIDE SOLUTION                   | 2580   | 8     |         |
| ALKALOID SALTS, SOLID, N.O.S.   | 1544   | 6.1   |         | ALUMINIUM CARBIDE                            | 1394   | 4.3   |         |
| Alkyl aluminium halides, see  | 3394   | 4.2   |         | ALUMINIUM CHLORIDE, ANHYDROUS                | 1726   | 8     |         |
| ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues) | 3145   | 8     |         | ALUMINIUM CHLORIDE SOLUTION                  | 2581   | 8     |         |
| ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)  | 2430   | 8     |         | Aluminium dross, see                         | 3170   | 4.3   |         |
| ALKYLSULPHONIC ACIDS, LIQUID with more than 5% free sulphuric acid                  | 2584   | 8     |         | ALUMINIUM FERROSILICON POWDER                | 1395   | 4.3   |         |
| ALKYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid              | 2586   | 8     |         | ALUMINIUM HYDRIDE                            | 2463   | 4.3   |         |
| ALKYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid                   | 2583   | 8     |         | ALUMINIUM NITRATE                            | 1438   | 5.1   |         |
| ALKYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid               | 2585   | 8     |         | ALUMINIUM PHOSPHIDE                          | 1397   | 4.3   |         |
| ALKYLSULPHURIC ACIDS  | 2571   | 8     |         | ALUMINIUM PHOSPHIDE PESTICIDE                | 3048   | 6.1   |         |
| Allene, see   | 2200   | 2     |         | ALUMINIUM POWDER, COATED                     | 1309   | 4.1   |         |
| ALLYL ACETATE   | 2333   | 3     |         | ALUMINIUM POWDER, UNCOATED                   | 1396   | 4.3   |         |
| ALLYL ALCOHOL   | 1098   | 6.1   |         | ALUMINIUM REMELTING BY-PRODUCTS              | 3170   | 4.3   |         |
| ALLYLAMINE  | 2334   | 6.1   |         | ALUMINIUM RESINATE                           | 2715   | 4.1   |         |
| ALLYL BROMIDE   | 1099   | 3     |         | ALUMINIUM SILICON POWDER, UNCOATED           | 1398   | 4.3   |         |
| ALLYL CHLORIDE  | 1100   | 3     |         | ALUMINIUM SMELTING BY-PRODUCTS               | 3170   | 4.3   |         |
| Allyl chlorocarbonate, see  | 1722   | 6.1   |         | Amatols, see                                 | 0082   | 1     |         |
| ALLYL CHLOROFORMATE   | 1722   | 6.1   |         | AMINES, FLAMMABLE, CORROSIVE, N.O.S.         | 2733   | 3     |         |
| ALLYL ETHYL ETHER   | 2335   | 3     |         | AMINES, LIQUID, CORROSIVE, N.O.S.            | 2735   | 8     |         |
| ALLYL FORMATE   | 2336   | 3     |         | AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. | 2734   | 8     |         |
|   |        |       |         | AMINES, SOLID, CORROSIVE, N.O.S.             | 3259   | 8     |         |

| Name and description  | UN No. | Class | Remarks | Name and description  | UN No.       | Class  | Remarks            |
|---|--------|-------|---------|---|--------------|--------|--------------------|
| Aminobenzene, see   | 1547   | 6.1   |         | AMMONIUM HYDROGENDIFLUORIDE SOLUTION  | 2817         | 8      |                    |
| 2-Aminobenzotrifluoride, see  | 2942   | 6.1   |         |   |              |        |                    |
| 3-Aminobenzotrifluoride, see  | 2948   | 6.1   |         | AMMONIUM HYDROGEN SULPHATE  | 2506         | 8      |                    |
| Aminobutane, see  | 1125   | 3     |         |   |              |        |                    |
| 2-AMINO-4-CHLOROPHENOL  | 2673   | 6.1   |         | Ammonium hydrosulphide solution (treat as ammonium sulphide solution), see  | 2683         | 8      |                    |
| 2-AMINO-5-DIETHYL-AMINOPENTANE  | 2946   | 6.1   |         | AMMONIUM METAVANADATE   | 2859         | 6.1    |                    |
| 2-AMINO-4,6-DINITROPHENOL, WETTED with not less than 20% water, by mass   | 3317   | 4.1   |         | AMMONIUM NITRATE with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance  | 0222         | 1      |                    |
| 2-(2-AMINOETHOXY) ETHANOL   | 3055   | 8     |         |   |              |        |                    |
| N-AMINOETHYLPIPERAZINE  | 2815   | 8     |         | AMMONIUM NITRATE with not more than 0.2% total combustible material, including any organic substance calculated as carbon, to the exclusion of any other added substance  | 1942         | 5.1    |                    |
| 1-Amino-2-nitrobenzene, see   | 1661   | 6.1   |         |   |              |        |                    |
| 1-Amino-3-nitrobenzene, see   | 1661   | 6.1   |         |   |              |        |                    |
| 1-Amino-4-nitrobenzene, see   | 1661   | 6.1   |         |   |              |        |                    |
| AMINOPHENOLS (o-, m-, p-)   | 2512   | 6.1   |         | AMMONIUM NITRATE EMULSION, intermediate for blasting explosives, liquid   | 3375         | 5.1    |                    |
| AMINOPYRIDINES (o-, m-, p-)   | 2671   | 6.1   |         |   |              |        |                    |
| AMMONIA, ANHYDROUS  | 1005   | 2     |         | AMMONIUM NITRATE EMULSION, intermediate for blasting explosives, solid  | 3375         | 5.1    |                    |
| AMMONIA SOLUTION relative density between 0.880 and 0.957 at 15 °C in water, with more than 10% but not more than 35% ammonia | 2672   | 8     |         | Ammonium nitrate explosive, see   | 0082<br>0331 | 1<br>1 |                    |
| AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 35% but not more than 50% ammonia        | 2073   | 2     |         | AMMONIUM NITRATE BASED FERTILIZER   | 2067         | 5.1    |                    |
| AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 50% ammonia                              | 3318   | 2     |         | Ammonium nitrate based fertilizer, uniform mixtures of the nitrogen/phosphate, nitrogen/potash or nitrogen/phosphate/potash type, containing not more than 70% ammonium nitrate and not more than 0.4% total combustible/organic material calculated as carbon or with not more than 45% ammonium nitrate and unrestricted combustible material | 2071         | 9      | Not subject to ADR |
| AMMONIUM ARSENATE   | 1546   | 6.1   |         |   |              |        |                    |
| Ammonium bichromate, see  | 1439   | 5.1   |         | AMMONIUM NITRATE GEL, intermediate for blasting explosives, liquid  | 3375         | 5.1    |                    |
| Ammonium bifluoride solid, see  | 1727   | 8     |         |   |              |        |                    |
| Ammonium bifluoride solution, see   | 2817   | 8     |         | AMMONIUM NITRATE GEL, intermediate for blasting explosives, solid   | 3375         | 5.1    |                    |
| Ammonium bisulphate, see  | 2506   | 8     |         |   |              |        |                    |
| Ammonium bisulphite solution, see   | 2693   | 8     |         | AMMONIUM NITRATE, LIQUID hot concentrated solution, in a concentration of more than 80% but not more than 93%   | 2426         | 5.1    |                    |
| AMMONIUM DICHROMATE   | 1439   | 5.1   |         |   |              |        |                    |
| AMMONIUM DINITRO-o-CRESOLATE, SOLID   | 1843   | 6.1   |         | AMMONIUM NITRATE SUSPENSION, intermediate for blasting explosives, liquid   | 3375         | 5.1    |                    |
| AMMONIUM DINITRO-o-CRESOLATE, SOLUTION  | 3424   | 6.1   |         |   |              |        |                    |
| AMMONIUM FLUORIDE   | 2505   | 6.1   |         | AMMONIUM NITRATE SUSPENSION, intermediate for blasting explosives, solid  | 3375         | 5.1    |                    |
| AMMONIUM FLUORO-SILICATE  | 2854   | 6.1   |         |   |              |        |                    |
| Ammonium hexafluorosilicate, see  | 2854   | 6.1   |         |   |              |        |                    |
| AMMONIUM HYDROGENDIFLUORIDE, SOLID  | 1727   | 8     |         |   |              |        |                    |

| Name and description                   | UN No. | Class | Remarks | Name and description                 | UN No. | Class | Remarks             |
|--|--------|-------|---------|--------------------------------------|--------|-------|---------------------|
| AMMONIUM PERCHLORATE                   | 0402   | 1     |         | AMMUNITION, PROOF                    | 0363   | 1     |                     |
|  | 1442   | 5.1   |         | AMMUNITION, SMOKE with or            | 0015   | 1     |                     |
| Ammonium permanganate, see             | 1482   | 5.1   |         | without burster, expelling charge or | 0016   | 1     |                     |
| AMMONIUM PERSULPHATE                   | 1444   | 5.1   |         | propelling charge                    | 0303   | 1     |                     |
| AMMONIUM PICRATE dry or                | 0004   | 1     |         | Ammunition, smoke (water-activated   | 0248   | 1     |                     |
| wetted with less than 10% water, by    |        |       |         | contrivances), white phosphorus      |        |       |                     |
| mass                                   |        |       |         | with burster, expelling charge or    |        |       |                     |
| AMMONIUM PICRATE, WETTED               | 1310   | 4.1   |         | propelling charge, see               |        |       |                     |
| with not less than 10% water, by       |        |       |         | Ammunition, smoke (water-activated   | 0249   | 1     |                     |
| mass                                   |        |       |         | contrivances), without white         |        |       |                     |
| AMMONIUM POLYSULPHIDE                  | 2818   | 8     |         | phosphorus or phosphides with        |        |       |                     |
| SOLUTION                               |        |       |         | burster, expelling charge or         |        |       |                     |
| AMMONIUM POLYVANADATE                  | 2861   | 6.1   |         | propelling charge, see               |        |       |                     |
| Ammonium silicofluoride, see           | 2854   | 6.1   |         | AMMUNITION, SMOKE, WHITE             | 0245   | 1     |                     |
| AMMONIUM SULPHIDE                      | 2683   | 8     |         | PHOSPHORUS with burster,             | 0246   | 1     |                     |
| SOLUTION                               |        |       |         | expelling charge or propelling       |        |       |                     |
| Ammunition, blank, see                 | 0014   | 1     |         | charge                               |        |       |                     |
|  | 0326   | 1     |         | Ammunition, sporting, see            | 0012   | 1     |                     |
|  | 0327   | 1     |         |                                      | 0328   | 1     |                     |
|  | 0338   | 1     |         |                                      | 0339   | 1     |                     |
|  | 0413   | 1     |         |                                      | 0417   | 1     |                     |
| Ammunition, fixed                      | 0005   | 1     |         | AMMUNITION, TEAR-                    | 2017   | 6.1   |                     |
| Ammunition, semi-fixed                 | 0006   | 1     |         | PRODUCING, NON-EXPLOSIVE             |        |       |                     |
| Ammunition, separate loading,          | 0007   | 1     |         | without burster or expelling charge, |        |       |                     |
| see                                    | 0321   | 1     |         | non-fuzed                            |        |       |                     |
|  | 0348   | 1     |         | AMMUNITION, TEAR-                    | 0018   | 1     |                     |
|  | 0412   | 1     |         | PRODUCING with burster,              | 0019   | 1     |                     |
| AMMUNITION, ILLUMINATING               | 0171   | 1     |         | expelling charge or propelling       | 0301   | 1     |                     |
| with or without burster, expelling     | 0254   | 1     |         | charge                               |        |       |                     |
| charge or propelling charge            | 0297   | 1     |         | AMMUNITION, TOXIC with               | 0020   | 1     | Carriage prohibited |
| AMMUNITION, INCENDIARY,                | 0247   | 1     |         | burster, expelling charge or         |        |       |                     |
| liquid or gel, with burster, expelling |        |       |         | propelling charge                    | 0021   | 1     | Carriage prohibited |
| charge or propelling charge            |        |       |         |                                      |        |       |                     |
| AMMUNITION, INCENDIARY                 | 0009   | 1     |         | AMMUNITION, TOXIC with               | 0021   | 1     | Carriage prohibited |
| with or without burster, expelling     | 0010   | 1     |         | burster, expelling charge or         |        |       |                     |
| charge or propelling charge            | 0300   | 1     |         | propelling charge                    |        |       |                     |
| Ammunition, incendiary (water-         | 0248   | 1     |         | Ammunition, toxic (water-activated   | 0248   | 1     |                     |
| activated contrivances) with burster,  | 0249   | 1     |         | contrivances) with burster,          | 0249   | 1     |                     |
| expelling charge or propelling         |        |       |         | expelling charge or propelling       |        |       |                     |
| charge, see                            |        |       |         | charge, see                          |        |       |                     |
| AMMUNITION, INCENDIARY,                | 0243   | 1     |         | AMMUNITION, TOXIC, NON-              | 2016   | 6.1   |                     |
| WHITE PHOSPHORUS with                  | 0244   | 1     |         | EXPLOSIVE without burster or         |        |       |                     |
| burster, expelling charge or           |        |       |         | expelling charge, non-fuzed          |        |       |                     |
| propelling charge                      |        |       |         | Amosite, see                         | 2212   | 9     |                     |
| Ammunition, industrial, see            | 0275   | 1     |         | AMYL ACETATES                        | 1104   | 3     |                     |
|  | 0276   | 1     |         | AMYL ACID PHOSPHATE                  | 2819   | 8     |                     |
|  | 0277   | 1     |         | Amyl aldehyde, see                   | 2058   | 3     |                     |
|  | 0278   | 1     |         | AMYLAMINE                            | 1106   | 3     |                     |
|  | 0323   | 1     |         | AMYL BUTYRATES                       | 2620   | 3     |                     |
|  | 0381   | 1     |         | AMYL CHLORIDE                        | 1107   | 3     |                     |
| Ammunition, lachrymatory, see          | 0018   | 1     |         | n-AMYLENE, see                       | 1108   | 3     |                     |
|  | 0019   | 1     |         | AMYL FORMATES                        | 1109   | 3     |                     |
|  | 0301   | 1     |         | AMYL MERCAPTAN                       | 1111   | 3     |                     |
|  | 2017   | 1     |         | n-AMYL METHYL KETONE                 | 1110   | 3     |                     |
| AMMUNITION, PRACTICE                   | 0362   | 1     |         |                                      |        |       |                     |
|  | 0488   | 1     |         |                                      |        |       |                     |

| Name and description   | UN No. | Class | Remarks | Name and description  | UN No. | Class | Remarks |
|--|--------|-------|---------|---|--------|-------|---------|
| AMYL NITRATE   | 1112   | 3     |         | ARSENICAL PESTICIDE, LIQUID, TOXIC  | 2994   | 6.1   |         |
| AMYL NITRITE   | 1113   | 3     |         | ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C  | 2993   | 6.1   |         |
| AMYLTRICHLOROSILANE  | 1728   | 8     |         | ARSENICAL PESTICIDE, SOLID, TOXIC   | 2759   | 6.1   |         |
| Anaesthetic ether, see   | 1155   | 3     |         | ARSENIC BROMIDE   | 1555   | 6.1   |         |
| ANILINE  | 1547   | 6.1   |         | Arsenic (III) bromide, see  | 1555   | 6.1   |         |
| Aniline chloride, see  | 1548   | 6.1   |         | Arsenic chloride, see   | 1560   | 6.1   |         |
| ANILINE HYDROCHLORIDE  | 1548   | 6.1   |         | ARSENIC COMPOUND, LIQUID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s. | 1556   | 6.1   |         |
| Aniline oil, see   | 1547   | 6.1   |         | ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.  | 1557   | 6.1   |         |
| Aniline salt, see  | 1548   | 6.1   |         | Arsenic (III) oxide, see  | 1561   | 6.1   |         |
| ANISIDINES   | 2431   | 6.1   |         | Arsenic (V) oxide, see  | 1559   | 6.1   |         |
| ANISOLE  | 2222   | 3     |         | ARSENIC PENTOXIDE   | 1559   | 6.1   |         |
| ANISOYL CHLORIDE   | 1729   | 8     |         | Arsenic sulphides, see  | 1556   | 6.1   |         |
| Anthophyllite, see   | 2590   | 9     |         |   | 1557   | 6.1   |         |
| Antimonous chloride, see   | 1733   | 8     |         | ARSENIC TRICHLORIDE   | 1560   | 6.1   |         |
| ANTIMONY COMPOUND, INORGANIC, LIQUID, N.O.S.                               | 3141   | 6.1   |         | ARSENIC TRIOXIDE  | 1561   | 6.1   |         |
| ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.                                | 1549   | 6.1   |         | Arsenious chloride, see   | 1560   | 6.1   |         |
| Antimony hydride, see  | 2676   | 2     |         | Arsenites, n.o.s., see  | 1556   | 6.1   |         |
| ANTIMONY LACTATE   | 1550   | 6.1   |         |   | 1557   | 6.1   |         |
| Antimony (III) lactate, see  | 1550   | 6.1   |         | Arsenous chloride, see  | 1560   | 6.1   |         |
| ANTIMONY PENTACHLORIDE, LIQUID   | 1730   | 8     |         | ARSINE  | 2188   | 2     |         |
| ANTIMONY PENTACHLORIDE SOLUTION  | 1731   | 8     |         | ARTICLES, EEI, see  | 0486   | 1     |         |
| ANTIMONY PENTAFLUORIDE   | 1732   | 8     |         | ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE  | 0486   | 1     |         |
| Antimony perchloride, liquid, see  | 1730   | 8     |         | ARTICLES, EXPLOSIVE, N.O.S.   | 0349   | 1     |         |
| ANTIMONY POTASSIUM TARTRATE  | 1551   | 6.1   |         |   | 0350   | 1     |         |
| ANTIMONY POWDER  | 2871   | 6.1   |         |   | 0351   | 1     |         |
| ANTIMONY TRICHLORIDE   | 1733   | 8     |         |   | 0352   | 1     |         |
| A.n.t.u., see  | 1651   | 6.1   |         |   | 0353   | 1     |         |
| ARGON, COMPRESSED  | 1006   | 2     |         |   | 0354   | 1     |         |
| ARGON, REFRIGERATED LIQUID   | 1951   | 2     |         |   | 0355   | 1     |         |
| Arsenates, n.o.s., see   | 1556   | 6.1   |         |   | 0356   | 1     |         |
|  | 1557   | 6.1   |         |   | 0462   | 1     |         |
| ARSENIC  | 1558   | 6.1   |         |   | 0463   | 1     |         |
| ARSENIC ACID, LIQUID   | 1553   | 6.1   |         |   | 0464   | 1     |         |
| ARSENIC ACID, SOLID  | 1554   | 6.1   |         |   | 0465   | 1     |         |
| ARSENICAL DUST   | 1562   | 6.1   |         |   | 0466   | 1     |         |
| Arsenical flue dust, see   | 1562   | 6.1   |         |   | 0467   | 1     |         |
| ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C | 2760   | 3     |         |   | 0468   | 1     |         |
|  |        |       |         |   | 0469   | 1     |         |
|  |        |       |         |   | 0470   | 1     |         |
|  |        |       |         |   | 0471   | 1     |         |
|  |        |       |         |   | 0472   | 1     |         |

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|---|--------|-------|--------------------|--|--------|-------|--------------------|
| ARTICLES, PRESSURIZED, HYDRAULIC (containing non-flammable gas)           | 3164   | 2     |                    | BARIUM AZIDE, WETTED with not less than 50% water, by mass             | 1571   | 4.1   |                    |
| ARTICLES, PRESSURIZED, PNEUMATIC (containing non-flammable gas)           | 3164   | 2     |                    | Barium binoxide, see   | 1449   | 5.1   |                    |
| ARTICLES, PYROPHORIC  | 0380   | 1     |                    | BARIUM BROMATE   | 2719   | 5.1   |                    |
| ARTICLES, PYROTECHNIC for technical purposes                              | 0428   | 1     |                    | BARIUM CHLORATE, SOLID   | 1445   | 5.1   |                    |
|   | 0429   | 1     |                    | BARIUM CHLORATE, SOLUTION  | 3405   | 5.1   |                    |
|   | 0430   | 1     |                    | BARIUM COMPOUND, N.O.S.  | 1564   | 6.1   |                    |
|   | 0431   | 1     |                    | BARIUM CYANIDE   | 1565   | 6.1   |                    |
|   | 0432   | 1     |                    | Barium dioxide, see  | 1449   | 5.1   |                    |
| ARYLSULPHONIC ACIDS, LIQUID with more than 5% free sulphuric acid         | 2584   | 8     |                    | BARIUM HYPOCHLORITE with more than 22% available chlorine              | 2741   | 5.1   |                    |
| ARYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid     | 2586   | 8     |                    | BARIUM NITRATE   | 1446   | 5.1   |                    |
| ARYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid          | 2583   | 8     |                    | BARIUM OXIDE   | 1884   | 6.1   |                    |
| ARYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid      | 2585   | 8     |                    | BARIUM PERCHLORATE, SOLID  | 1447   | 5.1   |                    |
| Asbestos, blue or brown, see  | 2212   | 9     |                    | BARIUM PERCHLORATE, SOLUTION   | 3406   | 5.1   |                    |
| Asbestos, white, see  | 2590   | 9     |                    | BARIUM PERMANGANATE  | 1448   | 5.1   |                    |
| Asphalt, with a flash-point not greater than 60 °C, see                   | 1999   | 3     |                    | BARIUM PEROXIDE  | 1449   | 5.1   |                    |
| Asphalt, with a flash-point above 60 °C, at or above its flash-point, see | 3256   | 3     |                    | Barium selenate, see   | 2630   | 6.1   |                    |
| Asphalt, at or above 100 °C and below its flash-point, see                | 3257   | 9     |                    | Barium selenite, see   | 2630   | 6.1   |                    |
| Aviation regulated liquid, n.o.s.   | 3334   | 9     | Not subject to ADR | Barium superoxide, see   | 1449   | 5.1   |                    |
| Aviation regulated solid, n.o.s.  | 3335   | 9     | Not subject to ADR | BATTERIES, CONTAINING SODIUM   | 3292   | 4.3   |                    |
| AZODICARBONAMIDE  | 3242   | 4.1   |                    | BATTERIES, DRY, CONTAINING POTASSIUM HYDROXIDE SOLID, electric storage | 3028   | 8     |                    |
| Bag charges, see  | 0242   | 1     |                    | BATTERIES, WET, FILLED WITH ACID, electric storage                     | 2794   | 8     |                    |
|   | 0279   | 1     |                    | BATTERIES, WET, FILLED WITH ALKALI, electric storage                   | 2795   | 8     |                    |
|   | 0414   | 1     |                    | BATTERIES, WET, NON-SPILLABLE, electric storage                        | 2800   | 8     |                    |
| Ballistite, see   | 0160   | 1     |                    | BATTERY FLUID, ACID  | 2796   | 8     |                    |
|   | 0161   | 1     |                    | BATTERY FLUID, ALKALI  | 2797   | 8     |                    |
| Bangalore torpedoes, see  | 0136   | 1     |                    | Battery-powered vehicle or Battery-powered equipment                   | 3171   | 9     | Not subject to ADR |
|   | 0137   | 1     |                    | BENZALDEHYDE   | 1990   | 9     |                    |
|   | 0138   | 1     |                    | BENZENE  | 1114   | 3     |                    |
|   | 0294   | 1     |                    | BENZENESULPHONYL CHLORIDE  | 2225   | 8     |                    |
| BARIUM  | 1400   | 4.3   |                    | Benzenethiol, see  | 2337   | 6.1   |                    |
| BARIUM ALLOYS, PYROPHORIC   | 1854   | 4.2   |                    | BENZIDINE  | 1885   | 6.1   |                    |
| BARIUM AZIDE, dry or wetted with less than 50% water, by mass             | 0224   | 1     |                    | Benzol, see  | 1114   | 3     |                    |
|   |        |       |                    | Benzolene, see   | 1268   | 3     |                    |
|   |        |       |                    | BENZONITRILE   | 2224   | 6.1   |                    |
|   |        |       |                    | BENZOQUINONE   | 2587   | 6.1   |                    |
|   |        |       |                    | Benzosulphochloride, see   | 2225   | 8     |                    |



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|---|--------|-------|--------------------|--|--------|-------|---------|
| BENZOTRICHLORIDE  | 2226   | 8     |                    | Blasting cap assemblies, see   | 0360   | 1     |         |
| BENZOTRIFLUORIDE  | 2338   | 3     |                    |  | 0361   | 1     |         |
| BENZOYL CHLORIDE  | 1736   | 8     |                    | Blasting caps, electric, see   | 0030   | 1     |         |
| BENZYL BROMIDE  | 1737   | 6.1   |                    |  | 0255   | 1     |         |
| BENZYL CHLORIDE   | 1738   | 6.1   |                    |  | 0456   | 1     |         |
| Benzyl chlorocarbonate, see   | 1739   | 8     |                    | Blasting caps, non electric, see   | 0029   | 1     |         |
| BENZYL CHLOROFORMATE  | 1739   | 8     |                    |  | 0267   | 1     |         |
| Benzyl cyanide, see   | 2470   | 6.1   |                    |  | 0455   | 1     |         |
| BENZYLDIMETHYLAMINE   | 2619   | 8     |                    | Bleaching powder, see  | 2208   | 5.1   |         |
| BENZYLIDENE CHLORIDE  | 1886   | 6.1   |                    | BLUE ASBESTOS (crocidolite)  | 2212   | 9     |         |
| BENZYL IODIDE   | 2653   | 6.1   |                    | BOMBS with bursting charge   | 0033   | 1     |         |
| BERYLLIUM COMPOUND, N.O.S.  | 1566   | 6.1   |                    |  | 0034   | 1     |         |
| BERYLLIUM NITRATE   | 2464   | 5.1   |                    |  | 0035   | 1     |         |
| BERYLLIUM POWDER  | 1567   | 6.1   |                    |  | 0291   | 1     |         |
| Bhusa   | 1327   | 4.1   | Not subject to ADR | Bombs, illuminating, see   | 0254   | 1     |         |
|   |        |       |                    | BOMBS, PHOTO-FLASH   | 0037   | 1     |         |
| BICYCLO[2.2.1]HEPTA-2,5-DIENE, STABILIZED   | 2251   | 3     |                    |  | 0038   | 1     |         |
| Bifluorides, n.o.s., see  | 1740   | 8     |                    |  | 0039   | 1     |         |
| BIOLOGICAL SUBSTANCE, CATEGORY B  | 3373   | 6.2   |                    |  | 0299   | 1     |         |
| (BIO) MEDICAL WASTE, N.O.S.   | 3291   | 6.2   |                    | BOMBS, SMOKE, NON-EXPLOSIVE with corrosive liquid, without initiating device | 2028   | 8     |         |
| BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C     | 2782   | 3     |                    | Bombs, target identification, see  | 0171   | 1     |         |
| BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC   | 3016   | 6.1   |                    |  | 0254   | 1     |         |
| BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 3015   | 6.1   |                    |  | 0297   | 1     |         |
| BIPYRIDILIUM PESTICIDE, SOLID, TOXIC  | 2781   | 6.1   |                    | BOMBS WITH FLAMMABLE LIQUID with bursting charge                             | 0399   | 1     |         |
| BISULPHATES, AQUEOUS SOLUTION   | 2837   | 8     |                    |  | 0400   | 1     |         |
| BISULPHITES, AQUEOUS SOLUTION, N.O.S.   | 2693   | 8     |                    | BOOSTERS WITH DETONATOR  | 0225   | 1     |         |
| Bitumen, with a flash-point not greater than 60 °C, see                           | 1999   | 3     |                    |  | 0268   | 1     |         |
| Bitumen, with a flash-point above 60 °C, at or above its flash-point, see         | 3256   | 3     |                    | BOOSTERS without detonator   | 0042   | 1     |         |
| Bitumen, at or above 100 °C and below its flash-point, see                        | 3257   | 9     |                    |  | 0283   | 1     |         |
| BLACK POWDER, COMPRESSED  | 0028   | 1     |                    | Borate and chlorate mixture, see   | 1458   | 5.1   |         |
| BLACK POWDER, granular or as a meal   | 0027   | 1     |                    | BORNEOL  | 1312   | 4.1   |         |
| BLACK POWDER, IN PELLETS  | 0028   | 1     |                    | BORON TRIBROMIDE   | 2692   | 8     |         |
|   |        |       |                    | BORON TRICHLORIDE  | 1741   | 2     |         |
|   |        |       |                    | BORON TRIFLUORIDE ACETIC ACID COMPLEX, LIQUID                                | 1742   | 8     |         |
|   |        |       |                    | BORON TRIFLUORIDE ACETIC ACID COMPLEX, SOLID                                 | 3419   | 8     |         |
|   |        |       |                    | BORON TRIFLUORIDE  | 1008   | 2     |         |
|   |        |       |                    | BORON TRIFLUORIDE DIETHYL ETHERATE   | 2604   | 8     |         |
|   |        |       |                    | BORON TRIFLUORIDE DIHYDRATE  | 2851   | 8     |         |
|   |        |       |                    | BORON TRIFLUORIDE DIMETHYL ETHERATE  | 2965   | 4.3   |         |
|   |        |       |                    | BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, LIQUID                             | 1743   | 8     |         |
|   |        |       |                    | BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, SOLID                              | 3420   | 8     |         |

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|---|--------|-------|---------|---|--------|-------|---------------------|
| BROMATES, INORGANIC, N.O.S.   | 1450   | 5.1   |         | BUTADIENES, STABILIZED, (1,2-butadiene)                               | 1010   | 2     |                     |
| BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S  | 3213   | 5.1   |         | BUTADIENES, STABILIZED, (1,3-butadiene)                               | 1010   | 2     |                     |
| BROMINE   | 1744   | 8     |         | BUTANE  | 1011   | 2     |                     |
| BROMINE CHLORIDE  | 2901   | 2     |         | BUTANEDIONE   | 2346   | 3     |                     |
| BROMINE PENTAFLUORIDE   | 1745   | 5.1   |         | Butane-1-thiol, see   | 2347   | 3     |                     |
| BROMINE SOLUTION  | 1744   | 8     |         | BUTANOLS  | 1120   | 3     |                     |
| BROMINE TRIFLUORIDE   | 1746   | 5.1   |         | 1-Butanol, see  | 1120   | 3     |                     |
| BROMOACETIC ACID, SOLID   | 3425   | 8     |         | Butan-2-ol, see   | 1120   | 3     |                     |
| BROMOACETIC ACID, SOLUTION  | 1938   | 8     |         | Butanol, secondary, see   | 1120   | 3     |                     |
| BROMOACETONE  | 1569   | 6.1   |         | Butanol, tertiary, see  | 1120   | 3     |                     |
| omega-Bromoacetone, see   | 2645   | 6.4   |         | Butanone, see   | 1193   | 3     |                     |
| BROMOACETYL BROMIDE   | 2513   | 8     |         | 2-Butenal, see  | 1143   | 6.1   |                     |
| BROMOBENZENE  | 2514   | 3     |         | Butene, see   | 1012   | 2     |                     |
| BROMOBENZYL CYANIDES, LIQUID  | 1694   | 6.1   |         | Bute-1-ene-3-one, see   | 1251   | 3     |                     |
| BROMOBENZYL CYANIDES, SOLID   | 3449   | 6.1   |         | 1,2-Buteneoxide, see  | 3022   | 3     |                     |
| 1-BROMOBUTANE   | 1126   | 3     |         | 2-Buten-1-ol, see   | 2614   | 3     |                     |
| 2-BROMOBUTANE   | 2339   | 3     |         | BUTYL ACETATES  | 1123   | 3     |                     |
| BROMOCHLOROMETHANE  | 1887   | 6.1   |         | Butyl acetate, secondary, see   | 1123   | 3     |                     |
| 1-BROMO-3-CHLORO-PROPANE  | 2688   | 6.1   |         | BUTYL ACID PHOSPHATE  | 1718   | 8     |                     |
| 1-Bromo-2,3-epoxypropane, see   | 2558   | 6.1   |         | BUTYL ACRYLATES, STABILIZED   | 2348   | 3     |                     |
| Bromoethane, see  | 1891   | 6.1   |         | Butyl alcohols, see   | 1120   | 3     |                     |
| 2-BROMOETHYL ETHYL ETHER  | 2340   | 3     |         | n-BUTYLAMINE  | 1125   | 3     |                     |
| BROMOFORM   | 2515   | 6.1   |         | N-BUTYLANILINE  | 2738   | 6.1   |                     |
| Bromomethane, see   | 1062   | 2     |         | sec-Butyl benzene, see  | 2709   | 3     |                     |
| 1-BROMO-3-METHYL-BUTANE   | 2341   | 3     |         | BUTYLBENZENES   | 2709   | 3     |                     |
| BROMOMETHYLPROPANES   | 2342   | 3     |         | n-Butyl bromide, see  | 1126   | 3     |                     |
| 2-BROMO-2-NITROPROPANE-1,3-DIOL   | 3241   | 4.1   |         | n-Butyl chloride, see   | 1127   | 3     |                     |
| 2-BROMOPENTANE  | 2343   | 3     |         | n-BUTYL CHLOROFORMATE   | 2743   | 6.1   |                     |
| BROMOPROPANES   | 2344   | 3     |         | tert-BUTYLCYCLOHEXYL CHLOROFORMATE                                    | 2747   | 6.1   |                     |
| 3-BROMOPROPYNE  | 2345   | 3     |         | BUTYLENES MIXTURE or 1-BUTYLENE or CIS-2-BUTYLENE or TRANS-2-BUTYLENE | 1012   | 2     |                     |
| BROMOTRIFLUORO-ETHYLENE   | 2419   | 2     |         | 1,2-BUTYLENE OXIDE, STABILIZED  | 3022   | 3     |                     |
| BROMOTRIFLUORO-METHANE  | 1009   | 2     |         | Butyl ethers, see   | 1149   | 3     |                     |
| BROWN ASBESTOS (amosite, mysorite)  | 2212   | 9     |         | Butyl ethyl ether, see  | 1179   | 3     |                     |
| BRUCINE   | 1570   | 6.1   |         | n-BUTYL FORMATE   | 1128   | 3     |                     |
| BURSTERS, explosive   | 0043   | 1     |         | tert-BUTYL HYPOCHLORITE   | 3255   | 4.2   | Carriage prohibited |
| BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, having a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l | 1010   | 2     |         | N,n-BUTYLIMIDAZOLE  | 2690   | 6.1   |                     |
|   |        |       |         | N,n-Butyliminazole, see   | 2690   | 6.1   |                     |
|   |        |       |         | n-BUTYL ISOCYANATE  | 2485   | 6.1   |                     |

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|--|--------|-------|---------|---|--------|-------|--------------------|
| tert-BUTYL ISOCYANATE                                | 2484   | 6.1   |         | Calcium bisulphite solution, see  | 2693   | 8     |                    |
| Butyl lithium, see                                   | 3394   | 4.2   |         | CALCIUM CARBIDE   | 1402   | 4.3   |                    |
| BUTYL MERCAPTAN                                      | 2347   | 3     |         | CALCIUM CHLORATE  | 1452   | 5.1   |                    |
| n-BUTYL METHACRYLATE, STABILIZED                     | 2227   | 3     |         | CALCIUM CHLORATE, AQUEOUS SOLUTION  | 2429   | 5.1   |                    |
| BUTYL METHYL ETHER                                   | 2350   | 3     |         | CALCIUM CHLORITE  | 1453   | 5.1   |                    |
| BUTYL NITRITES                                       | 2351   | 3     |         | CALCIUM CYANAMIDE with more than 0.1% calcium carbide   | 1403   | 4.3   |                    |
| Butylphenols, liquid, see                            | 3145   | 8     |         | CALCIUM CYANIDE   | 1575   | 6.1   |                    |
| Butylphenols, solid, see                             | 2430   | 8     |         | CALCIUM DITHIONITE  | 1923   | 4.2   |                    |
| BUTYL PROPIONATES                                    | 1914   | 3     |         | CALCIUM HYDRIDE   | 1404   | 4.3   |                    |
| p-tert-Butyltoluene, see                             | 2667   | 6.1   |         | CALCIUM HYDROSULPHITE, see  | 1923   | 4.2   |                    |
| BUTYLTOLUENES  | 2667   | 6.1   |         | CALCIUM HYPOCHLORITE, DRY with more than 39% available chlorine (8.8% available oxygen)         | 1748   | 5.1   |                    |
| BUTYLTRICHLOROSILANE                                 | 1747   | 8     |         | CALCIUM HYPOCHLORITE, HYDRATED with not less than 5.5% but not more than 16% water              | 2880   | 5.1   |                    |
| 5-tert-BUTYL-2,4,6-TRINITRO-m-XYLENE                 | 2956   | 4.1   |         | CALCIUM HYPOCHLORITE, HYDRATED MIXTURE with not less than 5.5% but not more than 16% water      | 2880   | 5.1   |                    |
| BUTYL VINYL ETHER, STABILIZED                        | 2352   | 3     |         | CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 10% but not more than 39% available chlorine   | 2208   | 5.1   |                    |
| But-1-yne, see                                       | 2452   | 2     |         | CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 39% available chlorine (8.8% available oxygen) | 1748   | 5.1   |                    |
| 1,4-BUTYNEDIOL                                       | 2716   | 6.1   |         | CALCIUM MANGANESE SILICON   | 2844   | 4.3   |                    |
| 2-Butyne-1,4-diol, see                               | 2716   | 6.1   |         | CALCIUM NITRATE   | 1454   | 5.1   |                    |
| BUTYRALDEHYDE  | 1129   | 3     |         | Calcium oxide   | 1910   | 8     | Not subject to ADR |
| BUTYRALDOXIME  | 2840   | 3     |         | CALCIUM PERCHLORATE   | 1455   | 5.1   |                    |
| BUTYRIC ACID   | 2820   | 8     |         | CALCIUM PERMANGANATE  | 1456   | 5.1   |                    |
| BUTYRIC ANHYDRIDE                                    | 2739   | 8     |         | CALCIUM PEROXIDE  | 1457   | 5.1   |                    |
| Butyrene, see  | 2710   | 3     |         | CALCIUM PHOSPHIDE   | 1360   | 4.3   |                    |
| BUTYRONITRILE  | 2411   | 3     |         | CALCIUM, PYROPHORIC   | 1855   | 4.2   |                    |
| Butyryl chloride, see                                | 2353   | 3     |         | CALCIUM RESINATE  | 1313   | 4.1   |                    |
| BUTYRYL CHLORIDE                                     | 2353   | 3     |         | CALCIUM RESINATE, FUSED   | 1314   | 4.1   |                    |
| Cable cutters, explosive, see                        | 0070   | 1     |         | Calcium selenate, see   | 2630   | 6.1   |                    |
| CACODYLIC ACID                                       | 1572   | 6.1   |         | CALCIUM SILICIDE  | 1405   | 4.3   |                    |
| CADMIUM COMPOUND                                     | 2570   | 6.1   |         | Calcium silicon, see  | 1405   | 4.3   |                    |
| CAESIUM  | 1407   | 4.3   |         | Calcium superoxide, see   | 1457   | 5.1   |                    |
| CAESIUM HYDROXIDE                                    | 2682   | 8     |         | Camphanone, see   | 2717   | 4.1   |                    |
| CAESIUM HYDROXIDE SOLUTION                           | 2681   | 8     |         | CAMPOR OIL  | 1130   | 3     |                    |
| CAESIUM NITRATE                                      | 1451   | 5.1   |         |   |        |       |                    |
| Caffeine, see  | 1544   | 6.1   |         |   |        |       |                    |
| Cajeputene, see                                      | 2052   | 3     |         |   |        |       |                    |
| CALCIUM  | 1401   | 4.3   |         |   |        |       |                    |
| CALCIUM ALLOYS, PYROPHORIC                           | 1855   | 4.2   |         |   |        |       |                    |
| CALCIUM ARSENATE                                     | 1573   | 6.1   |         |   |        |       |                    |
| CALCIUM ARSENATE AND CALCIUM ARSENITE MIXTURE, SOLID | 1574   | 6.1   |         |   |        |       |                    |

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|--|------------------------------|-------------------|--------------------|--|--|----------------------------|---------|
| CAMPHOR, synthetic   | 2717                         | 4.1               |                    | CARTRIDGES FOR WEAPONS with bursting charge                        | 0005<br>0006<br>0007<br>0321<br>0348<br>0412 | 1<br>1<br>1<br>1<br>1<br>1 |         |
| CAPROIC ACID   | 2829                         | 8                 |                    |  |  |                            |         |
| CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C     | 2758                         | 3                 |                    |  |  |                            |         |
| CARBAMATE PESTICIDE, LIQUID, TOXIC   | 2992                         | 6.1               |                    | CARTRIDGES FOR WEAPONS, BLANK                                      | 0014<br>0326<br>0327<br>0338<br>0413         | 1<br>1<br>1<br>1<br>1      |         |
| CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 2991                         | 6.1               |                    |  |  |                            |         |
| CARBAMATE PESTICIDE, SOLID, TOXIC  | 2757                         | 6.1               |                    | CARTRIDGES FOR WEAPONS, INERT PROJECTILE                           | 0012<br>0328<br>0339<br>0417                 | 1<br>1<br>1<br>1           |         |
| Carbolic acid, see   | 1671<br>2312<br>2821         | 6.1<br>6.1<br>6.1 |                    | Cartridges, illuminating, see                                      | 0171<br>0254<br>0297                         | 1<br>1<br>1                |         |
| CARBON, animal or vegetable origin   | 1361                         | 4.2               |                    |  |  |                            |         |
| CARBON, ACTIVATED  | 1362                         | 4.2               |                    | CARTRIDGES, OIL WELL   | 0277<br>0278                                 | 1<br>1                     |         |
| Carbon bisulphide, see   | 1131                         | 3                 |                    |  |  |                            |         |
| Carbon black (animal or vegetable origin), see                                 | 1361                         | 4.2               |                    | CARTRIDGES, POWER DEVICE   | 0275<br>0276<br>0323<br>0381                 | 1<br>1<br>1<br>1           |         |
| CARBON DIOXIDE   | 1013                         | 2                 |                    |  |  |                            |         |
| Carbon dioxide and ethylene oxide mixture, see                                 | 1041<br>1952<br>3300         | 2<br>2<br>2       |                    | CARTRIDGES, SIGNAL   | 0054<br>0312<br>0405                         | 1<br>1<br>1                |         |
| CARBON DIOXIDE, REFRIGERATED LIQUID  | 2187                         | 2                 |                    |  |  |                            |         |
| Carbon dioxide, solid  | 1845                         | 9                 | Not subject to ADR | CARTRIDGES, SMALL ARMS, BLANK                                      | 0012<br>0339<br>0417<br>0014<br>0327<br>0338 | 1<br>1<br>1<br>1<br>1<br>1 |         |
| CARBON DISULPHIDE  | 1131                         | 3                 |                    |  |  |                            |         |
| Carbonic anhydride, see  | 1013<br>1845<br>2187         | 2<br>9<br>2       |                    | Cartridges, starter, jet engine, see                               | 0275<br>0276<br>0323<br>0381                 | 1<br>1<br>1<br>1           |         |
| CARBON MONOXIDE, COMPRESSED  | 1016                         | 2                 |                    |  |  |                            |         |
| Carbon oxysulphide, see  | 2204                         | 2.3               |                    | CASES, CARTRIDGE, EMPTY, WITH PRIMER                               | 0055<br>0379                                 | 1<br>1                     |         |
| CARBON TETRABROMIDE  | 2516                         | 6.1               |                    | CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER                          | 0446<br>0447                                 | 1<br>1                     |         |
| CARBON TETRACHLORIDE   | 1846                         | 6.1               |                    | Casinghead gasoline, see   | 1203   | 3                          |         |
| Carbonyl chloride, see   | 1076                         | 2                 |                    | CASTOR BEANS   | 2969   | 9                          |         |
| CARBONYL FLUORIDE  | 2417                         | 2                 |                    | CASTOR FLAKE   | 2969   | 9                          |         |
| CARBONYL SULPHIDE  | 2204                         | 2                 |                    | CASTOR MEAL  | 2969   | 9                          |         |
| Cartridge cases, empty, primed, see  | 0055<br>0379                 | 1<br>1            |                    | CASTOR POMACE  | 2969   | 9                          |         |
| Cartridges, actuating, for fire extinguisher or apparatus valve, see           | 0275<br>0276<br>0323<br>0381 | 1<br>1<br>1<br>1  |                    | CAUSTIC ALKALI LIQUID, N.O.S.                                      | 1719   | 8                          |         |
|  |                              |                   |                    | Caustic potash, see  | 1814   | 8                          |         |
|  |                              |                   |                    | Caustic soda, see  | 1824   | 8                          |         |
| Cartridges, explosive, see   | 0048                         | 1                 |                    | Caustic soda liquor, see   | 1824   | 8                          |         |
| CARTRIDGES, FLASH  | 0049<br>0050                 | 1<br>1            |                    | CELLS, CONTAINING SODIUM   | 3292   | 4.3                        |         |
|  |                              |                   |                    | CELLULOID in block, rods, rolls, sheets, tubes, etc., except scrap | 2000   | 4.1                        |         |

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|--|------------------------------|------------------|---------|--|--------|-------|---------|
| CELLULOID, SCRAP   | 2002                         | 4.2              |         | CHLORIC ACID, AQUEOUS SOLUTION with not more than 10% chloric acid   | 2626   | 5.1   |         |
| Cement, see  | 1133                         | 3                |         | CHLORINE   | 1017   | 2     |         |
| CERIUM, slabs, ingots or rods                              | 1333                         | 4.1              |         | CHLORINE PENTAFLUORIDE   | 2548   | 2     |         |
| CERIUM, turnings or gritty powder                          | 3078                         | 4.3              |         | CHLORINE TRIFLUORIDE   | 1749   | 2     |         |
| Cer mishmetall, see  | 1323                         | 4.1              |         | CHLORITES, INORGANIC, N.O.S.   | 1462   | 5.1   |         |
| Charcoal, activated, see                                   | 1362                         | 4.1              |         | CHLORITE SOLUTION  | 1908   | 8     |         |
| Charcoal, non-activated, see                               | 1361                         | 4.2              |         | Chloroacetaldehyde, see  | 2232   | 6.1   |         |
| CHARGES, BURSTING, PLASTICS BONDED                         | 0457<br>0458<br>0459<br>0460 | 1<br>1<br>1<br>1 |         | CHLOROACETIC ACID, MOLTEN  | 3250   | 6.1   |         |
| CHARGES, DEMOLITION  | 0048                         | 1                |         | CHLOROACETIC ACID, SOLID   | 1751   | 6.1   |         |
| CHARGES, DEPTH   | 0056                         | 1                |         | CHLOROACETIC ACID SOLUTION   | 1750   | 6.1   |         |
| Charges, expelling, explosive, for fire extinguishers, see | 0275<br>0276<br>0323<br>0381 | 1<br>1<br>1<br>1 |         | CHLOROACETONE, STABILIZED  | 1695   | 6.1   |         |
| CHARGES, EXPLOSIVE, COMMERCIAL without detonator           | 0442<br>0443<br>0444<br>0445 | 1<br>1<br>1<br>1 |         | CHLOROACETONITRILE   | 2668   | 6.1   |         |
| CHARGES, PROPELLING  | 0271<br>0272<br>0415<br>0491 | 1<br>1<br>1<br>1 |         | CHLOROACETOPHENONE, LIQUID   | 3416   | 6.1   |         |
| CHARGES, PROPELLING, FOR CANNON                            | 0242<br>0279<br>0414         | 1<br>1<br>1      |         | CHLOROACETOPHENONE, SOLID  | 1697   | 6.1   |         |
| CHARGES, SHAPED, FLEXIBLE, LINEAR                          | 0237<br>0288                 | 1<br>1           |         | CHLOROACETYL CHLORIDE  | 1752   | 6.1   |         |
| CHARGES, SHAPED, without detonator                         | 0059<br>0439<br>0440<br>0441 | 1<br>1<br>1<br>1 |         | CHLOROANILINES, LIQUID   | 2019   | 6.1   |         |
| CHARGES, SUPPLEMENTARY, EXPLOSIVE                          | 0060                         | 1                |         | CHLOROANILINES, SOLID  | 2018   | 6.1   |         |
| CHEMICAL KIT   | 3316                         | 9                |         | CHLOROANISIDINES   | 2233   | 6.1   |         |
| CHEMICAL SAMPLE, TOXIC                                     | 3315                         | 6.1              |         | CHLOROBENZENE  | 1134   | 3     |         |
| Chile saltpetre, see                                       | 1498                         | 5.1              |         | CHLOROBENZO-TRIFLUORIDES   | 2234   | 3     |         |
| CHLORAL, ANHYDROUS, STABILIZED                             | 2075                         | 6.1              |         | CHLOROBENZYL CHLORIDES, LIQUID   | 2235   | 6.1   |         |
| CHLORATE AND BORATE MIXTURE                                | 1458                         | 5.1              |         | CHLOROBENZYL CHLORIDES, SOLID  | 3427   | 6.1   |         |
| CHLORATE AND MAGNESIUM CHLORIDE MIXTURE, SOLID             | 1459                         | 5.1              |         | 1-Chloro-3-bromopropane, see   | 2688   | 6.1   |         |
| CHLORATE AND MAGNESIUM CHLORIDE MIXTURE, SOLUTION          | 3407                         | 5.1              |         | 1-Chlorobutane, see  | 1127   | 3     |         |
| CHLORATES, INORGANIC, N.O.S.                               | 1461                         | 5.1              |         | 2-Chlorobutane, see  | 1127   | 3     |         |
| CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.             | 3210                         | 5.1              |         | CHLOROBUTANES  | 1127   | 3     |         |
|  |                              |                  |         | CHLOROCRESOLS, SOLUTION  | 2669   | 6.1   |         |
|  |                              |                  |         | CHLOROCRESOLS, SOLID   | 3437   | 6.1   |         |
|  |                              |                  |         | CHLORODIFLUORO-BROMOMETHANE  | 1974   | 2     |         |
|  |                              |                  |         | 1-CHLORO-1,1-DIFLUORO-ETHANE   | 2517   | 2     |         |
|  |                              |                  |         | CHLORODIFLUORO-METHANE   | 1018   | 2     |         |
|  |                              |                  |         | CHLORODIFLUORO-METHANE AND CHLORO-PENTAFLUOROETHANE MIXTURE with fixed boiling point, with approximately 49% chlorodifluoromethane | 1973   | 2     |         |
|  |                              |                  |         | 3-Chloro-1,2-dihydroxypropane, see   | 2689   | 6.1   |         |
|  |                              |                  |         | Chlorodimethyl ether, see  | 1239   | 6.1   |         |

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| CHLORODINITRO-BENZENES, LIQUID                      | 1577   | 6.1   |         | CHLOROPICRIN AND METHYL BROMIDE MIXTURE, with more than 2% chloropicrin | 1581   | 2     |         |
| CHLORODINITRO-BENZENES, SOLID                       | 3441   | 6.1   |         | CHLOROPICRIN AND METHYL CHLORIDE MIXTURE                                | 1582   | 2     |         |
| 2-CHLOROETHANAL                                     | 2232   | 6.1   |         | CHLOROPICRIN MIXTURE, N.O.S.  | 1583   | 6.1   |         |
| Chloroethane, see                                   | 1037   | 2     |         | CHLOROPLATINIC ACID, SOLID  | 2507   | 8     |         |
| Chloroethane nitrile, see                           | 2668   | 6.1   |         | CHLOROPRENE, STABILIZED   | 1991   | 3     |         |
| 2-Chloroethanol, see                                | 1135   | 6.1   |         | 1-CHLOROPROPANE   | 1278   | 3     |         |
| CHLOROFORM  | 1888   | 6.1   |         | 2-CHLOROPROPANE   | 2356   | 3     |         |
| CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.            | 3277   | 6.1   |         | 3-Chloro-propanediol-1,2, see   | 2689   | 6.1   |         |
| CHLOROFORMATES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S. | 2742   | 6.1   |         | 3-CHLOROPROPANOL-1  | 2849   | 6.1   |         |
| Chloromethane, see                                  | 1063   | 2     |         | 2-CHLOROPROPENE   | 2456   | 3     |         |
| 1-Chloro-3-methylbutane, see                        | 1107   | 3     |         | 3-Chloropropene, see  | 1100   | 3     |         |
| 2-Chloro-2-methylbutane, see                        | 1107   | 3     |         | 3-Chloroprop-1-ene, see   | 1100   | 3     |         |
| CHLOROMETHYL CHLOROFORMATE                          | 2745   | 6.1   |         | 2-CHLOROPROPIONIC ACID  | 2511   | 8     |         |
| Chloromethyl cyanide, see                           | 2668   | 6.1   |         | 2-CHLOROPYRIDINE  | 2822   | 6.1   |         |
| CHLOROMETHYL ETHYL ETHER                            | 2354   | 3     |         | CHLOROSILANES, CORROSIVE, N.O.S.  | 2987   | 8     |         |
| Chloromethyl methyl ether, see                      | 1239   | 6.1   |         | CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.                             | 2986   | 8     |         |
| 3-CHLORO-4-METHYL-PHENYL ISOCYANATE, LIQUID         | 2236   | 6.1   |         | CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.                             | 2985   | 3     |         |
| 3-CHLORO-4-METHYL-PHENYL ISOCYANATE, SOLID          | 3428   | 6.1   |         | CHLOROSILANES, TOXIC, CORROSIVE, N.O.S.                                 | 3361   | 6.1   |         |
| 3-Chloro-2-methylprop-1-ene, see                    | 2554   | 3     |         | CHLOROSILANES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.                      | 3362   | 6.1   |         |
| CHLORONITROANILINES                                 | 2237   | 6.1   |         | CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.             | 2988   | 4.3   |         |
| CHLORONITROBENZENES LIQUID                          | 3409   | 6.1   |         | CHLOROSULPHONIC ACID (with or without sulphur trioxide)                 | 1754   | 8     |         |
| CHLORONITROBENZENES SOLID                           | 1578   | 6.1   |         | 1-CHLORO-1,2,2,2-TETRA-FLUOROETHANE                                     | 1021   | 2     |         |
| CHLORONITROTOLUENES, LIQUID                         | 2433   | 6.1   |         | CHLOROTOLUENES  | 2238   | 3     |         |
| CHLORONITROTOLUENES, SOLID                          | 3457   | 6.1   |         | 4-CHLORO-o-TOLUIDINE HYDROCHLORIDE, SOLID                               | 1579   | 6.1   |         |
| CHLOROPENTAFLUORO-ETHANE                            | 1020   | 2     |         | 4-CHLORO-o-TOLUIDINE HYDROCHLORIDE, SOLUTION                            | 3410   | 6.1   |         |
| CHLOROPHENOLATES, LIQUID                            | 2904   | 8     |         | CHLOROTOLUIDINES LIQUID   | 3429   | 6.1   |         |
| CHLOROPHENOLATES, SOLID                             | 2905   | 8     |         | CHLOROTOLUIDINES SOLID  | 3429   | 6.1   |         |
| CHLOROPHENOLS, LIQUID                               | 2021   | 6.1   |         | 1-CHLORO-2,2,2-TRIFLUORO-ETHANE   | 1983   | 2     |         |
| CHLOROPHENOLS, SOLID                                | 2020   | 6.1   |         | Chlorotrifluoroethylene, see  | 1082   | 2     |         |
| CHLOROPHENYL-TRICHLOROSILANE                        | 1753   | 8     |         | CHLOROTRIFLUORO-METHANE   | 1022   | 2     |         |
| CHLOROPICRIN  | 1580   | 6.1   |         |   |        |       |         |

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|---|--|---------------------------------------|---------|---|------------------------------|------------------|---------|
| CHLOROTRIFLUORO-METHANE AND TRIFLUOROMETHANE AZEOTROPIC MIXTURE with approximately 60% chlorotrifluoromethane   | 2599   | 2                                     |         | COMPONENTS, EXPLOSIVE TRAIN, N.O.S.   | 0382<br>0383<br>0384<br>0461 | 1<br>1<br>1<br>1 |         |
| Chromic acid, solid, see  | 1463   | 5.1                                   |         | Composition B, see  | 0118                         | 1                |         |
| CHROMIC ACID SOLUTION   | 1755   | 8                                     |         | COMPRESSED GAS, N.O.S.  | 1956                         | 2                |         |
| Chromic anhydride, solid, see   | 1463   | 5.1                                   |         | COMPRESSED GAS, FLAMMABLE, N.O.S.   | 1954                         | 2                |         |
| CHROMIC FLUORIDE, SOLID   | 1756   | 8                                     |         | COMPRESSED GAS, OXIDIZING, N.O.S.   | 3156                         | 2                |         |
| CHROMIC FLUORIDE SOLUTION   | 1757   | 8                                     |         | COMPRESSED GAS, TOXIC, N.O.S.   | 1955                         | 2                |         |
| Chromic nitrate, see  | 2720   | 5.1                                   |         | COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S.  | 3304                         | 2                |         |
| Chromium (VI) dichloride dioxide, see   | 1758   | 8                                     |         | COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.  | 1953                         | 2                |         |
| Chromium (III) fluoride, solid, see   | 1756   | 8                                     |         | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.                               | 3305                         | 2                |         |
| CHROMIUM NITRATE  | 2720   | 5.1                                   |         | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S.  | 3303                         | 2                |         |
| Chromium (III) nitrate, see   | 2720   | 5.1                                   |         | COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.                               | 3306                         | 2                |         |
| CHROMIUM OXYCHLORIDE  | 1758   | 8                                     |         | CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge | 0248<br>0249                 | 1<br>1           |         |
| CHROMIUM TRIOXIDE, ANHYDROUS  | 1463   | 5.1                                   |         | COPPER ACETOARSENITE  | 1585                         | 6.1              |         |
| CHROMOSULPHURIC ACID  | 2240   | 8                                     |         | COPPER ARSENITE   | 1586                         | 6.1              |         |
| Chrysotile, see   | 2590   | 9                                     |         | Copper (II) arsenite, see   | 1586                         | 6.1              |         |
| Cinene, see   | 2052   | 3                                     |         | COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C     | 2776                         | 3                |         |
| Cinnamene, see  | 2055   | 3                                     |         | COPPER BASED PESTICIDE, LIQUID, TOXIC   | 3010                         | 6.1              |         |
| Cinnamol, see   | 2055   | 3                                     |         | COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 3009                         | 6.1              |         |
| CLINICAL WASTE, UNSPECIFIED, N.O.S.   | 3291   | 6.2                                   |         | COPPER BASED PESTICIDE, SOLID, TOXIC  | 2775                         | 6.1              |         |
| COAL GAS, COMPRESSED  | 1023   | 2                                     |         | COPPER CHLORATE   | 2721                         | 5.1              |         |
| COAL TAR DISTILLATES, FLAMMABLE   | 1136   | 3                                     |         | Copper (II) chlorate, see   | 2721                         | 5.1              |         |
| Coal tar naphtha, see   | 1268   | 3                                     |         | COPPER CHLORIDE   | 2802                         | 8                |         |
| Coal tar oil, see   | 1136   | 3                                     |         | COPPER CYANIDE  | 1587                         | 6.1              |         |
| COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) | 1139   | 3                                     |         | Copper selenate, see  | 2630                         | 6.1              |         |
| COBALT NAPHTHENATES, POWDER   | 2001   | 4.1                                   |         | Copper selenite, see  | 2630                         | 6.1              |         |
| COBALT RESINATE, PRECIPITATED   | 1318   | 4.1                                   |         | COPRA   | 1363                         | 4.2              |         |
| Cocculus, see   | 3172<br>3462   | 6.1<br>6.1                            |         | CORD, DETONATING, flexible  | 0065<br>0289                 | 1<br>1           |         |
| Collodion cottons, see  | 0340<br>0341<br>0342<br>2059<br>2555<br>2556<br>2557 | 1<br>1<br>1<br>3<br>4.1<br>4.1<br>4.1 |         | CORD, DETONATING, metal clad  | 0102<br>0290                 | 1<br>1           |         |



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| CORD, DETONATING, MILD EFFECT, metal clad  | 0104   | 1     |         | COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 3025         | 6.1   |         |
| CORD, IGNITER  | 0066   | 1     |         |  |              |       |         |
| Cordite, see   | 0160   | 1     |         | COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC  | 3027         | 6.1   |         |
|  | 0161   | 1     |         |  |              |       |         |
| CORROSIVE LIQUID, N.O.S.   | 1760   | 8     |         | Creosote, see  | 2810         | 6.1   |         |
| CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  | 3264   | 8     |         | Creosote salts, see  | 1334         | 4.1   |         |
| CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.  | 3265   | 8     |         | CRESOLS, LIQUID  | 2076         | 6.1   |         |
| CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.   | 3266   | 8     |         | CRESOLS, SOLID   | 3455         | 6.1   |         |
| CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.   | 3267   | 8     |         | CRESYLIC ACID  | 2022         | 6.1   |         |
| CORROSIVE LIQUID, FLAMMABLE, N.O.S.  | 2920   | 8     |         | Crocidolite, see   | 2212         | 9     |         |
| CORROSIVE LIQUID, OXIDIZING, N.O.S.  | 3093   | 8     |         | CROTONALDEHYDE or CROTONALDEHYDE, STABILIZED   | 1143         | 6.1   |         |
| CORROSIVE LIQUID, SELF-HEATING, N.O.S.   | 3301   | 8     |         | CROTONIC ACID, LIQUID  | 3472         | 8     |         |
| CORROSIVE LIQUID, TOXIC, N.O.S.  | 2922   | 8     |         | CROTONIC ACID, SOLID   | 2823         | 8     |         |
| CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.   | 3094   | 8     |         | Crotonic aldehyde / Crotonic aldehyde, stabilized, see                                   | 1143         | 6.1   |         |
| CORROSIVE SOLID, N.O.S.  | 1759   | 8     |         | CROTONYLENE  | 1144         | 3     |         |
| CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.   | 3260   | 8     |         | Crude naphtha, see   | 1268         | 3     |         |
| CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.   | 3261   | 8     |         | Cumene, see  | 1918         | 3     |         |
| CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.  | 3262   | 8     |         | Cupric chlorate, see   | 2721         | 5.1   |         |
| CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.  | 3263   | 8     |         | CUPRIETHYLENEDIAMINE SOLUTION  | 1761         | 8     |         |
| CORROSIVE SOLID, FLAMMABLE, N.O.S.   | 2921   | 8     |         | Cut backs, with a flash-point not greater than 60 °C, see                                | 1999         | 3     |         |
| CORROSIVE SOLID, OXIDIZING, N.O.S.   | 3084   | 8     |         | Cut backs, with a flash-point above 60 °C, at or above its flash-point, see              | 3256         | 3     |         |
| CORROSIVE SOLID, SELF-HEATING, N.O.S.  | 3095   | 8     |         | Cut backs, at or above 100 °C and below its flash-point, see                             | 3257         | 9     |         |
| CORROSIVE SOLID, TOXIC, N.O.S.   | 2923   | 8     |         | CUTTERS, CABLE, EXPLOSIVE  | 0070         | 1     |         |
| CORROSIVE SOLID, WATER-REACTIVE, N.O.S.  | 3096   | 8     |         | CYANIDE SOLUTION, N.O.S.   | 1935         | 6.1   |         |
| COTTON WASTE, OILY   | 1364   | 4.2   |         | CYANIDES, INORGANIC, SOLID, N.O.S.   | 1588         | 6.1   |         |
| COTTON, WET  | 1365   | 4.2   |         | Cyanides, organic, flammable, toxic, n.o.s., see   | 3273         | 3     |         |
| COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C | 3024   | 3     |         | Cyanides, organic, toxic, n.o.s., see  | 3276<br>3439 | 6.1   |         |
| COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC   | 3026   | 6.1   |         | Cyanides, organic, toxic, flammable, n.o.s., see   | 3275         | 6.1   |         |
|  |        |       |         | Cyanoacetonitrile, see   | 2647         | 6.1   |         |
|  |        |       |         | CYANOGEN   | 1026         | 2     |         |
|  |        |       |         | CYANOGEN BROMIDE   | 1889         | 6.1   |         |
|  |        |       |         | CYANOGEN CHLORIDE, STABILIZED  | 1589         | 2     |         |
|  |        |       |         | CYANURIC CHLORIDE  | 2670         | 8     |         |
|  |        |       |         | CYCLOBUTANE  | 2601         | 2     |         |



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|---|--------|-------|---------|---|--------|-------|---|
| CYCLOBUTYL CHLOROFORMATE  | 2744   | 6.1   |         | CYCLOTRIMETHYLENE-TRINITRAMINE AND CYCLOTETRAMETHYLENE-TETRANITRAMINE MIXTURE, DESENSITIZED with not less than 10% phlegmatizer by mass | 0391   | 1     |   |
| 1,5,9-CYCLODODECA-TRIENE  | 2518   | 6.1   |         |   |        |       |   |
| CYCLOHEPTANE  | 2241   | 3     |         |   |        |       |   |
| CYCLOHEPTATRIENE  | 2603   | 3     |         |   |        |       |   |
| 1,3,5-Cycloheptatriene, see   | 2603   | 3     |         | CYCLOTRIMETHYLENE-TRINITRAMINE AND CYCLOTETRAMETHYLENE-TETRANITRAMINE MIXTURE, WETTED with not less than 15% water, by mass             | 0391   | 1     |   |
| CYCLOHEPTENE  | 2242   | 3     |         |   |        |       |   |
| 1,4-Cyclohexadienedione, see  | 2587   | 6.1   |         |   |        |       |   |
| CYCLOHEXANE   | 1145   | 3     |         |   |        |       |   |
| Cyclohexanethiol, see   | 3054   | 3     |         | CYCLOTRIMETHYLENE-TRINITRAMINE, DESENSITIZED  | 0483   | 1     |   |
| CYCLOHEXANONE   | 1915   | 3     |         |   |        |       |   |
| CYCLOHEXENE   | 2256   | 3     |         | CYCLOTRIMETHYLENE-TRINITRAMINE, WETTED with not less than 15% water, by mass  | 0072   | 1     |   |
| CYCLOHEXENYLTRI-CHLOROSILANE  | 1762   | 8     |         |   |        |       |   |
| CYCLOHEXYL ACETATE  | 2243   | 3     |         | CYMENES   | 2046   | 3     |   |
| CYCLOHEXYLAMINE   | 2357   | 8     |         | Cymol, see  | 2046   | 3     |   |
| CYCLOHEXYL ISOCYANATE   | 2488   | 6.1   |         | Deanol, see   | 2051   | 8     |   |
| CYCLOHEXYL MERCAPTAN  | 3054   | 3     |         | Dangerous goods in machinery or dangerous goods in apparatus  | 3363   | 9     | Not subject to ADR [see also 1.1.3.1 (b)] |
| CYCLOHEXYLTRICHLORO-SILANE  | 1763   | 8     |         |   |        |       |   |
| CYCLONITE AND CYCLOTETRAMETHYLENE-TETRANITRAMINE MIXTURE, WETTED with not less than 15% water, by mass or DESENSITIZED with not less than 10% phlegmatizer by mass, see | 0391   | 1     |         | DECABORANE  | 1868   | 4.1   |   |
|   |        |       |         | DECAHYDRONAPHTHALENE  | 1147   | 3     |   |
|   |        |       |         | Decalin, see  | 1147   | 3     |   |
|   |        |       |         | n-DECANE  | 2247   | 3     |   |
|   |        |       |         | DEFLAGRATING METAL SALTS OF AROMATIC NITRODERIVATIVES, N.O.S.   | 0132   | 1     |   |
|   |        |       |         | Depth charge, see   | 0056   | 1     |   |
| CYCLONITE, DESENSITIZED, see  | 0483   | 1     |         | DESENSITIZED EXPLOSIVE, LIQUID, N.O.S.  | 3379   | 3     |   |
| CYCLONITE, WETTED with not less than 15% water, by mass, see  | 0072   | 1     |         | DESENSITIZED EXPLOSIVE, SOLID, N.O.S.   | 3380   | 4.1   |   |
| CYCLOOCTADIENES   | 2520   | 3     |         |   |        |       |   |
| CYCLOOCTADIENE  | 2940   | 4.2   |         | Detonating relays, see  | 0029   | 1     |   |
| PHOSPHINES, see   |        |       |         |   | 0267   | 1     |   |
| CYCLOOCTATETRAENE   | 2358   | 3     |         |   | 0360   | 1     |   |
| CYCLOPENTANE  | 1146   | 3     |         |   | 0361   | 1     |   |
| CYCLOPENTANOL   | 2244   | 3     |         |   | 0455   | 1     |   |
| CYCLOPENTANONE  | 2245   | 3     |         |   | 0500   | 1     |   |
| CYCLOPENTENE  | 2246   | 3     |         | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting   | 0360   | 1     |   |
| CYCLOPROPANE  | 1027   | 2     |         |   | 0361   | 1     |   |
| CYCLOTETRAMETHYLENE-TETRANITRAMINE, DESENSITIZED  | 0484   | 1     |         |   | 0500   | 1     |   |
|   |        |       |         | DETONATORS FOR AMMUNITION   | 0073   | 1     |   |
|   |        |       |         |   | 0364   | 1     |   |
|   |        |       |         |   | 0365   | 1     |   |
|   |        |       |         |   | 0366   | 1     |   |
| CYCLOTETRAMETHYLENE-TETRANITRAMINE, WETTED with not less than 15% water, by mass  | 0226   | 1     |         | DETONATORS, ELECTRIC for blasting   | 0030   | 1     |   |
|   |        |       |         |   | 0255   | 1     |   |
|   |        |       |         |   | 0456   | 1     |   |

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|---|----------------------|-------------|---------|---|--------------|------------|---------------------|
| DETONATORS, NON-ELECTRIC for blasting   | 0029<br>0267<br>0455 | 1<br>1<br>1 |         | Dichlorodifluoromethane and ethylene oxide mixture, see | 3070         | 2          |                     |
| DEUTERIUM, COMPRESSED   | 1957                 | 2           |         | DICHLORODIMETHYL ETHER, SYMMETRICAL                     | 2249         | 6.1        | Carriage prohibited |
| DEVICES, SMALL, HYDROCARBON GAS POWERED with release device   | 3150                 | 2           |         | 1,1-DICHLOROETHANE                                      | 2362         | 3          |                     |
| DIACETONE ALCOHOL   | 1148                 | 3           |         | 1,2-Dichloroethane, see                                 | 1184         | 3          |                     |
| DIALLYLAMINE  | 2359                 | 3           |         | 1,2-DICHLOROETHYLENE                                    | 1150         | 3          |                     |
| DIALLYL ETHER   | 2360                 | 3           |         | Di(2-chloroethyl) ether, see                            | 1916         | 6.1        |                     |
| 4,4'-DIAMINODIPHENYL-METHANE  | 2651                 | 6.1         |         | DICHLOROFLUORO-METHANE                                  | 1029         | 2          |                     |
| 1,2-Diaminoethane, see  | 1604                 | 8           |         | alpha-Dichlorohydrin, see                               | 2750         | 6.1        |                     |
| Diaminopropylamine, see   | 2269                 | 8           |         | DICHLOROISOCYANURIC ACID, DRY                           | 2465         | 5.1        |                     |
| DI-n-AMYLAMINE  | 2841                 | 3           |         | DICHLOROISOCYANURIC ACID SALTS                          | 2465         | 5.1        |                     |
| DIAZODINITROPHENOL, WETTED with not less than 40% water, or mixture of alcohol and water, by mass             | 0074                 | 1           |         | DICHLOROISOPROPYL ETHER                                 | 2490         | 6.1        |                     |
| Dibenzopyridine, see  | 2713                 | 6.1         |         | DICHLOROMETHANE   | 1593         | 6.1        |                     |
| DIBENZYLDICHLORO-SILANE   | 2434                 | 8           |         | 1,1-DICHLORO-1-NITROETHANE                              | 2650         | 6.1        |                     |
| DIBORANE  | 1911                 | 2           |         | DICHLOROPENTANES  | 1152         | 3          |                     |
| 1,2-DIBROMOBUTAN-3-ONE  | 2648                 | 6.1         |         | Dichlorophenol, see                                     | 2020<br>2021 | 6.1<br>6.1 |                     |
| DIBROMOCHLORO-PROPANES  | 2872                 | 6.1         |         | DICHLOROPHENYL ISOCYANATES                              | 2250         | 6.1        |                     |
| 1,2-Dibromo-3-chloropropane, see  | 2872                 | 6.1         |         | DICHLOROPHENYLTRI-CHLOROSILANE                          | 1766         | 8          |                     |
| DIBROMODIFLUORO-METHANE   | 1941                 | 9           |         | 1,2-DICHLOROPROPANE                                     | 1279         | 3          |                     |
| DIBROMOMETHANE  | 2664                 | 6.1         |         | 1,3-DICHLOROPROPANOL-2                                  | 2750         | 6.1        |                     |
| DI-n-BUTYLAMINE   | 2248                 | 8           |         | 1,3-Dichloro-2-propanone, see                           | 2649         | 6.1        |                     |
| DIBUTYLAMINOETHANOL   | 2873                 | 6.1         |         | DICHLOROPROPENES  | 2047         | 3          |                     |
| 2-Dibutylaminoethanol, see  | 2873                 | 6.1         |         | DICHLOROSILANE  | 2189         | 2          |                     |
| N,N-Di-n-butylaminoethanol, see   | 2873                 | 6.1         |         | 1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE                  | 1958         | 2          |                     |
| DIBUTYL ETHERS  | 1149                 | 3           |         | Dichloro-s-triazine-2,4,6-trione, see                   | 2465         | 5.1        |                     |
| DICHLOROACETIC ACID   | 1764                 | 8           |         | 1,4-Dicyanobutane, see                                  | 2205         | 6.1        |                     |
| 1,3-DICHLOROACETONE   | 2649                 | 6.1         |         | Dicycloheptadiene, see                                  | 2251         | 3          |                     |
| DICHLOROACETYL CHLORIDE   | 1765                 | 8           |         | DICYCLOHEXYLAMINE                                       | 2565         | 8          |                     |
| DICHLOROANILINES, LIQUID  | 1590                 | 6.1         |         | Dicyclohexylamine nitrite, see                          | 2687         | 4.1        |                     |
| DICHLOROANILINES, SOLID   | 3442                 | 6.1         |         | DICYCLOHEXYL-AMMONIUM NITRITE                           | 2687         | 4.1        |                     |
| o-DICHLOROBENZENE   | 1591                 | 6.1         |         | DICYCLOPENTADIENE                                       | 2048         | 3          |                     |
| 2,2'-DICHLORODIETHYL ETHER  | 1916                 | 6.1         |         | 1,2-DI-(DIMETHYLAMINO) ETHANE                           | 2372         | 3          |                     |
| DICHLORODIFLUORO-METHANE  | 1028                 | 2           |         | DIDYMIUM NITRATE  | 1465         | 5.1        |                     |
| DICHLORODIFLUORO-METHANE AND DIFLUOROETHANE AZEOTROPIC MIXTURE with approximately 74% dichlorodifluoromethane | 2602                 | 2           |         | DIESEL FUEL   | 1202         | 3          |                     |
|   |                      |             |         | 1,1-Diethoxyethane, see                                 | 1088         | 3          |                     |
|   |                      |             |         | 1,2-Diethoxyethane, see                                 | 1153         | 3          |                     |
|   |                      |             |         | DIETHOXYMETHANE   | 2373         | 3          |                     |

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| 3,3-DIETHOXYPROPENE   | 2374   | 3     |         | Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 23% difluoromethane and 25% pentafluoroethane, see | 3340   | 2     |         |
| DIETHYLAMINE  | 1154   | 3     |         | DIFLUOROPHOSPHORIC ACID, ANHYDROUS  | 1768   | 8     |         |
| 2-DIETHYLAMINOETHANOL   | 2686   | 8     |         | 2,3-DIHYDROPYRAN  | 2376   | 3     |         |
| 3-DIETHYLAMINO-PROPYLAMINE  | 2684   | 3     |         | DIISOBUTYLAMINE   | 2361   | 3     |         |
| N,N-DIETHYLANILINE  | 2432   | 6.1   |         | DIISOBUTYLENE, ISOMERIC COMPOUNDS   | 2050   | 3     |         |
| DIETHYLBENZENE  | 2049   | 3     |         | alpha-Diisobutylene, see  | 2050   | 3     |         |
| Diethylcarbinol, see  | 1105   | 3     |         | beta-Diisobutylene, see   | 2050   | 3     |         |
| DIETHYL CARBONATE   | 2366   | 3     |         | DIISOBUTYL KETONE   | 1157   | 3     |         |
| DIETHYLDICHLOROSILANE   | 1767   | 8     |         | DIISOCTYL ACID PHOSPHATE  | 1902   | 8     |         |
| Diethylenediamine, see  | 2579   | 8     |         | DIISOPROPYLAMINE  | 1158   | 3     |         |
| DIETHYLENEGLYCOL DINITRATE, DESENSITIZED with not less than 25% non-volatile, water-insoluble phlegmatizer, by mass                                       | 0075   | 1     |         | DIISOPROPYL ETHER   | 1159   | 3     |         |
| DIETHYLENETRIAMINE  | 2079   | 8     |         | DIKETENE, STABILIZED  | 2521   | 6.1   |         |
| N,N-Diethylethanolamine, see  | 2686   | 3     |         | 1,1-DIMETHOXYETHANE   | 2377   | 3     |         |
| DIETHYL ETHER   | 1155   | 3     |         | 1,2-DIMETHOXYETHANE   | 2252   | 3     |         |
| N,N-DIETHYLETHYLENE-DIAMINE   | 2685   | 8     |         | Dimethoxystychnine, see   | 1570   | 6.1   |         |
| Di-(2-ethylhexyl) phosphoric acid, see  | 1902   | 8     |         | DIMETHYLAMINE, ANHYDROUS  | 1032   | 2     |         |
| DIETHYL KETONE  | 1156   | 3     |         | DIMETHYLAMINE AQUEOUS SOLUTION  | 1160   | 3     |         |
| DIETHYL SULPHATE  | 1594   | 6.1   |         | 2-DIMETHYLAMINO-ACETONITRILE  | 2378   | 3     |         |
| DIETHYL SULPHIDE  | 2375   | 3     |         | 2-DIMETHYLAMINO-ETHANOL   | 2051   | 8     |         |
| DIETHYLTHIOPHOSPHORYL CHLORIDE  | 2751   | 8     |         | 2-DIMETHYLAMINOETHYL ACRYLATE   | 3302   | 6.1   |         |
| Diethylzinc, see  | 3394   | 4.2   |         | 2-DIMETHYLAMINOETHYL METHACRYLATE   | 2522   | 6.1   |         |
| 2,4-Difluoroaniline, see  | 2941   | 6.1   |         | N,N-DIMETHYLANILINE   | 2253   | 6.1   |         |
| Difluorochloroethane, see   | 2517   | 2     |         | Dimethylarsenic acid, see   | 1572   | 6.1   |         |
| 1,1-DIFLUOROETHANE  | 1030   | 2     |         | N,N-Dimethylbenzylamine, see  | 2619   | 8     |         |
| 1,1-DIFLUOROETHYLENE  | 1959   | 2     |         | 2,3-DIMETHYLBUTANE  | 2457   | 3     |         |
| DIFLUOROMETHANE   | 3252   | 2     |         | 1,3-DIMETHYLBUTYLAMINE  | 2379   | 3     |         |
| Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 10% difluoromethane and 70% pentafluoroethane, see | 3339   | 2     |         | DIMETHYLCARBAMOYL CHLORIDE  | 2262   | 8     |         |
| Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 20% difluoromethane and 40% pentafluoroethane, see | 3338   | 2     |         | DIMETHYL CARBONATE  | 1161   | 3     |         |
|   |        |       |         | DIMETHYLCYCLOHEXANES  | 2263   | 3     |         |
|   |        |       |         | N,N-DIMETHYLCYCLO-HEXYLAMINE  | 2264   | 8     |         |
|   |        |       |         | DIMETHYLDICHLORO-SILANE   | 1162   | 3     |         |
|   |        |       |         | DIMETHYLDIETHOXY-SILANE   | 2380   | 3     |         |
|   |        |       |         | DIMETHYLDIOXANES  | 2707   | 3     |         |
|   |        |       |         | DIMETHYL DISULPHIDE   | 2381   | 3     |         |

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| Dimethylethanolamine, see   | 2051   | 8     |         | DIOXANE  | 1165   | 3     |                    |
| DIMETHYL ETHER  | 1033   | 2     |         | DIOXOLANE  | 1166   | 3     |                    |
| N,N-DIMETHYLFORMAMIDE   | 2265   | 3     |         | DIPENTENE  | 2052   | 3     |                    |
| DIMETHYLHYDRAZINE, SYMMETRICAL  | 2382   | 6.1   |         | DIPHENYLAMINE CHLOROARSINE   | 1698   | 6.1   |                    |
| DIMETHYLHYDRAZINE, UNSYMMETRICAL  | 1163   | 6.1   |         | DIPHENYLCHLOROARSINE, LIQUID                                       | 1699   | 6.1   |                    |
| 1,1-Dimethylhydrazine, see  | 1163   | 6.1   |         | DIPHENYLCHLOROARSINE, SOLID  | 3450   | 6.1   |                    |
| N,N-Dimethyl-4-nitrosoaniline, see  | 1369   | 4.2   |         | DIPHENYLDICHLORO-SILANE  | 1769   | 8     |                    |
| 2,2-DIMETHYLPROPANE   | 2044   | 2     |         | DIPHENYLMETHYL BROMIDE   | 1770   | 8     |                    |
| DIMETHYL-N-PROPYL-AMINE   | 2266   | 3     |         | DIPICRYLAMINE, see   | 0079   | 1     |                    |
| DIMETHYL SULPHATE   | 1595   | 6.1   |         | DIPICRYL SULPHIDE, dry or wetted with less than 10% water, by mass | 0401   | 1     |                    |
| DIMETHYL SULPHIDE   | 1164   | 3     |         | DIPICRYL SULPHIDE, WETTED with not less than 10% water, by mass    | 2852   | 4.1   |                    |
| DIMETHYL THIOPHOSPHORYL CHLORIDE  | 2267   | 6.1   |         | DIPROPYLAMINE  | 2383   | 3     |                    |
| Dimethylzinc, see   | 3394   | 4.2   |         | Dipropylene triamine, see  | 2269   | 8     |                    |
| DINGU, see  | 0489   | 1     |         | DI-n-PROPYL ETHER  | 2384   | 3     |                    |
| DINITROANILINES   | 1596   | 6.1   |         | DIPROPYL KETONE  | 2710   | 3     |                    |
| DINITROBENZENES, LIQUID   | 1597   | 6.1   |         | DISINFECTANT, LIQUID, CORROSIVE, N.O.S.                            | 1903   | 8     |                    |
| DINITROBENZENES, SOLID  | 3443   | 6.1   |         | DISINFECTANT, LIQUID, TOXIC, N.O.S.                                | 3142   | 6.1   |                    |
| Dinitrochlorobenzene, see   | 1577   | 6.1   |         | DISINFECTANT, SOLID, TOXIC, N.O.S.                                 | 1601   | 6.1   |                    |
|   | 3441   | 6.1   |         | DISODIUM TRIOXOSILICATE  | 3253   | 8     |                    |
| DINITRO-o-CRESOL  | 1598   | 6.1   |         | DIVINYL ETHER, STABILIZED  | 1167   | 3     |                    |
| DINITROGEN TETROXIDE  | 1067   | 2     |         | DODECYLTRICHLORO-SILANE  | 1771   | 8     |                    |
| DINITROGLYCOURIL  | 0489   | 1     |         | Dry ice, see   | 1845   | 9     | Not subject to ADR |
| DINITROPHENOL, dry or wetted with less than 15% water, by mass                    | 0076   | 1     |         | DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.                        | 2801   | 8     |                    |
| DINITROPHENOL SOLUTION  | 1599   | 6.1   |         | DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.                            | 1602   | 6.1   |                    |
| DINITROPHENOL, WETTED with not less than 15% water, by mass                       | 1320   | 4.1   |         | DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.                         | 3147   | 8     |                    |
| DINITROPHENOLATES, alkali metals, dry or wetted with less than 15% water, by mass | 0077   | 1     |         | DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.                             | 3143   | 6.1   |                    |
| DINITROPHENOLATES, WETTED with not less than 15% water, by mass                   | 1321   | 4.1   |         | DYE, LIQUID, CORROSIVE, N.O.S.                                     | 2801   | 8     |                    |
| DINITRORESORCINOL, dry or wetted with less than 15% water, by mass                | 0078   | 1     |         | DYE, LIQUID, TOXIC, N.O.S.   | 1602   | 6.1   |                    |
| DINITRORESORCINOL, WETTED with not less than 15% water, by mass                   | 1322   | 4.1   |         | DYE, SOLID, CORROSIVE, N.O.S.                                      | 3147   | 8     |                    |
| DINITROSOBENZENE  | 0406   | 1     |         | DYE, SOLID, TOXIC, N.O.S.  | 3143   | 6.1   |                    |
| Dinitrotoluene mixed with sodium chlorate, see                                    | 0083   | 1     |         | Dynamite, see  | 0081   | 1     |                    |
| DINITROTOLUENES, LIQUID   | 2038   | 6.1   |         |  |        |       |                    |
| DINITROTOLUENES, MOLTEN   | 1600   | 6.1   |         |  |        |       |                    |
| DINITROTOLUENES, SOLID  | 3454   | 6.1   |         |  |        |       |                    |

| Name and description  | UN No. | Class | Remarks                           | Name and description   | UN No. | Class | Remarks |
|---|--------|-------|-----------------------------------|--|--------|-------|---------|
| Electric storage batteries, see   | 2794   | 8     |                                   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  | 3082   | 9     |         |
|   | 2795   | 8     |                                   |  |        |       |         |
|   | 2800   | 8     |                                   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.   | 3077   | 9     |         |
|   | 3028   | 8     |                                   |  |        |       |         |
| Electrolyte (acid or alkaline) for batteries, see   | 2796   | 8     |                                   |  |        |       |         |
|   | 2797   | 8     |                                   |  |        |       |         |
| ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 °C and below its flash-point (including molten metals, molten salts, etc.) | 3257   | 9     |                                   | EPIBROMOHYDRIN   | 2558   | 6.1   |         |
|   |        |       |                                   | EPICHLOROHYDRIN  | 2023   | 6.1   |         |
|   |        |       |                                   | 1,2-Epoxybutane, stabilized, see   | 3022   | 3     |         |
|   |        |       |                                   | Epoxyethane, see   | 1040   | 2     |         |
| ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash-point above 60 °C, at or above its flash-point                        | 3256   | 3     |                                   | 1,2-EPOXY-3-ETHOXYPROPANE  | 2752   | 3     |         |
|   |        |       |                                   | 2,3-Epoxy-1-propanal, see  | 2622   | 3     |         |
| ELEVATED TEMPERATURE SOLID, N.O.S., at or above 240 °C  | 3258   | 9     |                                   | 2,3-Epoxypropyl ethyl ether, see   | 2752   | 3     |         |
|   |        |       |                                   | ESTERS, N.O.S.   | 3272   | 3     |         |
| Empty battery-vehicle, uncleaned  |        |       | See 4.3.2.4, 5.1.3 and 5.4.1.1.6  | ETHANE   | 1035   | 2     |         |
|   |        |       |                                   | ETHANE, REFRIGERATED LIQUID  | 1961   | 2     |         |
| Empty IBC, uncleaned  |        |       | See 4.1.1.11, 5.1.3 and 5.4.1.1.6 | Ethanethiol, see   | 2363   | 3     |         |
|   |        |       |                                   | ETHANOL  | 1170   | 3     |         |
| Empty large packaging, uncleaned  |        |       | See 4.1.1.11, 5.1.3 and 5.4.1.1.6 | ETHANOL AND GASOLINE MIXTURE or ETHANOL AND MOTOR SPIRIT MIXTURE or ETHANOL AND PETROL MIXTURE, with more than 10% ethanol | 3475   | 3     |         |
| Empty MEGC, uncleaned   |        |       | See 4.3.2.4, 5.1.3 and 5.4.1.1.6  | ETHANOL SOLUTION   | 1170   | 3     |         |
|   |        |       |                                   | ETHANOLAMINE   | 2491   | 8     |         |
| Empty packaging, uncleaned  |        |       | See 4.1.1.11, 5.1.3 and 5.4.1.1.6 | ETHANOLAMINE SOLUTION  | 2491   | 8     |         |
|   |        |       |                                   | Ether, see   | 1155   | 3     |         |
| Empty receptacle, uncleaned   |        |       | See 5.1.3 and 5.4.1.1.6           | ETHERS, N.O.S.   | 3271   | 3     |         |
|   |        |       |                                   | 2-Ethoxyethanol, see   | 1171   | 3     |         |
|   |        |       |                                   | 2-Ethoxyethyl acetate, see   | 1172   | 3     |         |
| Empty tank, uncleaned   |        |       | See 4.3.2.4, 5.1.3 and 5.4.1.1.6  | Ethoxy propane-1, see  | 2615   | 3     |         |
|   |        |       |                                   | ETHYL ACETATE  | 1173   | 3     |         |
|   |        |       |                                   | ETHYLACETYLENE, STABILIZED   | 2452   | 2     |         |
| Empty vehicle, uncleaned  |        |       | See 5.1.3 and 5.4.1.1.6           | ETHYL ACRYLATE, STABILIZED   | 1917   | 3     |         |
|   |        |       |                                   | ETHYL ALCOHOL, see   | 1170   | 3     |         |
| Enamel, see   | 1263   | 3     |                                   | ETHYL ALCOHOL SOLUTION, see  | 1170   | 3     |         |
|   | 3066   | 8     |                                   |  |        |       |         |
|   | 3469   | 3     |                                   | ETHYLAMINE   | 1036   | 2     |         |
|   | 3470   | 8     |                                   | ETHYLAMINE, AQUEOUS SOLUTION with not less than 50% but not more than 70% ethylamine                                       | 2270   | 3     |         |
| Engines, internal combustion  | 3166   | 9     | Not subject to ADR                | ETHYL AMYL KETONE  | 2271   | 3     |         |
| Engines, rocket, see  | 0250   | 1     |                                   | N-ETHYLANILINE   | 2272   | 6.1   |         |
|   | 0322   | 1     |                                   | 2-ETHYLANILINE   | 2273   | 6.1   |         |
|   |        |       |                                   | ETHYLBENZENE   | 1175   | 3     |         |

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|---|--------|-------|---------|--|--------|-------|---------|
| N-ETHYL-N-BENZYL-ANILINE  | 2274   | 6.1   |         | ETHYLENE OXIDE   | 1040   | 2     |         |
| N-ETHYLBENZYL-TOLUIDINES, LIQUID  | 2753   | 6.1   |         | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 87% ethylene oxide                      | 3300   | 2     |         |
| N-ETHYLBENZYL-TOLUIDINES, SOLID   | 3460   | 6.1   |         | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 9% but not more than 87% ethylene oxide | 1041   | 2     |         |
| ETHYL BORATE  | 1176   | 3     |         | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with not more than 9% ethylene oxide                   | 1952   | 2     |         |
| ETHYL BROMIDE   | 1891   | 6.1   |         | ETHYLENE OXIDE AND CHLOROTETRAFLUORO-ETHANE MIXTURE with not more than 8.8% ethylene oxide       | 3297   | 2     |         |
| ETHYL BROMOACETATE  | 1603   | 6.1   |         | ETHYLENE OXIDE AND DICHLORODIFLUORO-METHANE MIXTURE with not more than 12.5% ethylene oxide      | 3070   | 2     |         |
| 2-ETHYLBUTANOL  | 2275   | 3     |         | ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE with not more than 7.9% ethylene oxide              | 3298   | 2     |         |
| 2-ETHYLBUTYL ACETATE  | 1177   | 3     |         | ETHYLENE OXIDE AND PROPYLENE OXIDE MIXTURE, not more than 30% ethylene oxide                     | 2983   | 3     |         |
| ETHYL BUTYL ETHER   | 1179   | 3     |         | ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE with not more than 5.6% ethylene oxide              | 3299   | 2     |         |
| 2-ETHYLBUTYRALDEHYDE  | 1178   | 3     |         | ETHYLENE OXIDE WITH NITROGEN up to a total pressure of 1 MPa (10 bar) at 50 °C                   | 1040   | 2     |         |
| ETHYL BUTYRATE  | 1180   | 3     |         | ETHYLENE, REFRIGERATED LIQUID  | 1038   | 2     |         |
| ETHYL CHLORIDE  | 1037   | 2     |         | ETHYL ETHER, see   | 1155   | 3     |         |
| ETHYL CHLOROACETATE   | 1181   | 6.1   |         | ETHYL FLUORIDE   | 2453   | 2     |         |
| Ethyl chlorocarbonate, see  | 1182   | 6.1   |         | ETHYL FORMATE  | 1190   | 3     |         |
| ETHYL CHLOROFORMATE   | 1182   | 6.1   |         | 2-ETHYLHEXYLAMINE  | 2276   | 3     |         |
| ETHYL 2-CHLORO-PROPIONATE   | 2935   | 3     |         | 2-ETHYLHEXYL CHLOROFORMATE   | 2748   | 6.1   |         |
| Ethyl-alpha-chloropropionate, see   | 2935   | 3     |         | Ethylidene chloride, see   | 2362   | 3     |         |
| ETHYL CHLORO-THIOFORMATE  | 2826   | 8     |         | ETHYL ISOBUTYRATE  | 2385   | 3     |         |
| ETHYL CROTONATE   | 1862   | 3     |         | ETHYL ISOCYANATE   | 2481   | 3     |         |
| ETHYLDICHLOROARSINE   | 1892   | 6.1   |         | ETHYL LACTATE  | 1192   | 3     |         |
| ETHYLDICHLOROSILANE   | 1183   | 4.3   |         | ETHYL MERCAPTAN  | 2363   | 3     |         |
| ETHYLENE, ACETYLENE AND PROPYLENE MIXTURE, REFRIGERATED LIQUID containing at least 71.5% ethylene with not more than 22.5% acetylene and not more than 6% propylene | 3138   | 2     |         | ETHYL METHACRYLATE, STABILIZED   | 2277   | 3     |         |
| ETHYLENE CHLOROHYDRIN   | 1135   | 6.1   |         | ETHYL METHYL ETHER   | 1039   | 2     |         |
| ETHYLENE  | 1962   | 2     |         | ETHYL METHYL KETONE  | 1193   | 3     |         |
| ETHYLENEDIAMINE   | 1604   | 8     |         | ETHYL NITRITE SOLUTION   | 1194   | 3     |         |
| ETHYLENE DIBROMIDE  | 1605   | 6.1   |         |  |        |       |         |
| Ethylene dibromide and methyl bromide, liquid mixture, see  | 1647   | 6.1   |         |  |        |       |         |
| ETHYLENE DICHLORIDE   | 1184   | 3     |         |  |        |       |         |
| ETHYLENE GLYCOL DIETHYL ETHER   | 1153   | 3     |         |  |        |       |         |
| ETHYLENE GLYCOL MONOETHYL ETHER   | 1171   | 3     |         |  |        |       |         |
| ETHYLENE GLYCOL MONOETHYL ETHER ACETATE   | 1172   | 3     |         |  |        |       |         |
| ETHYLENE GLYCOL MONOMETHYL ETHER  | 1188   | 3     |         |  |        |       |         |
| ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE  | 1189   | 3     |         |  |        |       |         |
| ETHYLENEIMINE, STABILIZED   | 1185   | 6.1   |         |  |        |       |         |

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|---|--------|-------|---------|---|--------|-------|--------------------|
| ETHYL ORTHOFORMATE  | 2524   | 3     |         | FERROUS ARSENATE  | 1608   | 6.1   |                    |
| ETHYL OXALATE   | 2525   | 6.1   |         | FERROUS METAL BORINGS in a form liable to self-heating                            | 2793   | 4.2   |                    |
| ETHYLPHENYL-DICHLOROSILANE                                      | 2435   | 8     |         | FERROUS METAL CUTTINGS in a form liable to self-heating                           | 2793   | 4.2   |                    |
| 1-ETHYLPIPERIDINE   | 2386   | 3     |         | FERROUS METAL SHAVINGS in a form liable to self-heating                           | 2793   | 4.2   |                    |
| ETHYL PROPIONATE  | 1195   | 3     |         | FERROUS METAL TURNINGS in a form liable to self-heating                           | 2793   | 4.2   |                    |
| ETHYL PROPYL ETHER  | 2615   | 3     |         | FERTILIZER AMMONIATING SOLUTION with free ammonia                                 | 1043   | 2     |                    |
| Ethyl silicate, see   | 1292   | 3     |         | Fertilizer with ammonium nitrate, n.o.s., see                                     | 2067   | 5.1   |                    |
| Ethyl sulphate, see   | 1594   | 6.1   |         | Fibres, animal, burnt wet or damp   | 1372   | 4.2   | Not subject to ADR |
| N-ETHYLTOLUIDINES   | 2754   | 6.1   |         | FIBRES, ANIMAL, N.O.S. with oil   | 1373   | 4.2   |                    |
| ETHYLTRICHLOROSILANE  | 1196   | 3     |         | FIBRES IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S.                    | 1353   | 4.1   |                    |
| EXPLOSIVE, BLASTING, TYPE A                                     | 0081   | 1     |         | FIBRES, SYNTHETIC, N.O.S. with oil  | 1373   | 4.2   |                    |
| EXPLOSIVE, BLASTING, TYPE B                                     | 0082   | 1     |         | Fibres, vegetable, burnt wet or damp  | 1372   | 4.2   | Not subject to ADR |
|   | 0331   | 1     |         |   |        |       |                    |
| EXPLOSIVE, BLASTING, TYPE C                                     | 0083   | 1     |         | Fibres, vegetable, dry  | 3360   | 4.1   | Not subject to ADR |
| EXPLOSIVE, BLASTING, TYPE D                                     | 0084   | 1     |         |   |        |       |                    |
| EXPLOSIVE, BLASTING, TYPE E                                     | 0241   | 1     |         | FIBRES, VEGETABLE, N.O.S. with oil  | 1373   | 4.2   |                    |
|   | 0332   | 1     |         |   |        |       |                    |
| Explosives, emulsion, see                                       | 0241   | 1     |         |   |        |       |                    |
|   | 0332   | 1     |         |   |        |       |                    |
| Explosive, seismic, see   | 0081   | 1     |         |   |        |       |                    |
|   | 0082   | 1     |         |   |        |       |                    |
|   | 0083   | 1     |         |   |        |       |                    |
|   | 0331   | 1     |         |   |        |       |                    |
| Explosive, slurry, see  | 0241   | 1     |         |   |        |       |                    |
|   | 0332   | 1     |         | FIBRES, VEGETABLE, N.O.S. with oil  | 1373   | 4.2   |                    |
| Explosive, water gel, see                                       | 0241   | 1     |         | Films, nitrocellulose base, from which gelatine has been removed; film scrap, see | 2002   | 4.2   |                    |
|   | 0332   | 1     |         |   |        |       |                    |
| EXTRACTS, AROMATIC, LIQUID                                      | 1169   | 3     |         | FILMS, NITROCELLULOSE BASE, gelatin coated, except scrap                          | 1324   | 4.1   |                    |
| EXTRACTS, FLAVOURING, LIQUID                                    | 1197   | 3     |         |   |        |       |                    |
| FABRICS, ANIMAL, N.O.S. with oil                                | 1373   | 4.2   |         | Filler, liquid, see   | 1263   | 3     |                    |
| FABRICS IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S. | 1353   | 4.1   |         |   | 3066   | 8     |                    |
|   |        |       |         |   | 3469   | 3     |                    |
|   |        |       |         |   | 3470   | 8     |                    |
| FABRICS, SYNTHETIC, N.O.S. with oil                             | 1373   | 4.2   |         | FIRE EXTINGUISHER CHARGES, corrosive liquid                                       | 1774   | 8     |                    |
| FABRICS, VEGETABLE, N.O.S. with oil                             | 1373   | 4.2   |         | Fire extinguisher charges, expelling, explosive, see                              | 0275   | 1     |                    |
| FERRIC ARSENATE   | 1606   | 6.1   |         |   | 0276   | 1     |                    |
| FERRIC ARSENITE   | 1607   | 6.1   |         |   | 0323   | 1     |                    |
| FERRIC CHLORIDE, ANHYDROUS                                      | 1773   | 8     |         |   | 0381   | 1     |                    |
| FERRIC CHLORIDE SOLUTION  | 2582   | 8     |         | FIRE EXTINGUISHERS with compressed or liquefied gas                               | 1044   | 2     |                    |
| FERRIC NITRATE  | 1466   | 5.1   |         | FIRELIGHTERS, SOLID with flammable liquid   | 2623   | 4.1   |                    |
| FERROCERIUM   | 1323   | 4.1   |         | FIREWORKS   | 0333   | 1     | See 2.2.1.1.7      |
| FERROSILICON with 30% or more but less than 90% silicon         | 1408   | 4.3   |         |   | 0334   | 1     |                    |
|   |        |       |         |   | 0335   | 1     |                    |
|   |        |       |         |   | 0336   | 1     |                    |
|   |        |       |         |   | 0337   | 1     |                    |
|   |        |       |         | FIRST AID KIT   | 3316   | 9     |                    |



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|---|--------|-------|---------------------|--|--------|-------|---------|
| Fish meal, stabilized   | 2216   | 9     | Not subject to ADR  | Flue dusts, toxic, see   | 1562   | 6.1   |         |
| FISH MEAL, UNSTABILIZED   | 1374   | 4.2   |                     | Fluoric acid, see  | 1790   | 8     |         |
| Fish scrap, stabilized, see   | 2216   | 9     | Not subject to ADR  | FLUORINE, COMPRESSED   | 1045   | 2     |         |
| FISH SCRAP, UNSTABILIZED, see   | 1374   | 4.2   |                     | FLUOROACETIC ACID  | 2642   | 6.1   |         |
| Flammable gas in lighters, see  | 1057   | 2     |                     | FLUOROANILINES   | 2941   | 6.1   |         |
| FLAMMABLE LIQUID, N.O.S.  | 1993   | 3     |                     | 2-Fluoroaniline, see   | 2941   | 6.1   |         |
| FLAMMABLE LIQUID, CORROSIVE, N.O.S.                                       | 2924   | 3     |                     | 4-Fluoroaniline, see   | 2941   | 6.1   |         |
| FLAMMABLE LIQUID, TOXIC, N.O.S.   | 1992   | 3     |                     | o-Fluoroaniline, see   | 2941   | 6.1   |         |
| FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.                                | 3286   | 3     |                     | p-Fluoroaniline, see   | 2941   | 6.1   |         |
| FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.                             | 3180   | 4.1   |                     | FLUOROBENZENE  | 2387   | 3     |         |
| FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.                               | 2925   | 4.1   |                     | FLUOROBORIC ACID   | 1775   | 8     |         |
| FLAMMABLE SOLID, INORGANIC, N.O.S.  | 3178   | 4.1   |                     | Fluoroethane, see  | 2453   | 2     |         |
| FLAMMABLE SOLID, ORGANIC, N.O.S.  | 1325   | 4.1   |                     | Fluoroform, see  | 1984   | 2     |         |
| FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.                                  | 3176   | 4.1   |                     | Fluoromethane, see   | 2454   | 2     |         |
| FLAMMABLE SOLID, OXIDIZING, N.O.S.  | 3097   | 4.1   | Carriage prohibited | FLUOROPHOSPHORIC ACID, ANHYDROUS                               | 1776   | 8     |         |
| FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.                                 | 3179   | 4.1   |                     | FLUROSILICATES, N.O.S.   | 2856   | 6.1   |         |
| FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.                                   | 2926   | 4.1   |                     | FLUROSILICIC ACID  | 1778   | 8     |         |
| FLARES, AERIAL  | 0093   | 1     |                     | FLUROSULPHONIC ACID  | 1777   | 8     |         |
|   | 0403   | 1     |                     | FLUOROTOLUENES   | 2388   | 3     |         |
|   | 0404   | 1     |                     | FORMALDEHYDE SOLUTION with not less than 25% formaldehyde      | 2209   | 8     |         |
|   | 0420   | 1     |                     | FORMALDEHYDE SOLUTION, FLAMMABLE                               | 1198   | 3     |         |
|   | 0421   | 1     |                     | Formalin, see  | 1198   | 3     |         |
| Flares, aeroplane, see  | 0093   | 1     |                     |  | 2209   | 8     |         |
|   | 0403   | 1     |                     | Formamidine sulphinic acid, see                                | 3341   | 4.2   |         |
|   | 0404   | 1     |                     | FORMIC ACID with more than 85% acid by mass                    | 1779   | 8     |         |
|   | 0420   | 1     |                     | FORMIC ACID with not more than 85% acid by mass                | 3412   | 8     |         |
|   | 0421   | 1     |                     | Formic aldehyde, see   | 1198   | 3     |         |
| Flares, highway, Flares, distress, small, Flares, railway or highway, see | 0191   | 1     |                     |  | 2209   | 8     |         |
|   | 0373   | 1     |                     | 2-Formyl-3,4-dihydro-2H-pyran, see                             | 2607   | 3     |         |
| FLARES, SURFACE   | 0092   | 1     |                     | FRACTURING DEVICES, EXPLOSIVE without detonator, for oil wells | 0099   | 1     |         |
|   | 0418   | 1     |                     | FUEL, AVIATION, TURBINE ENGINE                                 | 1863   | 3     |         |
|   | 0419   | 1     |                     | FUEL CELL CARTRIDGES   | 3478   | 2     |         |
| Flares, water-activated, see  | 0248   | 1     |                     |  | 3479   | 2     |         |
|   | 0249   | 1     |                     |  | 3473   | 3     |         |
| FLASH POWDER  | 0094   | 1     |                     |  | 3476   | 4.3   |         |
|   | 0305   | 1     |                     |  | 3477   | 8     |         |
|   |        |       |                     | FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT                    | 3478   | 2     |         |
|   |        |       |                     |  | 3479   | 2     |         |
|   |        |       |                     |  | 3473   | 3     |         |
|   |        |       |                     |  | 3476   | 4.3   |         |
|   |        |       |                     |  | 3477   | 8     |         |



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|--|--|---------------------------------|---------|---|--------------------------------------|-----------------------|---------|
| FUEL CELL CARTRIDGES<br>PACKED WITH EQUIPMENT                    | 3478<br>3479<br>3473<br>3476<br>3477                 | 2<br>2<br>3<br>4.3<br>8         |         | GAS, REFRIGERATED LIQUID,<br>OXIDIZING, N.O.S.  | 3311                                 | 2                     |         |
| Fumaroyl dichloride, see   | 1780   | 3                               |         | GAS SAMPLE, NON-<br>PRESSURIZED, FLAMMABLE,<br>N.O.S., not refrigerated liquid  | 3167                                 | 2                     |         |
| FUMARYL CHLORIDE   | 1780   | 8                               |         | GAS SAMPLE, NON-<br>PRESSURIZED, TOXIC, N.O.S.,<br>not refrigerated liquid  | 3169                                 | 2                     |         |
| FUMIGATED UNIT   | 3359   | 9                               |         | GAS SAMPLE, NON-<br>PRESSURIZED, TOXIC,<br>FLAMMABLE, N.O.S., not<br>refrigerated liquid                                      | 3168                                 | 2                     |         |
| FURALDEHYDES   | 1199   | 6.1                             |         | Gelatin, blasting, see  | 0081                                 | 1                     |         |
| FURAN  | 2389   | 3                               |         | Gelatin, dynamites, see   | 0081                                 | 1                     |         |
| FURFURYL ALCOHOL   | 2874   | 6.1                             |         | GENETICALLY MODIFIED<br>MICROORGANISMS  | 3245                                 | 9                     |         |
| FURFURYLAMINE  | 2526   | 3                               |         | GENETICALLY MODIFIED<br>ORGANISMS   | 3245                                 | 9                     |         |
| Furyl carbinol, see  | 2874   | 6.1                             |         | GERMANE   | 2192                                 | 2                     |         |
| FUSE, DETONATING, metal clad                                     | 0102<br>0290   | 1<br>1                          |         | Germanium hydride, see  | 2192                                 | 2                     |         |
| FUSE, DETONATING, MILD<br>EFFECT, metal clad                     | 0104   | 1                               |         | Glycer-1,3-dichlorohydrin, see  | 2750                                 | 6.1                   |         |
| FUSE, IGNITER, tubular, metal clad                               | 0103   | 1                               |         | GLYCEROL alpha-<br>MONOCHLOROHYDRIN   | 2689                                 | 6.1                   |         |
| FUSE, NON-DETONATING   | 0101   | 1                               |         | Glyceryl trinitrate, see  | 0143<br>0144<br>1204<br>3064         | 1<br>1<br>3<br>3      |         |
| FUSEL OIL  | 1201   | 3                               |         | GLYCIDALDEHYDE  | 2622                                 | 3                     |         |
| FUSE, SAFETY   | 0105   | 1                               |         | GRENADES, hand or rifle, with<br>bursting charge  | 0284<br>0285<br>0292<br>0293         | 1<br>1<br>1<br>1      |         |
| Fuze, combination, percussion or<br>time, see                    | 0106<br>0107<br>0257<br>0316<br>0317<br>0367<br>0368 | 1<br>1<br>1<br>1<br>1<br>1<br>1 |         | Grenades, illuminating, see   | 0171<br>0254<br>0297                 | 1<br>1<br>1           |         |
| FUZES, DETONATING  | 0106<br>0107<br>0257<br>0367                         | 1<br>1<br>1<br>1                |         | GRENADES, PRACTICE, hand or<br>rifle  | 0110<br>0318<br>0372<br>0452         | 1<br>1<br>1<br>1      |         |
| FUZES, DETONATING with<br>protective features                    | 0408<br>0409<br>0410                                 | 1<br>1<br>1                     |         | Grenades, smoke, see  | 0015<br>0016<br>0245<br>0246<br>0303 | 1<br>1<br>1<br>1<br>1 |         |
| FUZES, IGNITING  | 0316<br>0317<br>0368                                 | 1<br>1<br>1                     |         | GUANIDINE NITRATE   | 1467                                 | 5.1                   |         |
| GALLIUM  | 2803   | 8                               |         | GUANYLNITROSAMINO-<br>GUANYLIDENE HYDRAZINE,<br>WETTED with not less than 30%<br>water, by mass                               | 0113                                 | 1                     |         |
| GAS CARTRIDGES without a<br>release device, non-refillable, see  | 2037   | 2                               |         | GUANYLNITROSAMINO-<br>GUANYLTETRAZENE, WETTED<br>with not less than 30% water, or<br>mixture of alcohol and water, by<br>mass | 0114                                 | 1                     |         |
| Gas drips, hydrocarbon, see                                      | 3295   | 3                               |         |   |                                      |                       |         |
| GAS OIL  | 1202   | 3                               |         |   |                                      |                       |         |
| GASOLINE   | 1203   | 3                               |         |   |                                      |                       |         |
| Gasoline and ethanol mixture, with<br>more than 10% ethanol, see | 3475   | 3                               |         |   |                                      |                       |         |
| Gasoline, casinghead, see  | 1203   | 3                               |         |   |                                      |                       |         |
| GAS, REFRIGERATED LIQUID,<br>N.O.S.                              | 3158   | 2                               |         |   |                                      |                       |         |
| GAS, REFRIGERATED LIQUID,<br>FLAMMABLE, N.O.S.                   | 3312   | 2                               |         |   |                                      |                       |         |

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|---|--------|-------|--------------------|---|--------|-------|---------|
| GUNPOWDER, COMPRESSED, see                          | 0028   | 1     |                    | Hexahydrocresol, see  | 2617   | 3     |         |
| GUNPOWDER, granular or as a meal, see               | 0027   | 1     |                    | Hexahydromethyl phenol, see   | 2617   | 3     |         |
| GUNPOWDER, IN PELLETS, see                          | 0028   | 1     |                    | HEXALDEHYDE   | 1207   | 3     |         |
| Gutta percha solution, see                          | 1287   | 3     |                    | HEXAMETHYLENEDIAMINE, SOLID   | 2280   | 8     |         |
| HAFNIUM POWDER, DRY                                 | 2545   | 4.2   |                    | HEXAMETHYLENEDIAMINE SOLUTION   | 1783   | 8     |         |
| HAFNIUM POWDER, WETTED with not less than 25% water | 1326   | 4.1   |                    | HEXAMETHYLENE DIISOCYANATE  | 2281   | 6.1   |         |
| Hay   | 1327   | 4.1   | Not subject to ADR | HEXAMETHYLENEIMINE  | 2493   | 3     |         |
|   |        |       |                    | HEXAMETHYLENE-TETRAMINE   | 1328   | 4.1   |         |
|   |        |       |                    | Hexamine, see   | 1328   | 4.1   |         |
| HEATING OIL, LIGHT                                  | 1202   | 3     |                    | HEXANES   | 1208   | 3     |         |
| Heavy hydrogen, see                                 | 1957   | 2     |                    | HEXANITRODIPHENYL-AMINE   | 0079   | 1     |         |
| HELIUM, COMPRESSED                                  | 1046   | 2     |                    | HEXANITROSTILBENE   | 0392   | 1     |         |
| HELIUM, REFRIGERATED LIQUID                         | 1963   | 2     |                    | Hexanoic acid, see  | 2829   | 8     |         |
| HEPTAFLUOROPROPANE                                  | 3296   | 2     |                    | HEXANOLS  | 2282   | 3     |         |
| n-HEPTALDEHYDE                                      | 3056   | 3     |                    | 1-HEXENE  | 2370   | 3     |         |
| n-Heptanal, see                                     | 3056   | 3     |                    | HEXOGEN AND CYCLOTETRAMETHYLENE-TETRANITRAMINE MIXTURE, WETTED with not less than 15% water, by mass or DESENSITIZED with not less than 10% phlegmatizer by mass, see | 0391   | 1     |         |
| HEPTANES  | 1206   | 3     |                    | HEXOGEN, DESENSITIZED, see  | 0483   | 1     |         |
| 4-Heptanone, see                                    | 2710   | 3     |                    | HEXOGEN, WETTED with not less than 15% water, by mass, see  | 0072   | 1     |         |
| n-HEPTENE   | 2278   | 3     |                    | HEXOLITE, dry or wetted with less than 15% water, by mass   | 0118   | 1     |         |
| HEXACHLOROACETONE                                   | 2661   | 6.1   |                    | HEXOTOL, dry or wetted with less than 15% water, by mass, see   | 0118   | 1     |         |
| HEXACHLOROBENZENE                                   | 2729   | 6.1   |                    | HEXOTONAL   | 0393   | 1     |         |
| HEXACHLOROBUTADIENE                                 | 2279   | 6.1   |                    | HEXOTONAL, cast, see  | 0393   | 1     |         |
| Hexachloro-1,3-butadiene, see                       | 2279   | 6.1   |                    | HEXYL, see  | 0079   | 1     |         |
| HEXACHLOROCYCLO-PENTADIENE                          | 2646   | 6.1   |                    | HEXYLTRICHLOROSILANE  | 1784   | 8     |         |
| HEXACHLOROPHENE                                     | 2875   | 6.1   |                    | HMX, see  | 0391   | 1     |         |
| Hexachloro-2-propanone, see                         | 2661   | 6.1   |                    | HMX, DESENSITIZED, see  | 0484   | 1     |         |
| HEXADECYLTRICHLORO-SILANE                           | 1781   | 8     |                    | HMX, WETTED with not less than 15% water, by mass, see  | 0226   | 1     |         |
| HEXADIENES  | 2458   | 3     |                    | HYDRAZINE, ANHYDROUS  | 2029   | 8     |         |
| HEXAETHYL TETRAPHOSPHATE                            | 1611   | 6.1   |                    | HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass  | 2030   | 8     |         |
| HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE | 1612   | 2     |                    | HYDRAZINE, AQUEOUS SOLUTION with not more than 37% hydrazine, by mass   | 3293   | 6.1   |         |
| HEXAFLUOROACETONE                                   | 2420   | 2     |                    | Hydrides, metal, water-reactive, n.o.s., see  | 1409   | 4.3   |         |
| HEXAFLUOROACETONE HYDRATE, LIQUID                   | 2552   | 6.1   |                    |   |        |       |         |
| HEXAFLUOROACETONE HYDRATE, SOLID                    | 3436   | 6.1   |                    |   |        |       |         |
| HEXAFLUOROETHANE                                    | 2193   | 2     |                    |   |        |       |         |
| HEXAFLUOROPHOSPHORIC ACID                           | 1782   | 8     |                    |   |        |       |         |
| HEXAFLUOROPROPYLENE                                 | 1858   | 2     |                    |   |        |       |         |

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|---|--------|-------|---------------------|--|--------|-------|---------|
| Hydriodic acid, anhydrous, see  | 2197   | 2     |                     | HYDROGEN CYANIDE, STABILIZED, containing less than 3% water and absorbed in a porous inert material                          | 1614   | 6.1   |         |
| HYDRIODIC ACID  | 1787   | 8     |                     |  |        |       |         |
| HYDROBROMIC ACID  | 1788   | 8     |                     | HYDROGENDIFLUORIDES, SOLID, N.O.S.   | 1740   | 8     |         |
| HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.   | 1964   | 2     |                     | HYDROGENDIFLUORIDES SOLUTION, N.O.S.   | 3471   | 8     |         |
| HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. such as mixtures A, A01, A02, A0, A1, B1, B2, B or C | 1965   | 2     |                     | HYDROGEN FLUORIDE, ANHYDROUS   | 1052   | 8     |         |
| HYDROCARBON GAS REFILLS FOR SMALL DEVICES with release device                                   | 3150   | 2     |                     | Hydrogen fluoride solution, see  | 1790   | 8     |         |
| HYDROCARBONS, LIQUID, N.O.S.  | 3295   | 3     |                     | HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM   | 2      | 3468  |         |
| HYDROCHLORIC ACID   | 1789   | 8     |                     | HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM CONTAINED IN EQUIPMENT  | 2      | 3468  |         |
| HYDROCYANIC ACID, AQUEOUS SOLUTION with not more than 20% hydrogen cyanide                      | 1613   | 6.1   |                     | HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM PACKED WITH EQUIPMENT   | 2      | 3468  |         |
| HYDROFLUORIC ACID with more than 60% but not more than 85% hydrogen fluoride                    | 1790   | 8     |                     | HYDROGEN IODIDE, ANHYDROUS   | 2197   | 2     |         |
| HYDROFLUORIC ACID with more than 85% hydrogen fluoride  | 1790   | 8     |                     | Hydrogen iodide solution, see  | 1787   | 8     |         |
| HYDROFLUORIC ACID with not more than 60% hydrogen fluoride                                      | 1790   | 8     |                     | HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE with acid(s), water and not more than 5% peroxyacetic acid, STABILIZED       | 3149   | 5.1   |         |
| HYDROFLUORIC ACID AND SULPHURIC ACID MIXTURE  | 1786   | 8     |                     | HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 8% but less than 20% hydrogen peroxide (stabilized as necessary)      | 2984   | 5.1   |         |
| Hydrofluoroboric acid, see  | 1775   | 8     |                     |  |        |       |         |
| Hydrofluorosilicic acid, see  | 1778   | 8     |                     | HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary) | 2014   | 5.1   |         |
| HYDROGEN AND METHANE MIXTURE, COMPRESSED  | 2034   | 2     |                     |  |        |       |         |
| Hydrogen arsenide, see  | 2188   | 2     |                     | HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 60% hydrogen peroxide and not more than 70% hydrogen peroxide | 2015   | 5.1   |         |
| HYDROGEN BROMIDE, ANHYDROUS   | 1048   | 2     |                     |  |        |       |         |
| Hydrogen bromide solution, see  | 1788   | 8     |                     | HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 70% hydrogen peroxide   | 2015   | 5.1   |         |
| HYDROGEN CHLORIDE, ANHYDROUS  | 1050   | 2     |                     |  |        |       |         |
| HYDROGEN CHLORIDE, REFRIGERATED LIQUID  | 2186   | 2     | Carriage prohibited | HYDROGEN, REFRIGERATED LIQUID  | 1966   | 2     |         |
| HYDROGEN, COMPRESSED  | 1049   | 2     |                     | HYDROGEN SELENIDE, ANHYDROUS   | 2202   | 2     |         |
| HYDROGEN CYANIDE, AQUEOUS SOLUTION with not more than 20% hydrogen cyanide, see                 | 1613   | 6.1   |                     | Hydrogen silicide, see   | 2203   | 2     |         |
| HYDROGEN CYANIDE, SOLUTION IN ALCOHOL with not more than 45% hydrogen cyanide                   | 3294   | 6.1   |                     | HYDROGEN SULPHIDE  | 1053   | 2     |         |
| HYDROGEN CYANIDE, STABILIZED containing less than 3% water                                      | 1051   | 6.1   |                     | Hydroselenic acid, see   | 2202   | 2     |         |
|   |        |       |                     | Hydrosilicofluoric acid, see   | 1778   | 8     |         |

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| 1-HYDROXY-BENZOTRIAZOLE, ANHYDROUS, dry or wetted with less than 20% water, by mass | 0508<br>3474                         | 1<br>1                |         | IRON SPONGE, SPENT obtained from coal gas purification       | 1376   | 4.2   |         |
| 3-Hydroxybutan-2-one, see   | 2621                                 | 3                     |         | Iron swarf, see  | 2793   | 4.2   |         |
| HYDROXYLAMINE SULPHATE  | 2865                                 | 8                     |         | ISOBUTANE  | 1969   | 2     |         |
| 1-Hydroxy-3-methyl-2-penten-4-yne, see  | 2705                                 | 8                     |         | ISOBUTANOL   | 1212   | 3     |         |
| 3-Hydroxyphenol, see  | 2876                                 | 6.1                   |         | Isobutene, see   | 1055   | 2     |         |
| HYPOCHLORITES, INORGANIC, N.O.S.  | 3212                                 | 5.1                   |         | ISOBUTYL ACETATE   | 1213   | 3     |         |
| HYPOCHLORITE SOLUTION   | 1791                                 | 8                     |         | ISOBUTYL ACRYLATE, STABILIZED                                | 2527   | 3     |         |
| IGNITERS  | 0121<br>0314<br>0315<br>0325<br>0454 | 1<br>1<br>1<br>1<br>1 |         | ISOBUTYL ALCOHOL, see  | 1212   | 3     |         |
| 3,3'-IMINO-DIPROPYLAMINE  | 2269                                 | 8                     |         | ISOBUTYL ALDEHYDE, see                                       | 2045   | 3     |         |
| Indiarubber, see  | 1287                                 | 3                     |         | ISOBUTYLAMINE  | 1214   | 3     |         |
| INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only  | 2900                                 | 6.2                   |         | ISOBUTYLENE  | 1055   | 2     |         |
| INFECTIOUS SUBSTANCE, AFFECTING HUMANS  | 2814                                 | 6.2                   |         | ISOBUTYL FORMATE   | 2393   | 3     |         |
| Ink, printer's, flammable, see  | 1210                                 | 3                     |         | ISOBUTYL ISOBUTYRATE   | 2528   | 3     |         |
| INSECTICIDE GAS, N.O.S.   | 1968                                 | 2                     |         | ISOBUTYL ISOCYANATE  | 2486   | 3     |         |
| INSECTICIDE GAS, FLAMMABLE, N.O.S.  | 3354                                 | 2                     |         | ISOBUTYL METHACRYLATE, STABILIZED                            | 2283   | 3     |         |
| INSECTICIDE GAS, TOXIC, N.O.S.  | 1967                                 | 2                     |         | ISOBUTYL PROPIONATE  | 2394   | 3     |         |
| INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.   | 3355                                 | 2                     |         | ISOBUTYRALDEHYDE   | 2045   | 3     |         |
| IODINE MONOCHLORIDE   | 1792                                 | 8                     |         | ISOBUTYRIC ACID  | 2529   | 3     |         |
| IODINE PENTAFLUORIDE  | 2495                                 | 5.1                   |         | ISOBUTYRONITRILE   | 2284   | 3     |         |
| 2-IODOBUTANE  | 2390                                 | 3                     |         | ISOBUTYRYL CHLORIDE  | 2395   | 3     |         |
| Iodomethane, see  | 2644                                 | 6.1                   |         | ISOCYANATES, FLAMMABLE, TOXIC, N.O.S.                        | 2478   | 3     |         |
| IODOMETHYLPROPANES  | 2391                                 | 3                     |         | ISOCYANATES, TOXIC, N.O.S.                                   | 2206   | 6.1   |         |
| IODOPROPANES  | 2392                                 | 3                     |         | ISOCYANATES, TOXIC, FLAMMABLE, N.O.S.                        | 3080   | 6.1   |         |
| alpha-Iodotoluene, see  | 2653                                 | 6.1                   |         | ISOCYANATE SOLUTION, FLAMMABLE, TOXIC, N.O.S.                | 2478   | 3     |         |
| I.p.d.i., see   | 2290                                 | 6.1                   |         | ISOCYANATE SOLUTION, TOXIC, N.O.S.                           | 2206   | 6.1   |         |
| Iron chloride, anhydrous, see   | 1773                                 | 8                     |         | ISOCYANATE SOLUTION, TOXIC, FLAMMABLE, N.O.S.                | 3080   | 6.1   |         |
| Iron (III) chloride, anhydrous, see   | 1773                                 | 8                     |         | ISOCYANATO-BENZOTRIFLUORIDES                                 | 2285   | 6.1   |         |
| Iron chloride solution, see   | 2582                                 | 8                     |         | 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, see | 2290   | 6.1   |         |
| IRON OXIDE, SPENT obtained from coal gas purification                               | 1376                                 | 4.2                   |         | Isododecane, see   | 2286   | 3     |         |
| IRON PENTACARBONYL  | 1994                                 | 6.1                   |         | ISOHEPTENE   | 2287   | 3     |         |
| Iron perchloride, anhydrous, see  | 1773                                 | 8                     |         | ISOHEXENE  | 2288   | 3     |         |
| Iron powder, pyrophoric, see  | 1383                                 | 4.2                   |         | Isooctane, see   | 1262   | 3     |         |
| Iron sesquichloride, anhydrous, see   | 1773                                 | 8                     |         | ISOOCETENE   | 1216   | 3     |         |
|   |                                      |                       |         | Isopentane, see  | 1265   | 3     |         |
|   |                                      |                       |         | ISOPENTENES  | 2371   | 3     |         |
|   |                                      |                       |         | Isopentylamine, see  | 1106   | 3     |         |

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| Isopentyl nitrite, see  | 1113   | 3     |         | Lacquer, see  | 1263   | 3     |         |
| ISOPHORONEDIAMINE   | 2289   | 8     |         |   | 3066   | 8     |         |
| ISOPHORONE DIISOCYANATE   | 2290   | 6.1   |         |   | 3469   | 3     |         |
| ISOPRENE, STABILIZED  | 1218   | 3     |         |   | 3470   | 8     |         |
| ISOPROPANOL   | 1219   | 3     |         | Lacquer base, liquid, see   | 1263   | 3     |         |
| ISOPROPENYL ACETATE   | 2403   | 3     |         |   | 3066   | 8     |         |
| ISOPROPENYLBENZENE  | 2303   | 3     |         |   | 3469   | 3     |         |
| ISOPROPYL ACETATE   | 1220   | 3     |         |   | 3470   | 8     |         |
| ISOPROPYL ACID PHOSPHATE  | 1793   | 8     |         | Lacquer base or lacquer chips, nitrocellulose, dry, see   | 2557   | 4.1   |         |
| ISOPROPYL ALCOHOL, see  | 1219   | 3     |         | Lacquer base or lacquer chips, plastic, wet with alcohol or solvent, see                                      | 1263   | 3     |         |
| ISOPROPYLAMINE  | 1221   | 3     |         |   | 2059   | 3     |         |
| ISOPROPYLBENZENE  | 1918   | 3     |         |   | 2555   | 4.1   |         |
| ISOPROPYL BUTYRATE  | 2405   | 3     |         |   | 2556   | 4.1   |         |
| Isopropyl chloride, see   | 2356   | 3     |         | LEAD ACETATE  | 1616   | 6.1   |         |
| ISOPROPYL CHLOROACETATE   | 2947   | 3     |         | Lead (II) acetate, see  | 1616   | 6.1   |         |
| ISOPROPYL CHLOROFORMATE   | 2407   | 6.1   |         | LEAD ARSENATES  | 1617   | 6.1   |         |
| ISOPROPYL 2-CHLORO-PROPIONATE   | 2934   | 3     |         | LEAD ARSENITES  | 1618   | 6.1   |         |
| Isopropyl-alpha-chloropropionate, see   | 2934   | 3     |         | LEAD AZIDE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass                     | 0129   | 1     |         |
| Isopropyl ether, see  | 1159   | 3     |         | Lead chloride, solid, see   | 2291   | 6.1   |         |
| Isopropylethylene, see  | 2561   | 3     |         | LEAD COMPOUND, SOLUBLE, N.O.S.  | 2291   | 6.1   |         |
| Isopropyl formate, see  | 1281   | 3     |         | LEAD CYANIDE  | 1620   | 6.1   |         |
| ISOPROPYL ISOBUTYRATE   | 2406   | 3     |         | Lead (II) cyanide   | 1620   | 6.1   |         |
| ISOPROPYL ISOCYANATE  | 2483   | 3     |         | LEAD DIOXIDE  | 1872   | 5.1   |         |
| Isopropyl mercaptan, see  | 2402   | 3     |         | LEAD NITRATE  | 1469   | 5.1   |         |
| ISOPROPYL NITRATE   | 1222   | 3     |         | Lead (II) nitrate   | 1469   | 5.1   |         |
| ISOPROPYL PROPIONATE  | 2409   | 3     |         | LEAD PERCHLORATE, SOLID   | 1470   | 5.1   |         |
| Isopropyltoluene, see   | 2046   | 3     |         | LEAD PERCHLORATE, SOLUTION  | 3408   | 5.1   |         |
| Isopropyltoluol, see  | 2046   | 3     |         | Lead (II) perchlorate   | 1470   | 5.1   |         |
| ISOSORBIDE DINITRATE  | 2907   | 4.1   |         |   | 3408   | 5.1   |         |
| MIXTURE with not less than 60% lactose, mannose, starch or calcium hydrogen phosphate |        |       |         | Lead peroxide, see  | 1872   | 5.1   |         |
| ISOSORBIDE-5-MONONITRATE  | 3251   | 4.1   |         | LEAD PHOSPHITE, DIBASIC   | 2989   | 4.1   |         |
| Isovaleraldehyde, see   | 2058   | 3     |         | LEAD STYPHNATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass                 | 0130   | 1     |         |
| JET PERFORATING GUNS, CHARGED, oil well, without detonator                            | 0124   | 1     |         | LEAD SULPHATE with more than 3% free acid   | 1794   | 8     |         |
|   | 0494   | 1     |         | Lead tetraethyl, see  | 1649   | 6.1   |         |
| Jet tappers, without detonator, see   | 0059   | 1     |         | Lead tetramethyl, see   | 1649   | 6.1   |         |
| KEROSENE  | 1223   | 3     |         | LEAD TRINITRO-RESORCINATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass, see | 0130   | 1     |         |
| KETONES, LIQUID, N.O.S.   | 1224   | 3     |         | LIFE-SAVING APPLIANCES NOT SELF-INFLATING containing dangerous goods as equipment                             | 3072   | 9     |         |
| KRYPTON, COMPRESSED   | 1056   | 2     |         |   |        |       |         |
| KRYPTON, REFRIGERATED LIQUID  | 1970   | 2     |         |   |        |       |         |

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| LIFE-SAVING APPLIANCES, SELF-INFLATING   | 2990   | 9     |         | LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries) | 3091   | 9     |         |
| LIGHTER REFILLS containing flammable gas   | 1057   | 2     |         | LITHIUM METAL BATTERIES (including lithium alloy batteries)                           | 3090   | 9     |         |
| LIGHTERS containing flammable gas  | 1057   | 2     |         | LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT (including lithium alloy batteries)    | 3091   | 9     |         |
| LIGHTERS, FUSE   | 0131   | 1     |         | LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT (including lithium alloy batteries)     | 3091   | 9     |         |
| Limonene, inactive, see  | 2052   | 3     |         | LITHIUM BOROHYDRIDE   | 1413   | 4.3   |         |
| LIQUEFIED GAS, N.O.S.  | 3163   | 2     |         | LITHIUM FERROSILICON  | 2830   | 4.3   |         |
| LIQUEFIED GAS, FLAMMABLE, N.O.S.   | 3161   | 2     |         | LITHIUM HYDRIDE   | 1414   | 4.3   |         |
| LIQUEFIED GASES, non-flammable, charged with nitrogen, carbon dioxide or air           | 1058   | 2     |         | LITHIUM HYDRIDE, FUSED SOLID  | 2805   | 4.3   |         |
| LIQUEFIED GAS, OXIDIZING, N.O.S.   | 3157   | 2     |         | LITHIUM HYDROXIDE   | 2680   | 8     |         |
| LIQUEFIED GAS, TOXIC, N.O.S.   | 3162   | 2     |         | LITHIUM HYDROXIDE SOLUTION  | 2679   | 8     |         |
| LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.  | 3308   | 2     |         | LITHIUM HYPOCHLORITE, DRY   | 1471   | 5.1   |         |
| LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S.  | 3160   | 2     |         | LITHIUM HYPOCHLORITE MIXTURE  | 1471   | 5.1   |         |
| LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.                                     | 3309   | 2     |         | Lithium in cartouches, see  | 1415   | 4.3   |         |
| LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S.  | 3307   | 2     |         | LITHIUM NITRATE   | 2722   | 5.1   |         |
| LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.                                     | 3310   | 2     |         | LITHIUM NITRIDE   | 2806   | 4.3   |         |
| Liquefied petroleum gas, see   | 1075   | 2     |         | LITHIUM PEROXIDE  | 1472   | 5.1   |         |
| Liquid filler, see   | 1263   | 3     |         | Lithium silicide, see   | 1417   | 4.3   |         |
|  | 3066   | 8     |         | LITHIUM SILICON   | 1417   | 4.3   |         |
|  | 3469   | 3     |         | L.n.g., see   | 1972   | 2     |         |
|  | 3470   | 8     |         | LONDON PURPLE   | 1621   | 6.1   |         |
| Liquid lacquer base, see   | 1263   | 3     |         | L.p.g., see   | 1075   | 2     |         |
|  | 3066   | 8     |         | Lye, see  | 1823   | 8     |         |
|  | 3469   | 3     |         | Lythene, see  | 1268   | 3     |         |
|  | 3470   | 8     |         | MAGNESIUM in pellets, turnings or ribbons   | 1869   | 4.1   |         |
| LITHIUM  | 1415   | 4.3   |         | Magnesium alkyls, see   | 3394   | 4.2   |         |
| Lithium alkyls, liquid, see  | 3394   | 4.2   |         | MAGNESIUM ALLOYS with more than 50% magnesium in pellets, turnings or ribbons         | 1869   | 4.1   |         |
| Lithium alkyls, solid, see   | 3393   | 4.2   |         | MAGNESIUM ALLOYS POWDER   | 1418   | 4.3   |         |
| LITHIUM ALUMINIUM HYDRIDE  | 1410   | 4.3   |         | MAGNESIUM ALUMINIUM PHOSPHIDE   | 1419   | 4.3   |         |
| LITHIUM ALUMINIUM HYDRIDE, ETHEREAL  | 1411   | 4.3   |         | MAGNESIUM ARSENATE  | 1622   | 6.1   |         |
| LITHIUM ION BATTERIES (including lithium ion polymer batteries)                        | 3090   | 9     |         | Magnesium bisulphite solution, see  | 2693   | 8     |         |
| LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT (including lithium ion polymer batteries) | 3091   | 9     |         | MAGNESIUM BROMATE   | 1473   | 5.1   |         |
|  |        |       |         | MAGNESIUM CHLORATE  | 2723   | 5.1   |         |

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|---|--------------|------------|--------------------|--|--------|-------|---------|
| Magnesium chloride and chlorate mixture, see  | 1459<br>3407 | 5.1<br>5.1 |                    | MATCHES, "STRIKE ANYWHERE"   | 1331   | 4.1   |         |
| MAGNESIUM DIAMIDE   | 2004         | 4.2        |                    | MATCHES, WAX "VESTA"   | 1945   | 4.1   |         |
| Magnesium diphenyl, see   | 3393         | 4.2        |                    | MEDICAL WASTE, N.O.S.  | 3291   | 6.2   |         |
| MAGNESIUM FLUORO-SILICATE   | 2853         | 6.1        |                    | MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.   | 3248   | 3     |         |
| MAGNESIUM GRANULES, COATED, particle size not less than 149 microns                                 | 2950         | 4.3        |                    | MEDICINE, LIQUID, TOXIC, N.O.S.  | 1851   | 6.1   |         |
| MAGNESIUM HYDRIDE   | 2010         | 4.3        |                    | MEDICINE, SOLID, TOXIC, N.O.S.   | 3249   | 6.1   |         |
| MAGNESIUM NITRATE   | 1474         | 5.1        |                    | p-Mentha-1,8-diene, see  | 2052   | 8     |         |
| MAGNESIUM PERCHLORATE   | 1475         | 5.1        |                    | MERCAPTANS, LIQUID, FLAMMABLE, N.O.S.  | 3336   | 3     |         |
| MAGNESIUM PEROXIDE  | 1476         | 5.1        |                    | MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S.                                       | 1228   | 3     |         |
| MAGNESIUM PHOSPHIDE   | 2011         | 4.3        |                    | MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S.                                       | 3071   | 6.1   |         |
| MAGNESIUM POWDER  | 1418         | 4.3        |                    | MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.                                       | 3336   | 3     |         |
| Magnesium scrap, see  | 1869         | 4.1        |                    | MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.                                | 1228   | 3     |         |
| MAGNESIUM SILICIDE  | 2624         | 4.3        |                    | MERCAPTAN MIXTURE, LIQUID, TOXIC, FLAMMABLE, N.O.S.                                | 3071   | 6.1   |         |
| Magnesium silicofluoride, see   | 2853         | 6.1        |                    |  |        |       |         |
| Magnetized material   | 2807         | 9          | Not subject to ADR |  |        |       |         |
| MALEIC ANHYDRIDE  | 2215         | 8          |                    |  |        |       |         |
| MALEIC ANHYDRIDE, MOLTEN  | 2215         | 8          |                    | 2-Mercaptoethanol, see   | 2966   | 6.1   |         |
| Malonic dinitrile, see  | 2647         | 6.1        |                    | 2-Mercaptopropionic acid, see  | 2936   | 6.1   |         |
| Malonodinitrile, see  | 2647         | 6.1        |                    | 5-MERCAPTOTETRAZOL-1-ACETIC ACID   | 0448   | 1     |         |
| MALONONITRILE   | 2647         | 6.1        |                    | MERCURIC ARSENATE  | 1623   | 6.1   |         |
| MANEB   | 2210         | 4.2        |                    | MERCURIC CHLORIDE  | 1624   | 6.1   |         |
| MANEB PREPARATION with not less than 60% maneb  | 2210         | 4.2        |                    | MERCURIC NITRATE   | 1625   | 6.1   |         |
| MANEB PREPARATION, STABILIZED against self-heating  | 2968         | 4.3        |                    | MERCURIC POTASSIUM CYANIDE   | 1626   | 6.1   |         |
| MANEB, STABILIZED against self-heating  | 2968         | 4.3        |                    | Mercuric sulphate, see   | 1645   | 6.1   |         |
| Manganese ethylene-dithiocarbamate, see   | 2210         | 4.2        |                    | Mercurool, see   | 1639   | 6.1   |         |
| Manganese ethylene-1,2-dithiocarbamate, see   | 2210         | 4.2        |                    | Mercurous bisulphate, see  | 1645   | 6.1   |         |
| MANGANESE NITRATE   | 2724         | 5.1        |                    | MERCUROUS NITRATE  | 1627   | 6.1   |         |
| Manganese (II) nitrate, see   | 2724         | 5.1        |                    | Mercurous sulphate, see  | 1645   | 6.1   |         |
| MANGANESE RESINATE  | 1330         | 4.1        |                    | MERCURY  | 2809   | 8     |         |
| Manganous nitrate, see  | 2724         | 5.1        |                    | MERCURY ACETATE  | 1629   | 6.1   |         |
| MANNITOL HEXANITRATE, WETTED with not less than 40% water, or mixture of alcohol and water, by mass | 0133         | 1          |                    | MERCURY AMMONIUM CHLORIDE  | 1630   | 6.1   |         |
| MATCHES, FUSEE  | 2254         | 4.1        |                    | MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C     | 2778   | 3     |         |
| MATCHES, SAFETY (book, card or strike on box)   | 1944         | 4.1        |                    | MERCURY BASED PESTICIDE, LIQUID, TOXIC   | 3012   | 6.1   |         |
|   |              |            |                    | MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 3011   | 6.1   |         |



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|--|--------|-------|---------|---|--------------|------------|---------|
| MERCURY BASED PESTICIDE, SOLID, TOXIC  | 2777   | 6.1   |         | METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.                            | 3209         | 4.3        |         |
| MERCURY BENZOATE   | 1631   | 6.1   |         | METAL POWDER, FLAMMABLE, N.O.S.   | 3089         | 4.1        |         |
| Mercury bichloride, see  | 1624   | 6.1   |         | METAL POWDER, SELF-HEATING, N.O.S.  | 3189         | 4.2        |         |
| MERCURY BROMIDES   | 1634   | 6.1   |         | METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.                                 | 3181         | 4.1        |         |
| MERCURY COMPOUND, LIQUID, N.O.S.   | 2024   | 6.1   |         | METHACRYLALDEHYDE, STABILIZED   | 2396         | 3          |         |
| MERCURY COMPOUND, SOLID, N.O.S.  | 2025   | 6.1   |         | METHACRYLIC ACID, STABILIZED  | 2531         | 8          |         |
| MERCURY CYANIDE  | 1636   | 6.1   |         | METHACRYLONITRILE, STABILIZED   | 3079         | 3          |         |
| MERCURY FULMINATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass | 0135   | 1     |         | METHALLYL ALCOHOL   | 2614         | 3          |         |
| MERCURY GLUCONATE  | 1637   | 6.1   |         | Methanal, see   | 1198<br>2209 | 3<br>8     |         |
| MERCURY IODIDE   | 1638   | 6.1   |         | Methane and hydrogen mixture, see   | 2034         | 2          |         |
| MERCURY NUCLEATE   | 1639   | 6.1   |         | METHANE, COMPRESSED   | 1971         | 2          |         |
| MERCURY OLEATE   | 1640   | 6.1   |         | METHANE, REFRIGERATED LIQUID  | 1972         | 2          |         |
| MERCURY OXIDE  | 1641   | 6.1   |         | METHANESULPHONYL CHLORIDE   | 3246         | 6.1        |         |
| MERCURY OXYCYANIDE, DESENSITIZED   | 1642   | 6.1   |         | METHANOL  | 1230         | 3          |         |
| MERCURY POTASSIUM IODIDE   | 1643   | 6.1   |         | 2-Methoxyethyl acetate, see   | 1189         | 3          |         |
| MERCURY SALICYLATE   | 1644   | 6.1   |         | METHOXYMETHYL ISOCYANATE  | 2605         | 3          |         |
| MERCURY SULPHATE   | 1645   | 6.1   |         | 4-METHOXY-4-METHYLPENTAN-2-ONE  | 2293         | 3          |         |
| MERCURY THIOCYANATE  | 1646   | 6.1   |         | 1-Methoxy-2-nitrobenzene, see   | 2730<br>3458 | 6.1<br>6.1 |         |
| Mesitylene, see  | 2325   | 3     |         | 1-Methoxy-3-nitrobenzene, see   | 2730<br>3458 | 6.1<br>6.1 |         |
| MESITYL OXIDE  | 1229   | 3     |         | 1-Methoxy-4-nitrobenzene, see   | 2730<br>3458 | 6.1<br>6.1 |         |
| Metal alkyl halides, water-reactive, n.o.s. / Metal aryl halides, water-reactive, n.o.s., see    | 3394   | 4.2   |         | 1-METHOXY-2-PROPANOL  | 3092         | 3          |         |
| Metal alkyl hydrides, water-reactive, n.o.s. / Metal aryl hydrides, water-reactive, n.o.s., see  | 3394   | 4.2   |         | METHYL ACETATE  | 1231         | 3          |         |
| Metal alkyls, water-reactive, n.o.s. / Metal aryls, water-reactive, n.o.s., see                  | 3393   | 4.2   |         | METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED such as mixture P1 or mixture P2 | 1060         | 2          |         |
| METAL CARBONYLS, LIQUID, N.O.S.  | 3281   | 6.1   |         | beta-Methyl acrolein, see   | 1143         | 6.1        |         |
| METAL CARBONYLS, SOLID, N.O.S.   | 3466   | 6.1   |         | METHYL ACRYLATE, STABILIZED   | 1919         | 3          |         |
| METAL CATALYST, DRY  | 2881   | 4.2   |         | METHYLAL  | 1234         | 3          |         |
| METAL CATALYST, WETTED with a visible excess of liquid   | 1378   | 4.2   |         | Methyl alcohol, see   | 1230         | 3          |         |
| METALDEHYDE  | 1332   | 4.1   |         | Methyl allyl alcohol, see   | 2614         | 3          |         |
| METAL HYDRIDES, FLAMMABLE, N.O.S.  | 3182   | 4.1   |         | METHYLALLYL CHLORIDE  | 2554         | 3          |         |
| METAL HYDRIDES, WATER-REACTIVE, N.O.S.   | 1409   | 4.3   |         |   |              |            |         |
| METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.   | 3208   | 4.3   |         |   |              |            |         |



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|--|--------------|--------|---------|---|--------|-------|---------------------|
| METHYLAMINE, ANHYDROUS   | 1061         | 2      |         | METHYLCYCLOHEXANOLS, flammable                      | 2617   | 3     |                     |
| METHYLAMINE, AQUEOUS SOLUTION  | 1235         | 3      |         | METHYLCYCLOHEXANONE                                 | 2297   | 3     |                     |
| METHYLAMYL ACETATE   | 1233         | 3      |         | METHYLCYCLOPENTANE                                  | 2298   | 3     |                     |
| Methyl amyl alcohol, see   | 2053         | 3      |         | METHYL DICHLORO-ACETATE                             | 2299   | 6.1   |                     |
| Methyl amyl ketone, see  | 1110         | 3      |         | METHYLDICHLOROSILANE                                | 1242   | 4.3   |                     |
| N-METHYLANILINE  | 2294         | 6.1    |         | Methylene bromide, see                              | 2664   | 6.1   |                     |
| Methylated spirit, see   | 1986<br>1987 | 3<br>3 |         | Methylene chloride, see                             | 1593   | 6.1   |                     |
| alpha-METHYLBENZYL ALCOHOL, LIQUID   | 2937         | 6.1    |         | Methylene chloride and methyl chloride mixture, see | 1912   | 2     |                     |
| alpha-METHYLBENZYL ALCOHOL, SOLID  | 3438         | 6.1    |         | Methylene cyanide, see                              | 2647   | 6.1   |                     |
| METHYL BROMIDE with not more than 2% chloropicrin                            | 1062         | 2      |         | p,p'-Methylene dianiline, see                       | 2651   | 6.1   |                     |
| Methyl bromide and chloropicrin mixture, with more than 2% chloropicrin, see | 1581         | 2      |         | Methylene dibromide, see                            | 2664   | 6.1   |                     |
| METHYL BROMIDE AND ETHYLENE DIBROMIDE MIXTURE, LIQUID                        | 1647         | 6.1    |         | 2,2'-Methylene-di-(3,4,6-trichlorophenol), see      | 2875   | 6.1   |                     |
| METHYL BROMOACETATE  | 2643         | 6.1    |         | Methyl ethyl ether, see                             | 1039   | 2     |                     |
| 2-METHYLBUTANAL  | 3371         | 3      |         | METHYL ETHYL KETONE, see                            | 1193   | 3     |                     |
| 3-METHYLBUTAN-2-ONE  | 2397         | 3      |         | 2-METHYL-5-ETHYLPYRIDINE                            | 2300   | 6.1   |                     |
| 2-METHYL-1-BUTENE  | 2459         | 3      |         | METHYL FLUORIDE                                     | 2454   | 2     |                     |
| 2-METHYL-2-BUTENE  | 2460         | 3      |         | METHYL FORMATE                                      | 1243   | 3     |                     |
| 3-METHYL-1-BUTENE  | 2561         | 3      |         | 2-METHYLFURAN                                       | 2301   | 3     |                     |
| N-METHYLBUTYLAMINE   | 2945         | 3      |         | Methyl glycol, see                                  | 1188   | 3     |                     |
| METHYL tert-BUTYL ETHER  | 2398         | 3      |         | Methyl glycol acetate, see                          | 1189   | 3     |                     |
| METHYL BUTYRATE  | 1237         | 3      |         | 2-METHYL-2-HEPTANE-THIOL                            | 3023   | 6.1   |                     |
| METHYL CHLORIDE  | 1063         | 2      |         | 5-METHYLHEXAN-2-ONE                                 | 2302   | 3     |                     |
| Methyl chloride and chloropicrin mixture, see                                | 1582         | 2      |         | METHYLHYDRAZINE                                     | 1244   | 6.1   |                     |
| METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE                               | 1912         | 2      |         | METHYL IODIDE                                       | 2644   | 6.1   |                     |
| METHYL CHLOROACETATE   | 2295         | 6.1    |         | METHYL ISOBUTYL CARBINOL                            | 2053   | 3     |                     |
| Methyl chlorocarbonate, see  | 1238         | 6.1    |         | METHYL ISOBUTYL KETONE                              | 1245   | 3     |                     |
| Methyl chloroform, see   | 2831         | 6.1    |         | METHYL ISOCYANATE                                   | 2480   | 6.1   |                     |
| METHYL CHLOROFORMATE   | 1238         | 6.1    |         | METHYL ISOPROPENYL KETONE, STABILIZED               | 1246   | 3     |                     |
| METHYL CHLOROMETHYL ETHER  | 1239         | 6.1    |         | METHYL ISOTHIOCYANATE                               | 2477   | 6.1   |                     |
| METHYL 2-CHLORO-PROPIONATE   | 2933         | 3      |         | METHYL ISOVALERATE                                  | 2400   | 3     |                     |
| Methyl alpha-chloropropionate, see   | 2933         | 3      |         | METHYL MAGNESIUM BROMIDE IN ETHYL ETHER             | 1928   | 4.3   |                     |
| METHYLCHLOROSILANE   | 2534         | 2      |         | METHYL MERCAPTAN                                    | 1064   | 2     |                     |
| Methyl cyanide, see  | 1648         | 3      |         | Methyl mercapto-propionaldehyde, see                | 2785   | 6.1   |                     |
| METHYLCYCLOHEXANE  | 2296         | 3      |         | METHYL METHACRYLATE MONOMER, STABILIZED             | 1247   | 3     |                     |
|  |              |        |         | 4-METHYLMORPHOLINE                                  | 2535   | 3     |                     |
|  |              |        |         | N-METHYLMORPHOLINE, see                             | 2535   | 3     |                     |
|  |              |        |         | METHYL NITRITE                                      | 2455   | 2     | Carriage prohibited |
|  |              |        |         | METHYL ORTHOSILICATE                                | 2606   | 6.1   |                     |

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|---|--------|-------|---------|---|--------|-------|---------|
| METHYLPENTADIENE                                  | 2461   | 3     |         | MIXTURES OF 1,3-BUTADIENE AND HYDROCARBONS, STABILIZED, having a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l | 1010   | 2     |         |
| Methylpentanes, see                               | 1208   | 3     |         |   |        |       |         |
| 2-METHYLPENTAN-2-OL                               | 2560   | 3     |         |   |        |       |         |
| 4-Methylpentan-2-ol, see                          | 2053   | 3     |         | Mixture P1 or mixture P2, see   | 1060   | 2     |         |
| 3-Methyl-2-penten-4ynol, see                      | 2705   | 8     |         | MOLYBDENUM PENTACHLORIDE  | 2508   | 8     |         |
| METHYLPHENYL-DICHLOROSILANE                       | 2437   | 8     |         | Monochloroacetic acid, see  | 1750   | 6.1   |         |
| 2-Methyl-2-phenylpropane, see                     | 2709   | 3     |         |   | 1751   | 6.1   |         |
| 1-METHYLPYPERIDINE                                | 2399   | 3     |         | Monochlorobenzene, see  | 1134   | 3     |         |
| METHYL PROPIONATE                                 | 1248   | 3     |         | Monochlorodifluoromethane, see  | 1018   | 2     |         |
| Methylpropylbenzene, see                          | 2046   | 3     |         | Monochlorodifluoromethane and monochloropentafluoroethane mixture, see  | 1973   | 2     |         |
| METHYL PROPYL ETHER                               | 2612   | 3     |         |   |        |       |         |
| METHYL PROPYL KETONE                              | 1249   | 3     |         | Monochlorodifluoromonobromomethane, see   | 1974   | 2     |         |
| Methyl pyridines, see                             | 2313   | 3     |         | Monochloropentafluoroethane and monochlorodifluoromethane mixture, see  | 1973   | 2     |         |
| Methylstyrene, inhibited, see                     | 2618   | 3     |         |   |        |       |         |
| alpha-Methylstyrene, see                          | 2303   | 3     |         | Monoethylamine, see   | 1036   | 2     |         |
| Methyl sulphate, see                              | 1595   | 6.1   |         | MONONITROTOLUIDINES, see  | 2660   | 6.1   |         |
| Methyl sulphide, see                              | 1164   | 3     |         | Monopropylamine, see  | 1277   | 3     |         |
| METHYLTETRAHYDRO-FURAN                            | 2536   | 3     |         | MORPHOLINE  | 2054   | 8     |         |
| METHYL TRICHLORO-ACETATE                          | 2533   | 6.1   |         | MOTOR FUEL ANTI-KNOCK MIXTURE   | 1649   | 6.1   |         |
| METHYLTRICHLOROSILANE                             | 1250   | 3     |         |   |        |       |         |
| alpha-METHYLVALERAL-DEHYDE                        | 2367   | 3     |         | MOTOR SPIRIT  | 1203   | 3     |         |
| Methyl vinyl benzene, inhibited, see              | 2618   | 3     |         | Motor spirit and ethanol mixture, with more than 10% ethanol, see   | 3475   | 3     |         |
| METHYL VINYL KETONE, STABILIZED                   | 1251   | 6.1   |         |   |        |       |         |
| M.i.b.c., see                                     | 2053   | 3     |         | Muriatic acid, see  | 1789   | 8     |         |
| MINES with bursting charge                        | 0136   | 1     |         | MUSK XYLENE, see  | 2956   | 4.1   |         |
|   | 0137   | 1     |         | Mysorite, see   | 2212   | 9     |         |
|   | 0138   | 1     |         | Naphta, see   | 1268   | 3     |         |
|   | 0294   | 1     |         | Naphta, petroleum, see  | 1268   | 3     |         |
| Mirbane oil, see                                  | 1662   | 6.1   |         | Naphta, solvent, see  | 1268   | 3     |         |
| Missiles, guided, see                             | 0180   | 1     |         | NAPHTHALENE, CRUDE  | 1334   | 4.1   |         |
|   | 0181   | 1     |         | NAPHTHALENE, MOLTEN   | 2304   | 4.1   |         |
|   | 0182   | 1     |         | NAPHTHALENE, REFINED  | 1334   | 4.1   |         |
|   | 0183   | 1     |         | alpha-NAPHTHYLAMINE   | 2077   | 6.1   |         |
|   | 0295   | 1     |         | beta-NAPHTHYLAMINE, SOLID   | 1650   | 6.1   |         |
|   | 0397   | 1     |         | beta-NAPHTHYLAMINE, SOLUTION  | 3411   | 6.1   |         |
|   | 0398   | 1     |         | NAPHTHYLTHIOUREA  | 1651   | 6.1   |         |
|   | 0436   | 1     |         | 1-Naphthylthiourea, see   | 1651   | 6.1   |         |
|   | 0437   | 1     |         | NAPHTHYLUREA  | 1652   | 6.1   |         |
|   | 0438   | 1     |         | NATURAL GAS, COMPRESSED with high methane content   | 1971   | 2     |         |
| Mixtures A, A01, A02, A0, A1, B1, B2, B or C, see | 1965   | 2     |         |   |        |       |         |
| Mixture F1, mixture F2 or mixture F3, see         | 1078   | 2     |         |   |        |       |         |

| Name and description  | UN No. | Class | Remarks | Name and description  | UN No. | Class | Remarks |
|---|--------|-------|---------|---|--------|-------|---------|
| NATURAL GAS, REFRIGERATED LIQUID with high methane content    | 1972   | 2     |         | NITRATING ACID MIXTURE, SPENT, with not more than 50% nitric acid                       | 1826   | 8     |         |
| Natural gasoline, see   | 1203   | 3     |         | NITRIC ACID, other than red fuming, with at least 65% but not more than 70% nitric acid | 2031   | 8     |         |
| Neohexane, see  | 1208   | 3     |         | NITRIC ACID, other than red fuming, with less than 65% nitric acid                      | 2031   | 8     |         |
| NEON, COMPRESSED  | 1065   | 2     |         | NITRIC ACID, other than red fuming, with more than 70% nitric acid                      | 2031   | 8     |         |
| NEON, REFRIGERATED LIQUID                                     | 1913   | 2     |         | NITRIC ACID, RED FUMING   | 2032   | 8     |         |
| Neothyl, see  | 2612   | 3     |         | NITRIC OXIDE, COMPRESSED  | 1660   | 2     |         |
| NICKEL CARBONYL   | 1259   | 6.1   |         | NITRIC OXIDE AND DINITROGEN TETROXIDE MIXTURE   | 1975   | 2     |         |
| NICKEL CYANIDE  | 1653   | 6.1   |         | NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE, see  | 1975   | 2     |         |
| Nickel (II) cyanide, see                                      | 1653   | 6.1   |         | NITRILES, FLAMMABLE, TOXIC, N.O.S.  | 3273   | 3     |         |
| NICKEL NITRATE  | 2725   | 5.1   |         | NITRILES, TOXIC, LIQUID, N.O.S.   | 3276   | 6.1   |         |
| Nickel (II) nitrate, see                                      | 2725   | 5.1   |         | NITRILES, TOXIC, SOLID, N.O.S.  | 3439   | 6.1   |         |
| NICKEL NITRITE  | 2726   | 5.1   |         | NITRILES, TOXIC, FLAMMABLE, N.O.S.  | 3275   | 6.1   |         |
| Nickel (II) nitrite, see                                      | 2726   | 5.1   |         | NITRITES, INORGANIC, N.O.S.   | 2627   | 5.1   |         |
| Nickelous nitrate, see  | 2725   | 5.1   |         | NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.   | 3219   | 5.1   |         |
| Nickelous nitrite, see  | 2726   | 5.1   |         | NITROANILINES (o-, m-, p-)  | 1661   | 6.1   |         |
| Nickel tetracarbonyl, see                                     | 1259   | 6.1   |         | NITROANISOLE, LIQUID  | 2730   | 6.1   |         |
| NICOTINE  | 1654   | 6.1   |         | NITROANISOLE, SOLID   | 3458   | 6.1   |         |
| NICOTINE COMPOUND, LIQUID, N.O.S.                             | 3144   | 6.1   |         | NITROBENZENE  | 1662   | 6.1   |         |
| NICOTINE COMPOUND, SOLID, N.O.S.                              | 1655   | 6.1   |         | Nitrobenzene bromide, see   | 2732   | 6.1   |         |
| NICOTINE HYDROCHLORIDE, LIQUID                                | 1656   | 6.1   |         | NITROBENZENESULPHONIC ACID  | 2305   | 8     |         |
| NICOTINE HYDROCHLORIDE, SOLID                                 | 3444   | 6.1   |         | Nitrobenzol, see  | 1662   | 6.1   |         |
| NICOTINE HYDROCHLORIDE, SOLUTION                              | 1656   | 6.1   |         | 5-NITROBENZOTRIAZOL   | 0385   | 1     |         |
| NICOTINE PREPARATION, LIQUID, N.O.S.                          | 3144   | 6.1   |         | NITROBENZO-TRIFLUORIDES, LIQUID   | 2306   | 6.1   |         |
| NICOTINE PREPARATION, SOLID, N.O.S.                           | 1655   | 6.1   |         | NITROBENZOTRIFLUORIDES, SOLID   | 3431   | 6.1   |         |
| NICOTINE SALICYLATE   | 1657   | 6.1   |         | NITROBROMOBENZENES, LIQUID  | 2732   | 6.1   |         |
| NICOTINE SULPHATE, SOLID                                      | 3445   | 6.1   |         | NITROBROMOBENZENES, SOLID   | 3459   | 6.1   |         |
| NICOTINE SULPHATE, SOLUTION                                   | 1658   | 6.1   |         | NITROCELLULOSE, dry or wetted with less than 25% water (or alcohol), by mass            | 0340   | 1     |         |
| NICOTINE TARTRATE   | 1659   | 6.1   |         |   |        |       |         |
| NITRATES, INORGANIC, N.O.S.                                   | 1477   | 5.1   |         |   |        |       |         |
| NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.                 | 3218   | 5.1   |         |   |        |       |         |
| NITRATING ACID MIXTURE with more than 50% nitric acid         | 1796   | 8     |         |   |        |       |         |
| NITRATING ACID MIXTURE with not more than 50% nitric acid     | 1796   | 8     |         |   |        |       |         |
| NITRATING ACID MIXTURE, SPENT, with more than 50% nitric acid | 1826   | 8     |         |   |        |       |         |

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|---|--------------|-------|---------------------|---|--------|-------|---------------------|
| NITROCELLULOSE, unmodified or plasticized with less than 18% plasticizing substance, by mass                            | 0341         | 1     |                     | NITROGLYCERIN, DESENSITIZED with not less than 40% non-volatile water-insoluble phlegmatizer, by mass             | 0143   | 1     |                     |
| NITROCELLULOSE MEMBRANE FILTERS, with not more than 12.6% nitrogen, by dry mass   | 3270         | 4.1   |                     | NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, N.O.S. with not more than 30% nitroglycerin, by mass                 | 3357   | 3     |                     |
| NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITH PLASTICIZER, WITH PIGMENT                  | 2557         | 4.1   |                     | NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, FLAMMABLE, N.O.S. with not more than 30% nitroglycerin, by mass      | 3343   | 3     |                     |
| NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITH PLASTICIZER, WITHOUT PIGMENT               | 2557         | 4.1   |                     | NITROGLYCERIN MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 2% but not more than 10% nitroglycerin, by mass | 3319   | 4.1   |                     |
| NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITHOUT PLASTICIZER, WITH PIGMENT               | 2557         | 4.1   |                     | NITROGLYCERIN, SOLUTION IN ALCOHOL with more than 1% but not more than 5% nitroglycerin                           | 3064   | 3     |                     |
| NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITHOUT PLASTICIZER, WITHOUT PIGMENT            | 2557         | 4.1   |                     | NITROGLYCERIN SOLUTION IN ALCOHOL with more than 1% but not more than 10% nitroglycerin                           | 0144   | 1     |                     |
| NITROCELLULOSE, PLASTICIZED with not less than 18% plasticizing substance, by mass                                      | 0343         | 1     |                     | NITROGLYCERIN SOLUTION IN ALCOHOL with not more than 1% nitroglycerin   | 1204   | 3     |                     |
| NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose | 2059         | 3     |                     | NITROGUANIDINE, dry or wetted with less than 20% water, by mass   | 0282   | 1     |                     |
| NITROCELLULOSE, WETTED with not less than 25% alcohol, by mass  | 0342         | 1     |                     | NITROGUANIDINE, WETTED with not less than 20% water, by mass  | 1336   | 4.1   |                     |
| NITROCELLULOSE WITH ALCOHOL (not less than 25% alcohol, by mass, and not more than 12.6% nitrogen, by dry mass)         | 2556         | 4.1   |                     | NITROHYDROCHLORIC ACID  | 1798   | 8     | Carriage prohibited |
| NITROCELLULOSE WITH WATER (not less than 25% water, by mass)  | 2555         | 4.1   |                     | NITROMANNITE, WETTED, see   | 0133   | 1     |                     |
| Nitrochlorobenzenes, see  | 1578<br>3409 | 6.1   |                     | NITROMETHANE  | 1261   | 3     |                     |
| 3-NITRO-4-CHLOROBENZO-TRIFLUORIDE   | 2307         | 6.1   |                     | Nitromuriatic acid, see   | 1798   | 8     |                     |
| NITROCRESOLS, LIQUID  | 3434         | 6.1   |                     | NITRONAPHTHALENE  | 2538   | 4.1   |                     |
| NITROCRESOLS, SOLID   | 2446         | 6.1   |                     | NITROPHENOLS (o-, m-, p-)   | 1663   | 6.1   |                     |
| NITROETHANE   | 2842         | 3     |                     | 4-NITROPHENYL-HYDRAZINE, with not less than 30% water, by mass  | 3376   | 4.1   |                     |
| NITROGEN, COMPRESSED  | 1066         | 2     |                     | NITROPROPANES   | 2608   | 3     |                     |
| NITROGEN DIOXIDE, see   | 1067         | 2     |                     | p-NITROSODIMETHYL-ANILINE   | 1369   | 4.2   |                     |
| NITROGEN, REFRIGERATED LIQUID   | 1977         | 2     |                     | NITROSTARCH, dry or wetted with less than 20% water, by mass  | 0146   | 1     |                     |
| NITROGEN TRIFLUORIDE  | 2451         | 2     |                     | NITROSTARCH, WETTED with not less than 20% water, by mass   | 1337   | 4.1   |                     |
| NITROGEN TRIOXIDE   | 2421         | 2     | Carriage prohibited | NITROSYL CHLORIDE   | 1069   | 2     |                     |
|   |              |       |                     | NITROSYLSULPHURIC ACID, LIQUID  | 2308   | 8     |                     |
|   |              |       |                     | NITROSYLSULPHURIC ACID, SOLID   | 3456   | 8     |                     |
|   |              |       |                     | NITROTOLUENES, LIQUID   | 1664   | 6.1   |                     |

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|---|--------|-------|---------|--|--------------|-------|---------|
| NITROTOLUENES, SOLID  | 3446   | 6.1   |         | ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED   | 3112         | 5.2   |         |
| NITROTOLUIDINES   | 2660   | 6.1   |         |  |              |       |         |
| NITROTRIAZOLONE   | 0490   | 1     |         | ORGANIC PEROXIDE TYPE C, LIQUID  | 3103         | 5.2   |         |
| NITRO UREA  | 0147   | 1     |         |  |              |       |         |
| NITROUS OXIDE   | 1070   | 2     |         | ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED  | 3113         | 5.2   |         |
| NITROUS OXIDE, REFRIGERATED LIQUID                          | 2201   | 2     |         |  |              |       |         |
| NITROXYLENES, LIQUID  | 1665   | 6.1   |         | ORGANIC PEROXIDE TYPE C, SOLID   | 3104         | 5.2   |         |
| NITROXYLENES, SOLID   | 3447   | 6.1   |         | ORGANIC PEROXIDE TYPE C, SOLID, TEMPERATURE CONTROLLED   | 3114         | 5.2   |         |
| Non-activated carbon, see                                   | 1361   | 4.2   |         |  |              |       |         |
| Non-activated charcoal, see                                 | 1361   | 4.2   |         | ORGANIC PEROXIDE TYPE D, LIQUID  | 3105         | 5.2   |         |
| NONANES   | 1920   | 3     |         |  |              |       |         |
| NONYLTRICHLOROSILANE  | 1799   | 8     |         | ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED  | 3115         | 5.2   |         |
| 2,5-NORBORNADIENE, STABILIZED, see                          | 2251   | 3     |         |  |              |       |         |
| Normal propyl alcohol, see                                  | 1274   | 3     |         | ORGANIC PEROXIDE TYPE D, SOLID   | 3106         | 5.2   |         |
| NTO, see  | 0490   | 1     |         |  |              |       |         |
| OCTADECYLTRICHLORO-SILANE                                   | 1800   | 8     |         | ORGANIC PEROXIDE TYPE D, SOLID, TEMPERATURE CONTROLLED   | 3116         | 5.2   |         |
| OCTADIENE   | 2309   | 3     |         |  |              |       |         |
| OCTAFLUOROBUT-2-ENE   | 2422   | 2     |         | ORGANIC PEROXIDE TYPE E, LIQUID  | 3107         | 5.2   |         |
| OCTAFLUOROCYCLO-BUTANE                                      | 1976   | 2     |         |  |              |       |         |
| OCTAFLUOROPROPANE   | 2424   | 2     |         | ORGANIC PEROXIDE TYPE E, LIQUID, TEMPERATURE CONTROLLED  | 3117         | 5.2   |         |
| OCTANES   | 1262   | 3     |         |  |              |       |         |
| OCTOGEN, see  | 0226   | 1     |         | ORGANIC PEROXIDE TYPE E, SOLID   | 3108         | 5.2   |         |
|   | 0391   | 1     |         |  |              |       |         |
|   | 0484   | 1     |         | ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED   | 3118         | 5.2   |         |
| OCTOL, dry or wetted with less than 15% water, by mass, see | 0266   | 1     |         |  |              |       |         |
|   |        |       |         | ORGANIC PEROXIDE TYPE F, LIQUID  | 3109         | 5.2   |         |
| OCTOLITE, dry or wetted with less than 15% water, by mass   | 0266   | 1     |         |  |              |       |         |
|   |        |       |         | ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED  | 3119         | 5.2   |         |
| OCTONAL   | 0496   | 1     |         |  |              |       |         |
| OCTYL ALDEHYDES   | 1191   | 3     |         | ORGANIC PEROXIDE TYPE F, SOLID   | 3110         | 5.2   |         |
| tert-Octyl mercaptan, see                                   | 3023   | 6.1   |         |  |              |       |         |
| OCTYLTRICHLOROSILANE  | 1801   | 8     |         | ORGANIC PEROXIDE TYPE F, SOLID, TEMPERATURE CONTROLLED   | 3120         | 5.2   |         |
| Oenanthol, see  | 3056   | 3     |         |  |              |       |         |
| OIL GAS, COMPRESSED   | 1071   | 2     |         | Organic peroxides, see 2.2.52.4 for an alphabetic list of currently assigned organic peroxides and see | 3101 to 3120 | 5.2   |         |
| Oleum, see  | 1831   | 8     |         |  |              |       |         |
| ORGANIC PEROXIDE TYPE B, LIQUID                             | 3101   | 5.2   |         | ORGANIC PIGMENTS, SELF-HEATING   | 3313         | 4.2   |         |
| ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED     | 3111   | 5.2   |         |  |              |       |         |
|   |        |       |         | ORGANOARSENIC COMPOUND, LIQUID, N.O.S.   | 3280         | 6.1   |         |
| ORGANIC PEROXIDE TYPE B, SOLID                              | 3102   | 5.2   |         |  |              |       |         |
|   |        |       |         | ORGANOARSENIC COMPOUND, SOLID, N.O.S.  | 3465         | 6.1   |         |

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|---|--------|-------|---------|---|--------|-------|---------------------|
| ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C   | 2762   | 3     |         | ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.                                      | 3278   | 6.1   |                     |
| ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC   | 2996   | 6.1   |         | ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID N.O.S.  | 3464   | 6.1   |                     |
| ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C   | 2995   | 6.1   |         | ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S.                                   | 3279   | 6.1   |                     |
| ORGANOCHLORINE PESTICIDE, SOLID, TOXIC  | 2761   | 6.1   |         | ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C     | 2784   | 3     |                     |
| ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S.,   | 3282   | 6.1   |         | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC   | 3018   | 6.1   |                     |
| ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.,  | 3467   | 6.1   |         | ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 3017   | 6.1   |                     |
| Organometallic compound, solid, water-reactive, flammable, n.o.s., see  | 3396   | 4.3   |         | ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC  | 2783   | 6.1   |                     |
| Organometallic compound or Organometallic compound solution or Organometallic compound dispersion, water-reactive, flammable, n.o.s., see | 3399   | 4.3   |         | ORGANOTIN COMPOUND, LIQUID, N.O.S.  | 2788   | 6.1   |                     |
| ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC  | 3392   | 4.2   |         | ORGANOTIN COMPOUND, SOLID, N.O.S.   | 3146   | 6.1   |                     |
| ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC   | 3391   | 4.2   |         | ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C            | 2787   | 3     |                     |
| ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING   | 3400   | 4.2   |         | ORGANOTIN PESTICIDE, LIQUID, TOXIC  | 3020   | 6.1   |                     |
| ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE  | 3394   | 4.2   |         | ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C        | 3019   | 6.1   |                     |
| ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE   | 3393   | 4.2   |         | ORGANOTIN PESTICIDE, SOLID, TOXIC   | 2786   | 6.1   |                     |
| ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE  | 3398   | 4.3   |         | Orthophosphoric acid, see   | 1805   | 8     |                     |
| ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE   | 3395   | 4.3   |         | OSMIUM TETROXIDE  | 2471   | 6.1   |                     |
| ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE   | 3399   | 4.3   |         | OXIDIZING LIQUID, N.O.S.  | 3139   | 5.1   |                     |
| ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE  | 3396   | 4.3   |         | OXIDIZING LIQUID, CORROSIVE, N.O.S.   | 3098   | 5.1   |                     |
| ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING   | 3397   | 4.3   |         | OXIDIZING LIQUID, TOXIC, N.O.S.   | 3099   | 5.1   |                     |
|   |        |       |         | OXIDIZING SOLID, N.O.S.   | 1479   | 5.1   |                     |
|   |        |       |         | OXIDIZING SOLID, CORROSIVE, N.O.S.  | 3085   | 5.1   |                     |
|   |        |       |         | OXIDIZING SOLID, FLAMMABLE, N.O.S.  | 3137   | 5.1   | Carriage prohibited |
|   |        |       |         | OXIDIZING SOLID, SELF-HEATING, N.O.S.   | 3100   | 5.1   | Carriage prohibited |
|   |        |       |         | OXIDIZING SOLID, TOXIC, N.O.S.  | 3087   | 5.1   |                     |
|   |        |       |         | OXIDIZING SOLID, WATER-REACTIVE, N.O.S.   | 3121   | 5.1   | Carriage prohibited |

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|--|------------------------------|------------------|---------|---|--------|-------|---------|
| Oxirane, see   | 1040                         | 2                |         | Pentafluoroethane, 1,1,1-trifluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 44% pentafluoroethane and 52% 1,1,1-trifluoroethane, see | 3337   | 2     |         |
| OXYGEN, COMPRESSED   | 1072                         | 2                |         | PENTAMETHYLHEPTANE  | 2286   | 3     |         |
| OXYGEN DIFLUORIDE, COMPRESSED  | 2190                         | 2                |         | Pentanal, see   | 2058   | 3     |         |
| OXYGEN GENERATOR, CHEMICAL   | 3356                         | 5.1              |         | PENTANE-2,4-DIONE   | 2310   | 3     |         |
| OXYGEN, REFRIGERATED LIQUID  | 1073                         | 2                |         | PENTANES, liquid  | 1265   | 3     |         |
| 1-Oxy-4-nitrobenzene, see  | 1663                         | 6.1              |         | n-Pentane, see  | 1265   | 3     |         |
| PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)       | 1263<br>3066<br>3469<br>3470 | 3<br>8<br>3<br>8 |         | PENTANOLS   | 1105   | 3     |         |
| PAINT RELATED MATERIAL (including paint thinning and reducing compound)  | 1263<br>3066<br>3469<br>3470 | 3<br>8<br>3<br>8 |         | 3-Pentanol, see   | 1105   | 3     |         |
| Paint thinning and reducing compound, see  | 1263<br>3066<br>3469<br>3470 | 3<br>8<br>3<br>8 |         | 1-PENTENE   | 1108   | 3     |         |
| PAPER, UNSATURATED OIL TREATED, incompletely dried (including carbon paper)  | 1379                         | 4.2              |         | 1-PENTOL  | 2705   | 8     |         |
| Paraffin, see  | 1223                         | 3                |         | PENTOLITE, dry or wetted with less than 15% water, by mass  | 0151   | 1     |         |
| PARAFORMALDEHYDE   | 2213                         | 4.1              |         | Pentyl nitrite, see   | 1113   | 3     |         |
| PARALDEHYDE  | 1264                         | 3                |         | PERCHLORATES, INORGANIC, N.O.S.   | 1481   | 5.1   |         |
| PCBs, see  | 2315<br>3432                 | 9<br>9           |         | PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.   | 3211   | 5.1   |         |
| PENTABORANE  | 1380                         | 4.2              |         | PERCHLORIC ACID with more than 50% but not more than 72% acid, by mass  | 1873   | 5.1   |         |
| PENTACHLOROETHANE  | 1669                         | 6.1              |         | PERCHLORIC ACID with not more than 50% acid, by mass  | 1802   | 8     |         |
| PENTACHLOROPHENOL  | 3155                         | 6.1              |         | Perchlorobenzene, see   | 2729   | 6.1   |         |
| PENTAERYTHRITETETRANITRATE with not less than 7% wax, by mass  | 0411                         | 1                |         | Perchlorocyclopentadiene, see   | 2646   | 6.1   |         |
| PENTAERYTHRITETETRANITRATE, DESENSITIZED with not less than 15% phlegmatizer, by mass                                  | 0150                         | 1                |         | Perchloroethylene, see  | 1897   | 6.1   |         |
| PENTAERYTHRITETETRANITRATE MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 10% but not more than 20% PETN, by mass | 3344                         | 4.1              |         | PERCHLOROMETHYLMERCAPTAN  | 1670   | 6.1   |         |
| PENTAERYTHRITETETRANITRATE, WETTED with not less than 25% water, by mass   | 0150                         | 1                |         | PERCHLORYL FLUORIDE   | 3083   | 2     |         |
| PENTAERYTHRITOLTETRANITRATE, see   | 0150<br>0411<br>3344         | 1<br>1<br>4.1    |         | Perfluoroacetylchloride, see  | 3057   | 2     |         |
| PENTAFLUOROETHANE  | 3220                         | 2                |         | PERFLUORO (ETHYL VINYL ETHER)   | 3154   | 2     |         |
|  |                              |                  |         | PERFLUORO (METHYL VINYL ETHER)  | 3153   | 2     |         |
|  |                              |                  |         | Perfluoropropane, see   | 2424   | 2     |         |
|  |                              |                  |         | PERFUMERY PRODUCTS with flammable solvents  | 1266   | 3     |         |
|  |                              |                  |         | PERMANGANATES, INORGANIC, N.O.S.  | 1482   | 5.1   |         |
|  |                              |                  |         | PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.  | 3214   | 5.1   |         |
|  |                              |                  |         | PEROXIDES, INORGANIC, N.O.S.  | 1483   | 5.1   |         |
|  |                              |                  |         | PERSULPHATES, INORGANIC, N.O.S.   | 3215   | 5.1   |         |



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| PERSULPHATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.  | 3216   | 5.1   |         | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 3347   | 6.1   |         |
| PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash-point less than 23 °C                       | 3021   | 3     |         | PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC  | 3345   | 6.1   |         |
| PESTICIDE, LIQUID, TOXIC, N.O.S.   | 2902   | 6.1   |         | PHENYLACETONITRILE, LIQUID   | 2470   | 6.1   |         |
| PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash-point not less than 23 °C                   | 2903   | 6.1   |         | PHENYLACETYL CHLORIDE  | 2577   | 8     |         |
| PESTICIDE, SOLID, TOXIC, N.O.S.  | 2588   | 6.1   |         | Phenylamine, see   | 1547   | 6.1   |         |
| Pesticide, toxic, under compressed gas, n.o.s., see  | 1950   | 2     |         | 1-Phenylbutane, see  | 2709   | 3     |         |
| PETN, see  | 0150   | 1     |         | 2-Phenylbutane, see  | 2709   | 3     |         |
|  | 0411   | 1     |         | PHENYLCARBYLAMINE CHLORIDE   | 1672   | 6.1   |         |
|  | 3344   | 4.1   |         | PHENYL CHLOROFORMATE   | 2746   | 6.1   |         |
| PETN/TNT, see  | 0151   | 1     |         | Phenyl cyanide, see  | 2224   | 6.1   |         |
| PETROL   | 1203   | 3     |         | PHENYLENEDIAMINES (o-, m-, p-)   | 1673   | 6.1   |         |
| Petrol and ethanol mixture, with more than 10% ethanol, see                                    | 3475   | 3     |         | Phenylethylene, see  | 2055   | 3     |         |
| PETROLEUM CRUDE OIL  | 1267   | 3     |         | PHENYLHYDRAZINE  | 2572   | 6.1   |         |
| PETROLEUM DISTILLATES, N.O.S.  | 1268   | 3     |         | PHENYL ISOCYANATE  | 2487   | 6.1   |         |
| Petroleum ether, see   | 1268   | 3     |         | Phenylisocyanodichloride, see  | 1672   | 6.1   |         |
| PETROLEUM GASES, LIQUEFIED   | 1075   | 2     |         | PHENYL MERCAPTAN   | 2337   | 6.1   |         |
| Petroleum naphtha, see   | 1268   | 3     |         | PHENYLMERCURIC ACETATE   | 1674   | 6.1   |         |
| Petroleum oil, see   | 1268   | 3     |         | PHENYLMERCURIC COMPOUND, N.O.S.  | 2026   | 6.1   |         |
| PETROLEUM PRODUCTS, N.O.S.   | 1268   | 3     |         | PHENYLMERCURIC HYDROXIDE   | 1894   | 6.1   |         |
| Petroleum raffinate, see   | 1268   | 3     |         | PHENYLMERCURIC NITRATE   | 1895   | 6.1   |         |
| Petroleum spirit, see  | 1268   | 3     |         | PHENYLPHOSPHORUS DICHLORIDE  | 2798   | 8     |         |
| PHENACYL BROMIDE   | 2645   | 6.1   |         | PHENYLPHOSPHORUS THIODICHLORIDE  | 2799   | 8     |         |
| PHENETIDINES   | 2311   | 6.1   |         | 2-Phenylpropene, see   | 2303   | 3     |         |
| PHENOLATES, LIQUID   | 2904   | 8     |         | PHENYLTRICHLOROSILANE  | 1804   | 8     |         |
| PHENOLATES, SOLID  | 2905   | 8     |         | PHOSGENE   | 1076   | 2     |         |
| PHENOL, MOLTEN   | 2312   | 6.1   |         | 9-PHOSPHABICYCLO-NONANES   | 2940   | 4.2   |         |
| PHENOL, SOLID  | 1671   | 6.1   |         | PHOSPHINE  | 2199   | 2     |         |
| PHENOL SOLUTION  | 2821   | 6.1   |         | Phosphoretted hydrogen, see  | 2199   | 2     |         |
| PHENOLSULPHONIC ACID, LIQUID   | 1803   | 8     |         | PHOSPHORIC ACID, SOLUTION  | 1805   | 8     |         |
| PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C | 3346   | 3     |         | PHOSPHORIC ACID, SOLID   | 3453   | 8     |         |
| PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC   | 3348   | 6.1   |         | Phosphoric acid, anhydrous, see  | 1807   | 8     |         |
|  |        |       |         | PHOSPHOROUS ACID   | 2834   | 8     |         |
|  |        |       |         | PHOSPHORUS, AMORPHOUS  | 1338   | 4.1   |         |
|  |        |       |         | Phosphorus bromide, see  | 1808   | 8     |         |
|  |        |       |         | Phosphorus chloride, see   | 1809   | 6.1   |         |



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|---|--------|-------|---------|--|--------|-------|---------|
| PHOSPHORUS HEPTASULPHIDE, free from yellow and white phosphorus     | 1339   | 4.1   |         | PICRYL CHLORIDE, see   | 0155   | 1     |         |
| PHOSPHORUS OXYBROMIDE   | 1939   | 8     |         | PICRYL CHLORIDE, WETTED, see   | 3365   | 4.1   |         |
| PHOSPHORUS OXYBROMIDE, MOLTEN                                       | 2576   | 8     |         | alpha-PINENE   | 2368   | 3     |         |
| PHOSPHORUS OXYCHLORIDE  | 1810   | 8     |         | PINE OIL   | 1272   | 3     |         |
| PHOSPHORUS PENTABROMIDE   | 2691   | 8     |         | PIPERAZINE   | 2579   | 8     |         |
| PHOSPHORUS PENTACHLORIDE  | 1806   | 8     |         | PIPERIDINE   | 2401   | 8     |         |
| PHOSPHORUS PENTAFLUORIDE  | 2198   | 2     |         | Pivaloyl chloride, see   | 2438   | 6.1   |         |
| PHOSPHORUS PENTASULPHIDE, free from yellow and white phosphorus     | 1340   | 4.3   |         | Plastic explosives, see  | 0084   | 1     |         |
| PHOSPHORUS PENTOXIDE  | 1807   | 8     |         | PLASTICS MOULDING COMPOUND in dough, sheet or extruded rope form evolving flammable vapour | 3314   | 9     |         |
| PHOSPHORUS SESQUISULPHIDE, free from yellow and white phosphorus    | 1341   | 4.1   |         | PLASTICS, NITROCELLULOSE-BASED, SELF-HEATING, N.O.S.                                       | 2006   | 4.2   |         |
| Phosphorus (V) sulphide, free from yellow and white phosphorus, see | 1340   | 4.3   |         | Polish, see  | 1263   | 3     |         |
| Phosphorus sulphochloride, see                                      | 1837   | 8     |         |  | 3066   | 8     |         |
| PHOSPHORUS TRIBROMIDE   | 1808   | 8     |         |  | 3469   | 3     |         |
| PHOSPHORUS TRICHLORIDE  | 1809   | 6.1   |         |  | 3470   | 8     |         |
| PHOSPHORUS TRIOXIDE   | 2578   | 8     |         | POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.   | 2733   | 3     |         |
| PHOSPHORUS TRISULPHIDE, free from yellow and white phosphorus       | 1343   | 4.1   |         | POLYAMINES, LIQUID, CORROSIVE, N.O.S.  | 2735   | 8     |         |
| PHOSPHORUS, WHITE, DRY  | 1381   | 4.2   |         | POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.   | 2734   | 8     |         |
| PHOSPHORUS, WHITE IN SOLUTION                                       | 1381   | 4.2   |         | POLYAMINES, SOLID, CORROSIVE, N.O.S.   | 3259   | 8     |         |
| PHOSPHORUS, WHITE, MOLTEN   | 2447   | 4.2   |         | POLYCHLORINATED BIPHENYLS, LIQUID  | 2315   | 9     |         |
| PHOSPHORUS, WHITE, UNDER WATER                                      | 1381   | 4.2   |         | POLYCHLORINATED BIPHENYLS, SOLID   | 3432   | 9     |         |
| PHOSPHORUS, YELLOW, DRY   | 1381   | 4.2   |         | POLYESTER RESIN KIT  | 3269   | 3     |         |
| PHOSPHORUS, YELLOW, IN SOLUTION                                     | 1381   | 4.2   |         | POLYHALOGENATED BIPHENYLS, LIQUID  | 3151   | 9     |         |
| PHOSPHORUS, YELLOW, UNDER WATER                                     | 1381   | 4.2   |         | POLYHALOGENATED BIPHENYLS, SOLID   | 3152   | 9     |         |
| Phosphoryl chloride, see  | 1810   | 8     |         | POLYHALOGENATED TERPHENYLS, LIQUID   | 3151   | 9     |         |
| PHTHALIC ANHYDRIDE with more than 0.05% of maleic anhydride         | 2214   | 8     |         | POLYHALOGENATED TERPHENYLS, SOLID  | 3152   | 9     |         |
| PICOLINES   | 2313   | 3     |         | POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour                                     | 2211   | 9     |         |
| PICRAMIDE, see  | 0153   | 1     |         | Polystyrene beads, expandable, see   | 2211   | 9     |         |
| PICRIC ACID, WETTED, see  | 1344   | 4.1   |         | POTASSIUM  | 2257   | 4.3   |         |
|   | 3364   | 4.1   |         | POTASSIUM ARSENATE   | 1677   | 6.1   |         |
| PICRITE, see  | 0282   | 1     |         | POTASSIUM ARSENITE   | 1678   | 6.1   |         |
| PICRITE, WETTED, see  | 1336   | 4.1   |         | Potassium bifluoride, see  | 1811   | 8     |         |
| Picrotoxin, see   | 3172   | 6.1   |         | Potassium bisulphate, see  | 2509   | 8     |         |
|   | 3462   | 6.1   |         |  |        |       |         |

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| Potassium bisulphite solution, see                | 2693   | 8     |         | POTASSIUM PERCHLORATE  | 1489   | 5.1   |         |
| POTASSIUM BOROHYDRIDE                             | 1870   | 4.3   |         | POTASSIUM PERMANGANATE   | 1490   | 5.1   |         |
| POTASSIUM BROMATE                                 | 1484   | 5.1   |         | POTASSIUM PEROXIDE   | 1491   | 5.1   |         |
| POTASSIUM CHLORATE                                | 1485   | 5.1   |         | POTASSIUM PERSULPHATE  | 1492   | 5.1   |         |
| POTASSIUM CHLORATE, AQUEOUS SOLUTION              | 2427   | 5.1   |         | POTASSIUM PHOSPHIDE  | 2012   | 4.3   |         |
| Potassium chlorate mixed with mineral oil, see    | 0083   | 1     |         | Potassium selenate, see  | 2630   | 6.1   |         |
| POTASSIUM CUPROCYANIDE                            | 1679   | 6.1   |         | Potassium selenite, see  | 2630   | 6.1   |         |
| POTASSIUM CYANIDE, SOLID                          | 1680   | 6.1   |         | Potassium silicofluoride, see  | 2655   | 6.1   |         |
| POTASSIUM CYANIDE, SOLUTION                       | 3413   | 6.1   |         | POTASSIUM SODIUM ALLOYS, LIQUID  | 1422   | 4.3   |         |
| Potassium dicyanocuprate (I), see                 | 1679   | 6.1   |         | POTASSIUM SODIUM ALLOYS, SOLID   | 3404   | 4.3   |         |
| POTASSIUM DITHIONITE                              | 1929   | 4.2   |         | POTASSIUM SULPHIDE with less than 30% water of crystallization   | 1382   | 4.2   |         |
| POTASSIUM FLUORIDE, SOLID                         | 1812   | 6.1   |         | POTASSIUM SULPHIDE, ANHYDROUS  | 1382   | 4.2   |         |
| POTASSIUM FLUORIDE, SOLUTION                      | 3422   | 6.1   |         | POTASSIUM SULPHIDE, HYDRATED with not less than 30% water of crystallization   | 1847   | 8     |         |
| POTASSIUM FLUOROACETATE                           | 2628   | 6.1   |         | POTASSIUM SUPEROXIDE   | 2466   | 5.1   |         |
| POTASSIUM FLUROSILICATE                           | 2655   | 6.1   |         | Potassium tetracyanomercurate (II), see  | 1626   | 6.1   |         |
| Potassium hexafluorosilicate, see                 | 2655   | 6.1   |         | POWDER CAKE, WETTED with not less than 17% alcohol, by mass  | 0433   | 1     |         |
| Potassium hydrate, see                            | 1814   | 8     |         | POWDER CAKE, WETTED with not less than 25% water, by mass  | 0159   | 1     |         |
| POTASSIUM HYDROGENDIFLUORIDE, SOLID               | 1811   | 8     |         | POWDER PASTE, see  | 0159   | 1     |         |
| POTASSIUM HYDROGENDIFLUORIDE, SOLUTION            | 3421   | 8     |         |  | 0433   | 1     |         |
| POTASSIUM HYDROGEN SULPHATE                       | 2509   | 8     |         | POWDER, SMOKELESS  | 0160   | 1     |         |
| POTASSIUM HYDROSULPHITE, see                      | 1929   | 4.2   |         |  | 0161   | 1     |         |
| Potassium hydroxide, liquid, see                  | 1814   | 8     |         | Power devices, explosive, see  | 0275   | 1     |         |
| POTASSIUM HYDROXIDE, SOLID                        | 1813   | 8     |         |  | 0276   | 1     |         |
| POTASSIUM HYDROXIDE SOLUTION                      | 1814   | 8     |         |  | 0323   | 1     |         |
| POTASSIUM METAL ALLOYS, LIQUID                    | 1420   | 4.3   |         |  | 0381   | 1     |         |
| POTASSIUM METAL ALLOYS, SOLID                     | 3403   | 4.3   |         | PRIMERS, CAP TYPE  | 0044   | 1     |         |
| POTASSIUM METAVANADATE                            | 2864   | 6.1   |         |  | 0377   | 1     |         |
| POTASSIUM MONOXIDE                                | 2033   | 8     |         |  | 0378   | 1     |         |
| POTASSIUM NITRATE                                 | 1486   | 5.1   |         | Primers, small arms, see   | 0044   | 1     |         |
| Potassium nitrate and sodium nitrate mixture, see | 1499   | 5.1   |         | PRIMERS, TUBULAR   | 0319   | 1     |         |
| POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE      | 1487   | 5.1   |         |  | 0320   | 1     |         |
| POTASSIUM NITRITE                                 | 1488   | 5.1   |         |  | 0376   | 1     |         |
|   |        |       |         | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable | 1210   | 3     |         |
|   |        |       |         | Projectiles, illuminating, see   | 0171   | 1     |         |
|   |        |       |         |  | 0254   | 1     |         |
|   |        |       |         |  | 0297   | 1     |         |
|   |        |       |         | PROJECTILES, inert with tracer   | 0345   | 1     |         |
|   |        |       |         |  | 0424   | 1     |         |
|   |        |       |         |  | 0425   | 1     |         |

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| PROJECTILES with burster or expelling charge   | 0346   | 1     |         | PROPYL FORMATES  | 1281   | 3     |         |
|  | 0347   | 1     |         | n-PROPYL ISOCYANATE  | 2482   | 6.1   |         |
|  | 0426   | 1     |         | Propyl mercaptan, see  | 2402   | 3     |         |
|  | 0427   | 1     |         | n-PROPYL NITRATE   | 1865   | 3     |         |
|  | 0434   | 1     |         | PROPYLTRICHLOROSILANE  | 1816   | 8     |         |
|  | 0435   | 1     |         | Pyrazine hexahydride, see  | 2579   | 8     |         |
| PROJECTILES with bursting charge   | 0167   | 1     |         | PYRETHROID PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C  | 3350   | 3     |         |
|  | 0168   | 1     |         | PYRETHROID PESTICIDE, LIQUID, TOXIC  | 3352   | 6.1   |         |
|  | 0169   | 1     |         | PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C  | 3351   | 6.1   |         |
|  | 0324   | 1     |         | PYRETHROID PESTICIDE, SOLID, TOXIC   | 3349   | 6.1   |         |
|  | 0344   | 1     |         | PYRIDINE   | 1282   | 3     |         |
| PROPADIENE, STABILIZED   | 2200   | 2     |         | PYROPHORIC ALLOY, N.O.S.   | 1383   | 4.2   |         |
| Propadiene and methyl acetylene mixture, stabilized, see   | 1060   | 2     |         | Pyrophoric organometallic compound, water-reactive, n.o.s., liquid, see  | 3394   | 4.2   |         |
| PROPANE  | 1978   | 2     |         | Pyrophoric organometallic compound, water-reactive, n.o.s., solid, see   | 3393   | 4.2   |         |
| PROPANETHIOLS  | 2402   | 3     |         | PYROPHORIC LIQUID, INORGANIC, N.O.S.   | 3194   | 4.2   |         |
| n-PROPANOL   | 1274   | 3     |         | PYROPHORIC LIQUID, ORGANIC, N.O.S.   | 2845   | 4.2   |         |
| PROPELLANT, LIQUID   | 0495   | 1     |         | PYROPHORIC METAL, N.O.S.   | 1383   | 4.2   |         |
|  | 0497   | 1     |         | PYROPHORIC SOLID, INORGANIC, N.O.S.  | 3200   | 4.2   |         |
| PROPELLANT, SOLID  | 0498   | 1     |         | PYROPHORIC SOLID, ORGANIC, N.O.S.  | 2846   | 4.2   |         |
|  | 0499   | 1     |         | PYROSULPHURYL CHLORIDE   | 1817   | 8     |         |
|  | 0501   | 1     |         | Pyroxylin solution, see  | 2059   | 3     |         |
| Propellant with a single base, Propellant with a double base, Propellant with a triple base, see | 0160   | 1     |         | PYRROLIDINE  | 1922   | 3     |         |
|  | 0161   | 1     |         | QUINOLINE  | 2656   | 6.1   |         |
| Propene, see   | 1077   | 2     |         | Quinone, see   | 2587   | 6.1   |         |
| PROPIONALDEHYDE  | 1275   | 3     |         | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or NATURAL THORIUM | 2909   | 7     |         |
| PROPIONIC ACID with not less than 10% and less than 90% acid by mass                             | 1848   | 8     |         | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - EMPTY PACKAGING   | 2908   | 7     |         |
| PROPIONIC ACID with not less than 90% acid by mass   | 3463   | 8     |         | RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - INSTRUMENTS or ARTICLES   | 2911   | 7     |         |
| PROPIONIC ANHYDRIDE  | 2496   | 8     |         |  |        |       |         |
| PROPIONITRILE  | 2404   | 3     |         |  |        |       |         |
| PROPIONYL CHLORIDE   | 1815   | 3     |         |  |        |       |         |
| n-PROPYL ACETATE   | 1276   | 3     |         |  |        |       |         |
| PROPYL ALCOHOL, NORMAL, see  | 1274   | 3     |         |  |        |       |         |
| PROPYLAMINE  | 1277   | 3     |         |  |        |       |         |
| n-PROPYLBENZENE  | 2364   | 3     |         |  |        |       |         |
| Propyl chloride, see   | 1278   | 3     |         |  |        |       |         |
| n-PROPYL CHLOROFORMATE   | 2740   | 6.1   |         |  |        |       |         |
| PROPYLENE  | 1077   | 2     |         |  |        |       |         |
| PROPYLENE CHLOROHYDRIN   | 2611   | 6.1   |         |  |        |       |         |
| 1,2-PROPYLENEDIAMINE   | 2258   | 8     |         |  |        |       |         |
| Propylene dichloride, see  | 1279   | 3     |         |  |        |       |         |
| PROPYLENEIMINE, STABILIZED   | 1921   | 3     |         |  |        |       |         |
| PROPYLENE OXIDE  | 1280   | 3     |         |  |        |       |         |
| PROPYLENE TETRAMER   | 2850   | 3     |         |  |        |       |         |
| Propylene trimer, see  | 2057   | 3     |         |  |        |       |         |

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| RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL                                 | 2910   | 7     |         | RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, non fissile or fissile-excepted    | 2916   | 7     |                    |
| RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I), non fissile or fissile-excepted                  | 2912   | 7     |         | RADIOACTIVE MATERIAL, TYPE C PACKAGE, FISSILE                               | 3330   | 7     |                    |
| RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), FISSILE   | 3324   | 7     |         | RADIOACTIVE MATERIAL, TYPE C PACKAGE, non fissile or fissile-excepted       | 3323   | 7     |                    |
| RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), non fissile or fissile-excepted                 | 3321   | 7     |         | RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE                         | 2977   | 7     |                    |
| RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, (LSA-III), FISSILE                                       | 3325   | 7     |         | RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, non fissile or fissile-excepted | 2978   | 7     |                    |
| RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III), non fissile or fissile-excepted                | 3322   | 7     |         | Rags, oily  | 1856   | 4.2   | Not subject to ADR |
| RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), FISSILE                         | 3326   | 7     |         | RDX, see  | 0072   | 1     |                    |
| RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), non fissile or fissile-excepted | 2913   | 7     |         |   | 0391   | 1     |                    |
| RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, FISSILE                                  | 3331   | 7     |         |   | 0483   | 1     |                    |
| RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, non fissile or fissile-excepted          | 2919   | 7     |         | RECEPTACLES, SMALL, CONTAINING GAS without a release device, non-refillable | 2037   | 2     |                    |
| RADIOACTIVE MATERIAL, TYPE A PACKAGE, FISSILE, non-special form                                       | 3327   | 7     |         | Red phosphorus, see   | 1338   | 4.1   |                    |
| RADIOACTIVE MATERIAL, TYPE A PACKAGE, non-special form, non fissile or fissile-excepted               | 2915   | 7     |         | REFRIGERANT GAS, N.O.S., such as mixture F1, mixture F2 or mixture P2       | 1078   | 2     |                    |
| RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, FISSILE   | 3333   | 7     |         | REFRIGERANT GAS R 12, see   | 1028   | 2     |                    |
| RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, non fissile or fissile-excepted                   | 3332   | 7     |         | REFRIGERANT GAS R 12B1, see   | 1974   | 2     |                    |
| RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, FISSILE  | 3329   | 7     |         | REFRIGERANT GAS R 13, see   | 1022   | 2     |                    |
| RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, non fissile or fissile-excepted                              | 2917   | 7     |         | REFRIGERANT GAS R 13B1, see   | 1009   | 2     |                    |
| RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, FISSILE  | 3328   | 7     |         | REFRIGERANT GAS R 14, see   | 1982   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 21, see   | 1029   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 22, see   | 1018   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 23, see   | 1984   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 32, see   | 3252   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 40, see   | 1063   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 41, see   | 2454   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 114, see  | 1958   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 115, see  | 1020   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 116, see  | 2193   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 124, see  | 1021   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 125, see  | 3220   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 133a, see   | 1983   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 134a, see   | 3159   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 142b, see   | 2517   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 143a, see   | 2035   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 152a, see   | 1030   | 2     |                    |
|   |        |       |         | REFRIGERANT GAS R 161, see  | 2453   | 2     |                    |

| Name and description   | UN No.                       | Class            | Remarks | Name and description   | UN No.       | Class      | Remarks |
|--|------------------------------|------------------|---------|--|--------------|------------|---------|
| REFRIGERANT GAS R 218, see   | 2424                         | 2                |         | RUBBER SCRAP, powdered or granulated                                 | 1345         | 4.1        |         |
| REFRIGERANT GAS R 227, see   | 3296                         | 2                |         | RUBBER SHODDY, powdered or granulated                                | 1345         | 4.1        |         |
| REFRIGERANT GAS R 404A   | 3337                         | 2                |         | RUBBER SOLUTION  | 1287         | 3          |         |
| REFRIGERANT GAS R 407A   | 3338                         | 2                |         | RUBIDIUM   | 1423         | 4.3        |         |
| REFRIGERANT GAS R 407B   | 3339                         | 2                |         | RUBIDIUM HYDROXIDE   | 2678         | 8          |         |
| REFRIGERANT GAS R 407C   | 3340                         | 2                |         | RUBIDIUM HYDROXIDE SOLUTION  | 2677         | 8          |         |
| REFRIGERANT GAS R 500, see   | 2602                         | 2                |         | Saltpetre, see   | 1486         | 5.1        |         |
| REFRIGERANT GAS R 502, see   | 1973                         | 2                |         | SAMPLES, EXPLOSIVE, other than initiating explosive                  | 0190         | 1          |         |
| REFRIGERANT GAS R 503, see   | 2599                         | 2                |         | Sand acid, see   | 1778         | 8          |         |
| REFRIGERANT GAS R 1132a, see   | 1959                         | 2                |         | SEAT-BELT PRETENSIONERS  | 0503<br>3268 | 1<br>9     |         |
| REFRIGERANT GAS R 1216, see  | 1858                         | 2                |         | SEED CAKE with more than 1.5% oil and not more than 11% moisture     | 1386         | 4.2        |         |
| REFRIGERANT GAS R 1318, see  | 2422                         | 2                |         | SEED CAKE with not more than 1.5% oil and not more than 11% moisture | 2217         | 4.2        |         |
| REFRIGERANT GAS RC 318, see  | 1976                         | 2                |         | Seed expellers, see  | 1386<br>2217 | 4.2<br>4.2 |         |
| REFRIGERATING MACHINES containing flammable, non-toxic, liquefied gas                            | 3358                         | 2                |         | SELENATES  | 2630         | 6.1        |         |
| REFRIGERATING MACHINES containing non-flammable, non-toxic, gases or ammonia solutions (UN 2672) | 2857                         | 2                |         | SELENIC ACID   | 1905         | 8          |         |
| REGULATED MEDICAL WASTE, N.O.S.  | 3291                         | 6.2              |         | SELENITES  | 2630         | 6.1        |         |
| RELEASE DEVICES, EXPLOSIVE   | 0173                         | 1                |         | SELENIUM COMPOUND, LIQUID, N.O.S.                                    | 3440         | 6.1        |         |
| RESIN SOLUTION, flammable  | 1866                         | 3                |         | SELENIUM COMPOUND, SOLID, N.O.S.                                     | 3283         | 6.1        |         |
| Resorcin, see  | 2876                         | 6.1              |         | SELENIUM DISULPHIDE  | 2657         | 6.1        |         |
| RESORCINOL   | 2876                         | 6.1              |         | SELENIUM HEXAFLUORIDE  | 2194         | 2          |         |
| RIVETS, EXPLOSIVE  | 0174                         | 1                |         | SELENIUM OXYCHLORIDE   | 2879         | 8          |         |
| ROCKET MOTORS  | 0186<br>0280<br>0281         | 1<br>1<br>1      |         | SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.                    | 3188         | 4.2        |         |
| ROCKET MOTORS, LIQUID FUELLED  | 0395<br>0396                 | 1<br>1           |         | SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.                      | 3185         | 4.2        |         |
| ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge                           | 0250<br>0322                 | 1<br>1           |         | SELF-HEATING LIQUID, INORGANIC, N.O.S.                               | 3186         | 4.2        |         |
| ROCKETS with bursting charge   | 0180<br>0181<br>0182<br>0295 | 1<br>1<br>1<br>1 |         | SELF-HEATING LIQUID, ORGANIC, N.O.S.                                 | 3183         | 4.2        |         |
| ROCKETS with expelling charge  | 0436<br>0437<br>0438         | 1<br>1<br>1      |         | SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.                        | 3187         | 4.2        |         |
| ROCKETS with inert head  | 0183<br>0502                 | 1<br>1           |         | SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.                          | 3184         | 4.2        |         |
| ROCKETS, LINE-THROWING   | 0238<br>0240<br>0453         | 1<br>1<br>1      |         | SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.                     | 3192         | 4.2        |         |
| ROCKETS, LIQUID FUELLED with bursting charge   | 0397<br>0398                 | 1<br>1           |         | SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S.                       | 3126         | 4.2        |         |
| ROSIN OIL  | 1286                         | 3                |         |  |              |            |         |

| Name and description                                | UN No. | Class | Remarks             | Name and description   | UN No. | Class | Remarks            |
|---|--------|-------|---------------------|--|--------|-------|--------------------|
| SELF-HEATING SOLID, INORGANIC, N.O.S.               | 3190   | 4.2   |                     | Shellac, see   | 1263   | 3     |                    |
|   |        |       |                     |  | 3066   | 8     |                    |
| SELF-HEATING SOLID, ORGANIC, N.O.S.                 | 3088   | 4.2   |                     |  | 3469   | 3     |                    |
|   |        |       |                     |  | 3470   | 8     |                    |
| SELF-HEATING SOLID, OXIDIZING, N.O.S                | 3127   | 4.2   | Carriage prohibited | SIGNAL DEVICES, HAND   | 0191   | 1     |                    |
|   |        |       |                     |  | 0373   | 1     |                    |
| SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.        | 3191   | 4.2   |                     | SIGNALS, DISTRESS, ship                                      | 0194   | 1     |                    |
|   |        |       |                     |  | 0195   | 1     |                    |
| SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.          | 3128   | 4.2   |                     |  | 0505   | 1     |                    |
|   |        |       |                     |  | 0506   | 1     |                    |
| SELF-REACTIVE LIQUID TYPE B                         | 3221   | 4.1   |                     | Signals, distress, ship, water-activated, see                | 0249   | 1     |                    |
| SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED | 3231   | 4.1   |                     | SIGNALS, RAILWAY TRACK, EXPLOSIVE                            | 0192   | 1     |                    |
|   |        |       |                     |  | 0193   | 1     |                    |
| SELF-REACTIVE LIQUID TYPE C                         | 3223   | 4.1   |                     |  | 0492   | 1     |                    |
|   |        |       |                     |  | 0493   | 1     |                    |
| SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED | 3233   | 4.1   |                     | SIGNALS, SMOKE   | 0196   | 1     |                    |
|   |        |       |                     |  | 0197   | 1     |                    |
| SELF-REACTIVE LIQUID TYPE D                         | 3225   | 4.1   |                     |  | 0313   | 1     |                    |
|   |        |       |                     |  | 0487   | 1     |                    |
| SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED | 3235   | 4.1   |                     |  | 0507   | 1     |                    |
|   |        |       |                     | SILANE   | 2203   | 2     |                    |
| SELF-REACTIVE LIQUID TYPE E                         | 3227   | 4.1   |                     | Silicofluoric acid, see                                      | 1778   | 8     |                    |
|   |        |       |                     | Silicofluorides, n.o.s., see                                 | 2856   | 6.1   |                    |
| SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED | 3237   | 4.1   |                     | Silicon chloride, see  | 1818   | 8     |                    |
|   |        |       |                     | SILICON POWDER, AMORPHOUS                                    | 1346   | 4.1   |                    |
| SELF-REACTIVE LIQUID TYPE F                         | 3229   | 4.1   |                     | SILICON TETRACHLORIDE  | 1818   | 8     |                    |
| SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED | 3239   | 4.1   |                     | SILICON TETRAFLUORIDE  | 1859   | 2     |                    |
|   |        |       |                     | SILVER ARSENITE  | 1683   | 6.1   |                    |
| SELF-REACTIVE SOLID TYPE B                          | 3222   | 4.1   |                     | SILVER CYANIDE   | 1684   | 6.1   |                    |
| SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED  | 3232   | 4.1   |                     | SILVER NITRATE   | 1493   | 5.1   |                    |
| SELF-REACTIVE SOLID TYPE C                          | 3224   | 4.1   |                     | SILVER PICRATE, WETTED with not less than 30% water, by mass | 1347   | 4.1   |                    |
| SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED  | 3234   | 4.1   |                     | SLUDGE ACID  | 1906   | 8     |                    |
| SELF-REACTIVE SOLID TYPE D                          | 3226   | 4.1   |                     | SODA LIME with more than 4% sodium hydroxide                 | 1907   | 8     |                    |
| SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED  | 3236   | 4.1   |                     | SODIUM   | 1428   | 4.3   |                    |
| SELF-REACTIVE SOLID TYPE E                          | 3228   | 4.1   |                     | Sodium aluminate, solid                                      | 2812   | 8     | Not subject to ADR |
| SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED  | 3238   | 4.1   |                     | SODIUM ALUMINATE SOLUTION                                    | 1819   | 8     |                    |
| SELF-REACTIVE SOLID TYPE F                          | 3230   | 4.1   |                     | SODIUM ALUMINIUM HYDRIDE                                     | 2835   | 4.3   |                    |
| SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED  | 3240   | 4.1   |                     | SODIUM AMMONIUM VANADATE                                     | 2863   | 6.1   |                    |
| SHALE OIL   | 1288   | 3     |                     | SODIUM ARSANILATE  | 2473   | 6.1   |                    |
| Shaped charges, see                                 | 0059   | 1     |                     | SODIUM ARSENATE  | 1685   | 6.1   |                    |
|   | 0439   | 1     |                     | SODIUM ARSENITE, AQUEOUS SOLUTION                            | 1686   | 6.1   |                    |
|   | 0440   | 1     |                     |  |        |       |                    |
|   | 0441   | 1     |                     | SODIUM ARSENITE, SOLID                                       | 2027   | 6.1   |                    |
|   |        |       |                     | SODIUM AZIDE   | 1687   | 6.1   |                    |

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|--|--------|-------|---------|--|--------|-------|---------|
| Sodium bifluoride, see   | 2439   | 8     |         | Sodium hydrogen 4-amino-phenylarsenate, see                                    | 2473   | 6.1   |         |
| Sodium binoxide, see   | 1504   | 5.1   |         | SODIUM HYDROGEN-DIFLUORIDE   | 2439   | 8     |         |
| Sodium bisulphite solution, see  | 2693   | 8     |         | SODIUM HYDROSULPHIDE with less than 25% water of crystallization               | 2318   | 4.2   |         |
| SODIUM BOROHYDRIDE   | 1426   | 4.3   |         | SODIUM HYDROSULPHIDE, HYDRATED with not less than 25% water of crystallization | 2949   | 8     |         |
| SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, with not more than 12% sodium borohydride and not more than 40% sodium hydroxide by mass | 3320   | 8     |         | SODIUM HYDROSULPHITE, see  | 1384   | 4.2   |         |
| SODIUM BROMATE   | 1494   | 5.1   |         | SODIUM HYDROXIDE, SOLID  | 1823   | 8     |         |
| SODIUM CACODYLATE  | 1688   | 6.1   |         | SODIUM HYDROXIDE SOLUTION  | 1824   | 8     |         |
| SODIUM CARBONATE PEROXYHYDRATE   | 3378   | 5.1   |         | Sodium metasilicate pentahydrate, see  | 3253   | 8     |         |
| SODIUM CHLORATE  | 1495   | 5.1   |         | SODIUM METHYLATE   | 1431   | 4.2   |         |
| SODIUM CHLORATE, AQUEOUS SOLUTION  | 2428   | 5.1   |         | SODIUM METHYLATE SOLUTION in alcohol   | 1289   | 3     |         |
| Sodium chlorate mixed with dinitrotoluene, see   | 0083   | 1     |         | SODIUM MONOXIDE  | 1825   | 8     |         |
| SODIUM CHLORITE  | 1496   | 5.1   |         | SODIUM NITRATE   | 1498   | 5.1   |         |
| SODIUM CHLOROACETATE   | 2659   | 6.1   |         | SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE                                   | 1499   | 5.1   |         |
| SODIUM CUPROCYANIDE, SOLID   | 2316   | 6.1   |         | SODIUM NITRITE   | 1500   | 5.1   |         |
| SODIUM CUPROCYANIDE SOLUTION   | 2317   | 6.1   |         | Sodium nitrite and potassium nitrate mixture, see                              | 1487   | 5.1   |         |
| SODIUM CYANIDE, SOLID  | 1689   | 6.1   |         | SODIUM PENTACHLORO-HENATE  | 2567   | 6.1   |         |
| SODIUM CYANIDE, SOLUTION   | 3414   | 6.1   |         | SODIUM PERBORATE MONOHYDRATE   | 3377   | 5.1   |         |
| Sodium dicyanocuprate (I), solid, see  | 2316   | 6.1   |         | SODIUM PERCHLORATE   | 1502   | 5.1   |         |
| Sodium dicyanocuprate (I) solution, see  | 2317   | 6.1   |         | SODIUM PERMANGANATE  | 1503   | 5.1   |         |
| Sodium dimethylarsenate, see   | 1688   | 6.1   |         | SODIUM PEROXIDE  | 1504   | 5.1   |         |
| SODIUM DINITRO-o-CRESOLATE, dry or wetted with less than 15% water, by mass  | 0234   | 1     |         | SODIUM PEROXOBORATE, ANHYDROUS   | 3247   | 5.1   |         |
| SODIUM DINITRO-o-CRESOLATE, WETTED with not less than 10% water, by mass   | 3369   | 4.1   |         | SODIUM PERSULPHATE   | 1505   | 5.1   |         |
| SODIUM DINITRO-o-CRESOLATE, WETTED with not less than 15% water, by mass   | 1348   | 4.1   |         | SODIUM PHOSPHIDE   | 1432   | 4.3   |         |
| Sodium dioxide, see  | 1504   | 5.1   |         | SODIUM PICRAMATE, dry or wetted with less than 20% water, by mass              | 0235   | 1     |         |
| SODIUM DITHIONITE  | 1384   | 4.2   |         | SODIUM PICRAMATE, WETTED with not less than 20% water, by mass                 | 1349   | 4.1   |         |
| SODIUM FLUORIDE, SOLID   | 1690   | 6.1   |         | Sodium potassium alloys, liquid, see   | 1422   | 4.3   |         |
| SODIUM FLUORIDE, SOLUTION  | 3415   | 6.1   |         | Sodium selenate, see   | 2630   | 6.1   |         |
| SODIUM FLUOROACETATE   | 2629   | 6.1   |         | Sodium selenite, see   | 2630   | 6.1   |         |
| SODIUM FLUOROSILICATE  | 2674   | 6.1   |         | Sodium silicofluoride, see   | 2674   | 6.1   |         |
| Sodium hexafluorosilicate, see   | 2674   | 6.1   |         | SODIUM SULPHIDE, ANHYDROUS   | 1385   | 4.2   |         |
| Sodium hydrate, see  | 1824   | 8     |         |  |        |       |         |
| SODIUM HYDRIDE   | 1427   | 4.3   |         |  |        |       |         |



| Name and description  | UN No. | Class | Remarks            | Name and description   | UN No. | Class | Remarks |
|---|--------|-------|--------------------|--|--------|-------|---------|
| SODIUM SULPHIDE with less than 30% water of crystallization   | 1385   | 4.2   |                    | SUBSTANCES, EVI, N.O.S., see   | 0482   | 1     |         |
| SODIUM SULPHIDE, HYDRATED with not less than 30% water  | 1849   | 8     |                    | SUBSTANCES, EXPLOSIVE, N.O.S.  | 0357   | 1     |         |
| SODIUM SUPEROXIDE   | 2547   | 5.1   |                    |  | 0358   | 1     |         |
| SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S.  | 3244   | 8     |                    |  | 0359   | 1     |         |
| SOLIDS or mixtures of solids (such as preparations and wastes) CONTAINING FLAMMABLE LIQUID, N.O.S. having a flash-point up to 60 °C | 3175   | 4.1   |                    |  | 0473   | 1     |         |
| SOLIDS CONTAINING TOXIC LIQUID, N.O.S.  | 3243   | 6.1   |                    |  | 0474   | 1     |         |
| Solvents, flammable, n.o.s., see  | 1993   | 3     |                    |  | 0475   | 1     |         |
| Solvents, flammable, toxic, n.o.s., see   | 1992   | 3     |                    |  | 0476   | 1     |         |
| SOUNDING DEVICES, EXPLOSIVE   | 0204   | 1     |                    |  | 0477   | 1     |         |
|   | 0296   | 1     |                    |  | 0478   | 1     |         |
|   | 0374   | 1     |                    |  | 0479   | 1     |         |
|   | 0375   | 1     |                    |  | 0480   | 1     |         |
| Squibs, see   | 0325   | 1     |                    |  | 0481   | 1     |         |
|   | 0454   | 1     |                    |  | 0485   | 1     |         |
| Stain, see  | 1263   | 3     |                    | SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE, N.O.S.  | 0482   | 1     |         |
|   | 3066   | 8     |                    | Substances liable to spontaneous combustion, n.o.s., see                                     | 2845   | 4.2   |         |
|   | 3469   | 3     |                    |  | 2846   | 4.2   |         |
|   | 3470   | 8     |                    |  | 3194   | 4.2   |         |
| STANNIC CHLORIDE, ANHYDROUS   | 1827   | 8     |                    |  | 3200   | 4.2   |         |
| STANNIC CHLORIDE PENTAHYDRATE   | 2440   | 8     |                    | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C     | 2780   | 3     |         |
| STANNIC PHOSPHIDES  | 1433   | 4.3   |                    | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC   | 3014   | 6.1   |         |
| Steel swarf, see  | 2793   | 4.2   |                    | SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C | 3013   | 6.1   |         |
| STIBINE   | 2676   | 2     |                    | SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC  | 2779   | 6.1   |         |
| Straw   | 1327   | 4.1   | Not subject to ADR | SULPHAMIC ACID   | 2967   | 8     |         |
| Strontium alloys, pyrophoric, see   | 1383   | 4.2   |                    | SULPHUR  | 1350   | 4.1   |         |
| STRONTIUM ARSENITE  | 1691   | 6.1   |                    | SULPHUR CHLORIDES  | 1828   | 8     |         |
| STRONTIUM CHLORATE  | 1506   | 5.1   |                    | Sulphur dichloride, see  | 1828   | 8     |         |
| Strontium dioxide, see  | 1509   | 5.1   |                    | SULPHUR DIOXIDE  | 1079   | 2     |         |
| STRONTIUM NITRATE   | 1507   | 5.1   |                    | Sulphuretted hydrogen, see   | 1053   | 2     |         |
| STRONTIUM PERCHLORATE   | 1508   | 5.1   |                    | SULPHUR HEXAFLUORIDE   | 1080   | 2     |         |
| STRONTIUM PEROXIDE  | 1509   | 5.1   |                    | SULPHURIC ACID with more than 51% acid   | 1830   | 8     |         |
| STRONTIUM PHOSPHIDE   | 2013   | 4.3   |                    | SULPHURIC ACID with not more than 51% acid   | 2796   | 8     |         |
| STRYCHNINE  | 1692   | 6.1   |                    | SULPHURIC ACID, FUMING   | 1831   | 8     |         |
| STRYCHNINE SALTS  | 1692   | 6.1   |                    | SULPHURIC ACID, SPENT  | 1832   | 8     |         |
| STYPHNIC ACID, see  | 0219   | 1     |                    | Sulphuric and hydrofluoric acid mixture, see   | 1786   | 8     |         |
|   | 0394   | 1     |                    | SULPHUR, MOLTEN  | 2448   | 4.1   |         |
| STYRENE MONOMER, STABILIZED   | 2055   | 3     |                    | Sulphur monochloride, see  | 1828   | 8     |         |
|   |        |       |                    | SULPHUROUS ACID  | 1833   | 8     |         |
|   |        |       |                    | SULPHUR TETRAFLUORIDE  | 2418   | 2     |         |
|   |        |       |                    | SULPHUR TRIOXIDE, STABILIZED   | 1829   | 8     |         |



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|---|--------|-------|---------|---|--------|-------|--------------------|
| SULPHURYL CHLORIDE  | 1834   | 8     |         | TETRAHYDROTHIOPHENE   | 2412   | 3     |                    |
| SULPHURYL FLUORIDE  | 2191   | 2     |         | Tetramethoxysilane, see   | 2606   | 6.1   |                    |
| Talcum with tremolite and/or actinolite, see  | 2590   | 9     |         | TETRAMETHYLAMMONIUM HYDROXIDE SOLID   | 3423   | 8     |                    |
| TARS, LIQUID, including road asphalt and oils, bitumen and cut backs, with a flash-point not greater than 60 °C | 1999   | 3     |         | TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION  | 1835   | 8     |                    |
| Tars, liquid, with a flash-point above 60 °C, at or above its flash-point, see                                  | 3256   | 3     |         | Tetramethylene, see   | 2601   | 2     |                    |
| Tars, liquid, at or above 100 °C and below its flash-point, see   | 3257   | 9     |         | Tetramethylene cyanide, see   | 2205   | 6.1   |                    |
| Tartar emetic, see  | 1551   | 6.1   |         | Tetramethyl lead, see   | 1649   | 6.1   |                    |
| TEAR GAS CANDLES  | 1700   | 6.1   |         | TETRAMETHYLSILANE   | 2749   | 3     |                    |
| TEAR GAS SUBSTANCE, LIQUID, N.O.S.  | 1693   | 6.1   |         | TETRANITROANILINE   | 0207   | 1     |                    |
| TEAR GAS SUBSTANCE, SOLID, N.O.S.   | 3448   | 6.1   |         | TETRANITROMETHANE   | 1510   | 5.1   |                    |
| TELLURIUM COMPOUND, N.O.S.  | 3284   | 6.1   |         | TETRAPROPYL ORTHOTITANATE   | 2413   | 3     |                    |
| TELLURIUM HEXAFLUORIDE  | 2195   | 2     |         | TETRAZENE, WETTED with not less than 30% water, or mixture of alcohol and water, by mass, see | 0114   | 1     |                    |
| TERPENE HYDROCARBONS, N.O.S.  | 2319   | 3     |         | TETRAZOL-1-ACETIC ACID  | 0407   | 1     |                    |
| TERPINOLENE   | 2541   | 3     |         | 1H-TETRAZOLE  | 0504   | 1     |                    |
| TETRABROMOETHANE  | 2504   | 6.1   |         | TETRYL, see   | 0208   | 1     |                    |
| 1,1,2,2-TETRACHLORO-ETHANE  | 1702   | 6.1   |         | Textile waste, wet  | 1857   | 4.2   | Not subject to ADR |
| TETRACHLOROETHYLENE   | 1897   | 6.1   |         | THALLIUM CHLORATE   | 2573   | 5.1   |                    |
| TETRAETHYL DITHIO-PYROPHOSPHATE   | 1704   | 6.1   |         | Thallium (I) chlorate, see  | 2573   | 5.1   |                    |
| TETRAETHYLENE-PENTAMINE   | 2320   | 8     |         | THALLIUM COMPOUND, N.O.S.   | 1707   | 6.1   |                    |
| Tetraethyl lead, see  | 1649   | 6.1   |         | THALLIUM NITRATE  | 2727   | 6.1   |                    |
| TETRAETHYL SILICATE   | 1292   | 3     |         | Thallium (I) nitrate, see   | 2727   | 6.1   |                    |
| Tetraethoxysilane, see  | 1292   | 3     |         | Thallos chlorate, see   | 2573   | 5.1   |                    |
| Tetrafluorodichloroethane, see  | 1958   | 2     |         | 4-THIAPENTANAL  | 2785   | 6.1   |                    |
| 1,1,1,2-TETRAFLUORO-ETHANE  | 3159   | 2     |         | Thia-4-pentanal, see  | 2785   | 6.1   |                    |
| TETRAFLUROETHYLENE, STABILIZED  | 1081   | 2     |         | THIOACETIC ACID   | 2436   | 3     |                    |
| TETRAFLUOROMETHANE  | 1982   | 2     |         | THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C                | 2772   | 3     |                    |
| 1,2,3,6-TETRAHYDRO-BENZALDEHYDE   | 2498   | 3     |         | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC  | 3006   | 6.1   |                    |
| TETRAHYDROFURAN   | 2056   | 3     |         | THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C            | 3005   | 6.1   |                    |
| TETRAHYDRO-FURFURYLAMINE  | 2943   | 3     |         | THIOCARBAMATE PESTICIDE, SOLID, TOXIC   | 2771   | 6.1   |                    |
| Tetrahydro-1,4-oxazine, see   | 2054   | 3     |         | THIOGLYCOL  | 2966   | 6.1   |                    |
| TETRAHYDROPHthalic ANHYDRIDES with more than 0.05% of maleic anhydride  | 2698   | 8     |         | THIOGLYCOLIC ACID   | 1940   | 8     |                    |
| 1,2,3,6-TETRAHYDRO-PYRIDINE   | 2410   | 3     |         | THIOLACTIC ACID   | 2936   | 6.1   |                    |
|   |        |       |         | THIONYL CHLORIDE  | 1836   | 8     |                    |
|   |        |       |         | THIOPHENE   | 2414   | 3     |                    |

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|--|--------|-------|---------|--|--------|-------|---------|
| Thiophenol, see  | 2337   | 6.1   |         | TORPEDOES, LIQUID FUELLED with inert head  | 0450   | 1     |         |
| THIOPHOSGENE   | 2474   | 6.1   |         | TORPEDOES, LIQUID FUELLED with or without bursting charge  | 0449   | 1     |         |
| THIOPHOSPHORYL CHLORIDE                                | 1837   | 8     |         | TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>                 | 3381   | 6.1   |         |
| THIOUREA DIOXIDE                                       | 3341   | 4.2   |         | TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>                 | 3382   | 6.1   |         |
| Tin (IV) chloride, anhydrous, see                      | 1827   | 8     |         | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>      | 3389   | 6.1   |         |
| Tin (IV) chloride pentahydrate, see                    | 2440   | 8     |         | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>      | 3390   | 6.1   |         |
| TINCTURES, MEDICINAL                                   | 1293   | 3     |         | TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>      | 3383   | 6.1   |         |
| Tin tetrachloride, see                                 | 1827   | 8     |         | TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>      | 3387   | 6.1   |         |
| TITANIUM DISULPHIDE                                    | 3174   | 4.2   |         | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub> | 3385   | 6.1   |         |
| TITANIUM HYDRIDE                                       | 1871   | 4.1   |         |  |        |       |         |
| TITANIUM POWDER, DRY                                   | 2546   | 4.2   |         |  |        |       |         |
| TITANIUM POWDER, WETTED with not less than 25% water   | 1352   | 4.1   |         |  |        |       |         |
| TITANIUM SPONGE GRANULES                               | 2878   | 4.1   |         |  |        |       |         |
| TITANIUM SPONGE POWDERS                                | 2878   | 4.1   |         |  |        |       |         |
| TITANIUM TETRACHLORIDE                                 | 1838   | 8     |         |  |        |       |         |
| TITANIUM TRICHLORIDE MIXTURE                           | 2869   | 8     |         |  |        |       |         |
| TITANIUM TRICHLORIDE MIXTURE, PYROPHORIC               | 2441   | 4.2   |         |  |        |       |         |
| TITANIUM TRICHLORIDE, PYROPHORIC                       | 2441   | 4.2   |         |  |        |       |         |
| TNT, see   | 0209   | 1     |         |  |        |       |         |
|  | 0388   | 1     |         |  |        |       |         |
|  | 0389   | 1     |         |  |        |       |         |
| TNT mixed with aluminium, see                          | 0390   | 1     |         |  |        |       |         |
| TNT, WETTED with not less than 30% water, by mass, see | 1356   | 4.1   |         |  |        |       |         |
| TNT, WETTED with not less than 10% water, by mass, see | 3366   | 4.1   |         |  |        |       |         |
| Toe puffs, nitrocellulose base, see                    | 1353   | 4.1   |         |  |        |       |         |
| TOLUENE  | 1294   | 3     |         |  |        |       |         |
| TOLUENE DIISOCYANATE                                   | 2078   | 6.1   |         |  |        |       |         |
| TOLUIDINES, LIQUID                                     | 1708   | 6.1   |         |  |        |       |         |
| TOLUIDINES, SOLID                                      | 3451   | 6.1   |         |  |        |       |         |
| Toluol, see  | 1294   | 3     |         |  |        |       |         |
| 2,4-TOLUYLENEDIAMINE, SOLID                            | 1709   | 6.1   |         |  |        |       |         |
| 2,4-TOLUYLENEDIAMINE, SOLUTION                         | 3418   | 6.1   |         |  |        |       |         |
| Toluylene diisocyanate, see                            | 2078   | 6.1   |         |  |        |       |         |
| Tolylene diisocyanate, see                             | 2078   | 6.1   |         |  |        |       |         |
| Tolyethylene, inhibited, see                           | 2618   | 3     |         |  |        |       |         |
| TORPEDOES with bursting charge                         | 0329   | 1     |         |  |        |       |         |
|  | 0330   | 1     |         |  |        |       |         |
|  | 0451   | 1     |         |  |        |       |         |

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| TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub> | 3386         | 6.1    |         | TRIAZINE PESTICIDE, SOLID, TOXIC                   | 2763   | 6.1   |         |
| TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.   | 3289         | 6.1    |         | Tribromoborane, see                                | 2692   | 8     |         |
| TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.   | 2927         | 6.1    |         | TRIBUTYLAMINE                                      | 2542   | 6.1   |         |
| TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.   | 2929         | 6.1    |         | TRIBUTYLPHOSPHANE                                  | 3254   | 4.2   |         |
| TOXIC LIQUID, INORGANIC, N.O.S.  | 3287         | 6.1    |         | Trichloroacetaldehyde, see                         | 2075   | 6.1   |         |
| TOXIC LIQUID, ORGANIC, N.O.S.  | 2810         | 6.1    |         | TRICHLOROACETIC ACID                               | 1839   | 8     |         |
| TOXIC LIQUID, OXIDIZING, N.O.S.  | 3122         | 6.1    |         | TRICHLOROACETIC ACID SOLUTION                      | 2564   | 8     |         |
| TOXIC LIQUID, WATER-REACTIVE, N.O.S.   | 3123         | 6.1    |         | Trichloroacetaldehyde, see                         | 2075   | 6.1   |         |
| TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.  | 3290         | 6.1    |         | TRICHLOROACETYL CHLORIDE                           | 2442   | 8     |         |
| TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.  | 2928         | 6.1    |         | TRICHLOROBENZENES, LIQUID                          | 2321   | 6.1   |         |
| TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.  | 2930         | 6.1    |         | TRICHLOROBUTENE                                    | 2322   | 6.1   |         |
| TOXIC SOLID, INORGANIC, N.O.S.   | 3288         | 6.1    |         | 1,1,1-TRICHLOROETHANE                              | 2831   | 6.1   |         |
| TOXIC SOLID, ORGANIC, N.O.S.   | 2811         | 6.1    |         | TRICHLOROETHYLENE                                  | 1710   | 6.1   |         |
| TOXIC SOLID, OXIDIZING, N.O.S.   | 3086         | 6.1    |         | TRICHLOROISOCYANURIC ACID, DRY                     | 2468   | 5.1   |         |
| TOXIC SOLID, SELF-HEATING, N.O.S.  | 3124         | 6.1    |         | Trichloronitromethane, see                         | 1580   | 6.1   |         |
| TOXIC SOLID, WATER-REACTIVE, N.O.S.  | 3125         | 6.1    |         | TRICHLOROSILANE                                    | 1295   | 4.3   |         |
| TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.  | 3172         | 6.1    |         | 1,3,5-Trichloro-s-triazine-2,4,6-trione, see       | 2468   | 5.1   |         |
| TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.   | 3462         | 6.1    |         | 2,4,6-Trichloro-1,3,5- triazine, see               | 2670   | 8     |         |
| TRACERS FOR AMMUNITION   | 0212<br>0306 | 1<br>1 |         | TRICRESYL PHOSPHATE with more than 3% ortho isomer | 2574   | 6.1   |         |
| Tremolite, see   | 2590         | 9      |         | TRIETHYLAMINE                                      | 1296   | 3     |         |
| TRIALLYLAMINE  | 2610         | 3      |         | Triethyl borate, see                               | 1176   | 3     |         |
| TRIALLYL BORATE  | 2609         | 6.1    |         | TRIETHYLENETETRAMINE                               | 2259   | 8     |         |
| TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C  | 2764         | 3      |         | Triethyl orthoformate, see                         | 2524   | 3     |         |
| TRIAZINE PESTICIDE, LIQUID, TOXIC  | 2998         | 6.1    |         | TRIETHYL PHOSPHITE                                 | 2323   | 3     |         |
| TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C  | 2997         | 6.1    |         | TRIFLUOROACETIC ACID                               | 2699   | 8     |         |
|  |              |        |         | TRIFLUOROACETYL CHLORIDE                           | 3057   | 2     |         |
|  |              |        |         | Trifluorobromomethane, see                         | 1009   | 2     |         |
|  |              |        |         | Trifluorochloroethane, see                         | 1983   | 2     |         |
|  |              |        |         | TRIFLUOROCHLORO-ETHYLENE, STABILIZED               | 1082   | 2     |         |
|  |              |        |         | Trifluorochloromethane, see                        | 1022   | 2     |         |
|  |              |        |         | 1,1,1-TRIFLUOROETHANE                              | 2035   | 2     |         |
|  |              |        |         | TRIFLUOROMETHANE                                   | 1984   | 2     |         |
|  |              |        |         | TRIFLUOROMETHANE, REFRIGERATED LIQUID              | 3136   | 2     |         |
|  |              |        |         | 2-TRIFLUOROMETHYL-ANILINE                          | 2942   | 6.1   |         |
|  |              |        |         | 3-TRIFLUOROMETHYL-ANILINE                          | 2948   | 6.1   |         |
|  |              |        |         | TRIISOBUTYLENE                                     | 2324   | 3     |         |
|  |              |        |         | TRIISOPROPYL BORATE                                | 2616   | 3     |         |
|  |              |        |         | TRIMETHYLACETYL CHLORIDE                           | 2438   | 6.1   |         |

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| TRIMETHYLAMINE, ANHYDROUS   | 1083   | 2     |         | TRINITROPHENOL (PICRIC ACID), WETTED with not less than 30% water, by mass                           | 1344   | 4.1   |         |
| TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass | 1297   | 3     |         | TRINITROPHENOL WETTED with not less than 10% water, by mass  | 3364   | 4.1   |         |
| 1,3,5-TRIMETHYLBENZENE  | 2325   | 3     |         | TRINITROPHENYL-METHYLNITRAMINE   | 0208   | 1     |         |
| TRIMETHYL BORATE  | 2416   | 3     |         | TRINITRORESORCINOL, dry or wetted with less than 20% water, or mixture of alcohol and water, by mass | 0219   | 1     |         |
| TRIMETHYLCHLOROSILANE   | 1298   | 3     |         | TRINITRORESORCINOL, WETTED with not less than 20% water, or mixture of alcohol and water, by mass    | 0394   | 1     |         |
| TRIMETHYLCYCLOHEXYLAMINE  | 2326   | 8     |         | TRINITROTOLUENE (TNT), dry or wetted with less than 30% water, by mass                               | 0209   | 1     |         |
| Trimethylene chlorobromide, see   | 2688   | 6.1   |         | TRINITROTOLUENE AND HEXANITROSTILBENE MIXTURE  | 0388   | 1     |         |
| TRIMETHYLHEXA-METHYLENEDIAMINES   | 2327   | 8     |         | TRINITROTOLUENE MIXTURE CONTAINING TRINITROBENZENE AND HEXANITROSTILBENE                             | 0389   | 1     |         |
| TRIMETHYLHEXA-METHYLENE DIISOCYANATE  | 2328   | 6.1   |         | TRINITROTOLUENE AND TRINITROBENZENE MIXTURE  | 0388   | 1     |         |
| 2,4,4-Trimethylpentene-1, see   | 2050   | 3     |         | TRINITROTOLUENE, WETTED with not less than 10% water, by mass  | 3366   | 4.1   |         |
| 2,4,4-Trimethylpentene-2, see   | 2050   | 3     |         | TRINITROTOLUENE, WETTED with not less than 30% water, by mass  | 1356   | 4.1   |         |
| TRIMETHYL PHOSPHITE   | 2329   | 3     |         | TRIPROPYLAMINE   | 2260   | 3     |         |
| TRINITROANILINE   | 0153   | 1     |         | TRIPROPYLENE   | 2057   | 3     |         |
| TRINITROANISOLE   | 0213   | 1     |         | TRIS-(1-AZIRIDINYL) PHOSPHINE OXIDE SOLUTION   | 2501   | 6.1   |         |
| TRINITROBENZENE, dry or wetted with less than 30% water, by mass            | 0214   | 1     |         | TRITONAL   | 0390   | 1     |         |
| TRINITROBENZENE, WETTED with not less than 10% water, by mass               | 3367   | 4.1   |         | Tropilidene, see   | 2603   | 3     |         |
| TRINITROBENZENE, WETTED with not less than 30% water, by mass               | 1354   | 4.1   |         | TUNGSTEN HEXAFLUORIDE  | 2196   | 2     |         |
| TRINITROBENZENE-SULPHONIC ACID  | 0386   | 1     |         | TURPENTINE   | 1299   | 3     |         |
| TRINITROBENZOIC ACID, dry or wetted with less than 30% water, by mass       | 0215   | 1     |         | TURPENTINE SUBSTITUTE  | 1300   | 3     |         |
| TRINITROBENZOIC ACID, WETTED with not less than 10% water, by mass          | 3368   | 4.1   |         | UNDECANE   | 2330   | 3     |         |
| TRINITROBENZOIC ACID, WETTED with not less than 30% water, by mass          | 1355   | 4.1   |         | UREA HYDROGEN PEROXIDE   | 1511   | 5.1   |         |
| TRINITROCHLOROBENZENE   | 0155   | 1     |         | UREA NITRATE, dry or wetted with less than 20% water, by mass  | 0220   | 1     |         |
| TRINITROCHLOROBENZENE WETTED with not less than 10% water, by mass          | 3365   | 4.1   |         | UREA NITRATE, WETTED with not less than 10% water, by mass   | 3370   | 4.1   |         |
| TRINITRO-m-CRESOL   | 0216   | 1     |         | UREA NITRATE, WETTED with not less than 20% water, by mass   | 1357   | 4.1   |         |
| TRINITROFLUORENONE  | 0387   | 1     |         | Valeral, see   | 2058   | 3     |         |
| TRINITRONAPHTHALENE   | 0217   | 1     |         | VALERALDEHYDE  | 2058   | 3     |         |
| TRINITROPHENETOLE   | 0218   | 1     |         |  |        |       |         |
| TRINITROPHENOL, dry or wetted with less than 30% water, by mass             | 0154   | 1     |         |  |        |       |         |

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|---|--------|-------|--------------------|---|--------|-------|---------------------|
| n-Valeraldehyde, see  | 2058   | 3     |                    | WATER-REACTIVE LIQUID, N.O.S.                                     | 3148   | 4.3   |                     |
| Valeric aldehyde, see   | 2058   | 3     |                    | WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.                          | 3129   | 4.3   |                     |
| VALERYL CHLORIDE  | 2502   | 8     |                    | WATER-REACTIVE LIQUID, TOXIC, N.O.S.                              | 3130   | 4.3   |                     |
| VANADIUM COMPOUND, N.O.S.   | 3285   | 6.1   |                    | WATER-REACTIVE SOLID, N.O.S.                                      | 2813   | 4.3   |                     |
| Vanadium (IV) oxide sulphate, see                                   | 2931   | 6.1   |                    | WATER-REACTIVE SOLID, CORROSIVE, N.O.S.                           | 3131   | 4.3   |                     |
| Vanadium oxysulphate, see   | 2931   | 6.1   |                    | WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.                           | 3132   | 4.3   |                     |
| VANADIUM OXYTRICHLORIDE   | 2443   | 8     |                    | WATER-REACTIVE SOLID, OXIDIZING, N.O.S.                           | 3133   | 4.3   | Carriage prohibited |
| VANADIUM PENTOXIDE, non-fused form                                  | 2862   | 6.1   |                    | WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.                        | 3135   | 4.3   |                     |
| VANADIUM TETRACHLORIDE  | 2444   | 8     |                    | WATER-REACTIVE SOLID, TOXIC, N.O.S.                               | 3134   | 4.3   |                     |
| VANADIUM TRICHLORIDE  | 2475   | 8     |                    | White arsenic, see  | 1561   | 6.1   |                     |
| VANADYL SULPHATE  | 2931   | 6.1   |                    | WHITE ASBESTOS (chrysotile, actinolite, anthophyllite, tremolite) | 2590   | 9     |                     |
| Varnish, see  | 1263   | 3     |                    | White spirit, see   | 1300   | 3     |                     |
|   | 3066   | 8     |                    | WOOD PRESERVATIVES, LIQUID  | 1306   | 3     |                     |
|   | 3469   | 3     |                    | Wool waste, wet   | 1387   | 4.2   | Not subject to ADR  |
|   | 3470   | 8     |                    | XANTHATES   | 3342   | 4.2   |                     |
| Vehicle, flammable gas powered or vehicle, flammable liquid powered | 3166   | 9     | Not subject to ADR | XENON   | 2036   | 2     |                     |
| Villiumite, see   | 1690   | 6.1   |                    | XENON, REFRIGERATED LIQUID  | 2591   | 2     |                     |
| VINYL ACETATE, STABILIZED   | 1301   | 3     |                    | XYLENES   | 1307   | 3     |                     |
| Vinylbenzene, see   | 2055   | 3     |                    | XYLENOLS, LIQUID  | 3430   | 6.1   |                     |
| VINYL BROMIDE, STABILIZED   | 1085   | 2     |                    | XYLENOLS, SOLID   | 2261   | 6.1   |                     |
| VINYL BUTYRATE, STABILIZED  | 2838   | 3     |                    | XYLIDINES, LIQUID   | 1711   | 6.1   |                     |
| VINYL CHLORIDE, STABILIZED  | 1086   | 2     |                    | XYLIDINES, SOLID  | 3452   | 6.1   |                     |
| VINYL CHLOROACETATE   | 2589   | 6.1   |                    | Xylols, see   | 1307   | 3     |                     |
| VINYL ETHYL ETHER, STABILIZED                                       | 1302   | 3     |                    | XYLYL BROMIDE, LIQUID   | 1701   | 6.1   |                     |
| VINYL FLUORIDE, STABILIZED  | 1860   | 2     |                    | XYLYL BROMIDE, SOLID  | 3417   | 6.1   |                     |
| VINYLDENE CHLORIDE, STABILIZED                                      | 1303   | 3     |                    | ZINC AMMONIUM NITRITE   | 1512   | 5.1   |                     |
| VINYL ISOBUTYL ETHER, STABILIZED                                    | 1304   | 3     |                    | ZINC ARSENATE   | 1712   | 6.1   |                     |
| VINYL METHYL ETHER, STABILIZED                                      | 1087   | 2     |                    | ZINC ARSENATE AND ZINC ARSENITE MIXTURE                           | 1712   | 6.1   |                     |
| VINYLPYRIDINES, STABILIZED  | 3073   | 6.1   |                    | ZINC ARSENITE   | 1712   | 6.1   |                     |
| VINYLTOLUENES, STABILIZED   | 2618   | 3     |                    | ZINC ASHES  | 1435   | 4.3   |                     |
| VINYLTRICHLOROSILANE  | 1305   | 3     |                    | Zinc bisulphite solution, see                                     | 2693   | 8     |                     |
| Warheads for guided missiles, see                                   | 0286   | 1     |                    | ZINC BROMATE  | 2469   | 5.1   |                     |
|   | 0287   | 1     |                    | ZINC CHLORATE   | 1513   | 5.1   |                     |
|   | 0369   | 1     |                    | ZINC CHLORIDE, ANHYDROUS  | 2331   | 8     |                     |
|   | 0370   | 1     |                    |   |        |       |                     |
|   | 0371   | 1     |                    |   |        |       |                     |
| WARHEADS, ROCKET with burster or expelling charge                   | 0370   | 1     |                    |   |        |       |                     |
|   | 0371   | 1     |                    |   |        |       |                     |
| WARHEADS, ROCKET with bursting charge                               | 0286   | 1     |                    |   |        |       |                     |
|   | 0287   | 1     |                    |   |        |       |                     |
|   | 0369   | 1     |                    |   |        |       |                     |
| WARHEADS, TORPEDO with bursting charge                              | 0221   | 1     |                    |   |        |       |                     |

| Name and description         | UN No. | Class | Remarks | Name and description   | UN No. | Class | Remarks |
|------------------------------|--------|-------|---------|--|--------|-------|---------|
| ZINC CHLORIDE SOLUTION       | 1840   | 8     |         | ZIRCONIUM, DRY, coiled wire, finished metal sheets, strip (thinner than 254 microns but not thinner than 18 microns) | 2858   | 4.1   |         |
| ZINC CYANIDE                 | 1713   | 6.1   |         |  |        |       |         |
| ZINC DITHIONITE              | 1931   | 9     |         | ZIRCONIUM, DRY, finished sheets, strip or coiled wire  | 2009   | 4.2   |         |
| ZINC DUST                    | 1436   | 4.3   |         | ZIRCONIUM HYDRIDE  | 1437   | 4.1   |         |
| ZINC FLUOROSILICATE          | 2855   | 6.1   |         | ZIRCONIUM NITRATE  | 2728   | 5.1   |         |
| Zinc hexafluorosilicate, see | 2855   | 6.1   |         | ZIRCONIUM PICRAMATE, dry or wetted with less than 20% water, by mass   | 0236   | 1     |         |
| ZINC HYDROSULPHITE, see      | 1931   | 9     |         |  |        |       |         |
| ZINC NITRATE                 | 1514   | 5.1   |         | ZIRCONIUM PICRAMATE, WETTED with not less than 20% water, by mass  | 1517   | 4.1   |         |
| ZINC PERMANGANATE            | 1515   | 5.1   |         |  |        |       |         |
| ZINC PEROXIDE                | 1516   | 5.1   |         | ZIRCONIUM POWDER, DRY  | 2008   | 4.2   |         |
| ZINC PHOSPHIDE               | 1714   | 4.3   |         | ZIRCONIUM POWDER, WETTED with not less than 25% water  | 1358   | 4.1   |         |
| ZINC POWDER                  | 1436   | 4.3   |         |  |        |       |         |
| ZINC RESINATE                | 2714   | 4.1   |         | ZIRCONIUM SCRAP  | 1932   | 4.2   |         |
| Zinc selenate, see           | 2630   | 4.1   |         | ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID  | 1308   | 3     |         |
| Zinc selenite, see           | 2630   | 4.1   |         |  |        |       |         |
| Zinc silicofluoride, see     | 2855   | 6.1   |         | ZIRCONIUM TETRACHLORIDE  | 2503   | 8     |         |

## **PART 3**

### **Dangerous goods list, special provisions and exemptions related to limited and excepted quantities (cont'd)**

**CHAPTER 3.3****SPECIAL PROVISIONS APPLICABLE TO CERTAIN  
ARTICLES OR SUBSTANCES**

- 3.3.1 When Column (6) of Table A of Chapter 3.2 indicates that a special provision is relevant to a substance or article, the meaning and requirements of that special provision are as set forth below.
- 16 Samples of new or existing explosive substances or articles may be carried as directed by the competent authorities (see 2.2.1.1.3) for purposes including: testing, classification, research and development, quality control, or as a commercial sample. Explosive samples which are not wetted or desensitized shall be limited to 10 kg in small packages as specified by the competent authorities. Explosive samples which are wetted or desensitized shall be limited to 25 kg.
- 23 Even though this substance has a flammability hazard, it only exhibits such hazard under extreme fire conditions in confined areas.
- 32 This substance is not subject to the requirements of ADR when in any other form.
- 37 This substance is not subject to the requirements of ADR when coated.
- 38 This substance is not subject to the requirements of ADR when it contains not more than 0.1% calcium carbide.
- 39 This substance is not subject to the requirements of ADR when it contains less than 30% or not less than 90% silicon.
- 43 When offered for carriage as pesticides, these substances shall be carried under the relevant pesticide entry and in accordance with the relevant pesticide provisions (see 2.2.61.1.10 to 2.2.61.1.11.2).
- 45 Antimony sulphides and oxides which contain not more than 0.5% of arsenic calculated on the total mass are not subject to the requirements of ADR.
- 47 Ferricyanides and ferrocyanides are not subject to the requirements of ADR.
- 48 The carriage of this substance, when it contains more than 20% hydrocyanic acid, is prohibited.
- 59 These substances are not subject to the requirements of ADR when they contain not more than 50% magnesium.
- 60 If the concentration is more than 72%, the carriage of this substance is prohibited.
- 61 The technical name which shall supplement the proper shipping name shall be the ISO common name (see also ISO 1750:1981 "*Pesticides and other agrochemicals - common names*", as amended), other name listed in the WHO "*Recommended Classification of Pesticides by Hazard and Guidelines to Classification*" or the name of the active substance (see also 3.1.2.8.1 and 3.1.2.8.1.1).
- 62 This substance is not subject to the requirements of ADR when it contains not more than 4% sodium hydroxide.
- 65 Hydrogen peroxide aqueous solutions with less than 8% hydrogen peroxide are not subject to the requirements of ADR.



- 103 The carriage of ammonium nitrites and mixtures of an inorganic nitrite with an ammonium salt is prohibited.
- 105 Nitrocellulose meeting the descriptions of UN No. 2556 or UN No. 2557 may be classified in Class 4.1.
- 113 The carriage of chemically unstable mixtures is prohibited.
- 119 Refrigerating machines include machines or other appliances which have been designed for the specific purpose of keeping food or other items at a low temperature in an internal compartment, and air conditioning units. Refrigerating machines and refrigerating machine components are not subject to the provisions of ADR if they contain less than 12 kg of gas in Class 2, group A or O according to 2.2.2.1.3, or if they contain less than 12 litres ammonia solution (UN No. 2672).
- 122 The subsidiary risks, control and emergency temperatures if any, and the UN number (generic entry) for each of the currently assigned organic peroxide formulations are given in 2.2.52.4.
- 127 Other inert material or inert material mixture may be used, provided this inert material has identical phlegmatizing properties.
- 131 The phlegmatized substance shall be significantly less sensitive than dry PETN.
- 135 The dihydrated sodium salt of dichloroisocyanuric acid is not subject to the requirements of ADR.
- 138 p-Bromobenzyl cyanide is not subject to the requirements of ADR.
- 141 Products which have undergone sufficient heat treatment so that they present no hazard during carriage are not subject to the requirements of ADR.
- 142 Solvent extracted soya bean meal containing not more than 1.5% oil and 11% moisture, which is substantially free of flammable solvent, is not subject to the requirements of ADR.
- 144 An aqueous solution containing not more than 24% alcohol by volume is not subject to the requirements of ADR.
- 145 Alcoholic beverages of packing group III, when carried in receptacles of 250 litres or less, are not subject to the requirements of ADR.
- 152 The classification of this substance will vary with particle size and packaging, but borderlines have not been experimentally determined. Appropriate classifications shall be made in accordance with 2.2.1.
- 153 This entry applies only if it is demonstrated, on the basis of tests, that the substances when in contact with water are not combustible nor show a tendency to auto-ignition and that the mixture of gases evolved is not flammable.
- 162 *(Deleted)*
- 163 A substance mentioned by name in Table A of Chapter 3.2 shall not be carried under this entry. Substances carried under this entry may contain 20% or less nitrocellulose provided the nitrocellulose contains not more than 12.6% nitrogen (by dry mass).
- 168 Asbestos which is immersed or fixed in a natural or artificial binder (such as cement, plastics, asphalt, resins or mineral ore) in such a way that no escape of hazardous quantities of respirable asbestos fibres can occur during carriage is not subject to the requirements of ADR. Manufactured articles containing asbestos and not meeting this provision are nevertheless not subject to the requirements of ADR when packed so

that no escape of hazardous quantities of respirable asbestos fibres can occur during carriage.

169 Phthalic anhydride in the solid state and tetrahydrophthalic anhydrides, with not more than 0.05% maleic anhydride, are not subject to the requirements of ADR. Phthalic anhydride molten at a temperature above its flash-point, with not more than 0.05% maleic anhydride, shall be classified under UN No. 3256.

172 For radioactive material with a subsidiary risk:

- (a) The packages shall be labelled with a label corresponding to each subsidiary risk exhibited by the material; corresponding placards shall be affixed to vehicles or containers in accordance with the relevant provisions of 5.3.1;
- (b) The radioactive material shall be allocated to packing groups I, II or III, as and if appropriate, by application of the grouping criteria provided in Part 2 corresponding to the nature of the predominant subsidiary risk.

The description required in 5.4.1.2.5.1 (b) shall include a description of these subsidiary risks (e.g. "Subsidiary risk: 3, 6.1"), the name of the constituents which most predominantly contribute to this (these) subsidiary risk(s), and where applicable, the packing group.

177 Barium sulphate is not subject to the requirements of ADR.

178 This designation shall be used only when no other appropriate designation exists in Table A of Chapter 3.2, and only with the approval of the competent authority of the country of origin (see 2.2.1.1.3).

181 Packages containing this type of substance shall bear a label conforming to model No. 1 (see 5.2.2.2.2) unless the competent authority of the country of origin has permitted this label to be dispensed with for the specific packaging employed because test data have proved that the substance in this packaging does not exhibit explosive behaviour (see 5.2.2.1.9).

182 The group of alkali metals includes lithium, sodium, potassium, rubidium and caesium.

183 The group of alkaline earth metals includes magnesium, calcium, strontium and barium.

186 In determining the ammonium nitrate content, all nitrate ions for which a molecular equivalent of ammonium ions is present in the mixture shall be calculated as ammonium nitrate.

188 Cells and batteries offered for carriage are not subject to other provisions of ADR if they meet the following:

- (a) For a lithium metal or lithium alloy cell, the lithium content is not more than 1 g, and for a lithium ion cell, the Watt-hour rating is not more than 20 Wh;
- (b) For a lithium metal or lithium alloy battery the aggregate lithium content is not more than 2 g, and for a lithium ion battery, the Watt-hour rating is not more than 100 Wh. Lithium ion batteries subject to this provision shall be marked with the Watt-hour rating on the outside case, except those manufactured before 1 January 2009 which may be carried in accordance with this special provision and without this marking until 31 December 2010;
- (c) Each cell or battery is of the type proved to meet the requirements of each test in the *Manual of Tests and Criteria*, Part III, sub-section 38.3;

- (d) Cells and batteries, except when installed in equipment, shall be packed in inner packagings that completely enclose the cell or battery. Cells and batteries shall be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit. The inner packagings shall be packed in strong outer packagings which conform to the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.5;
- (e) Cells and batteries when installed in equipment shall be protected from damage and short circuit, and the equipment shall be equipped with an effective means of preventing accidental activation. When batteries are installed in equipment, the equipment shall be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained;
- (f) Except for packages containing no more than four cells installed in equipment or no more than two batteries installed in equipment, each package shall be marked with the following:
  - (i) an indication that the package contains "lithium metal" or "lithium ion" cells or batteries, as appropriate;
  - (ii) an indication that the package shall be handled with care and that a flammability hazard exists if the package is damaged;
  - (iii) an indication that special procedures shall be followed in the event the package is damaged, to include inspection and repacking if necessary; and
  - (iv) a telephone number for additional information;
- (g) Each consignment of one or more packages marked in accordance with paragraph (f) shall be accompanied with a document including the following:
  - (i) an indication that the package contains "lithium metal" or "lithium ion" cells or batteries, as appropriate;
  - (ii) an indication that the package shall be handled with care and that a flammability hazard exists if the package is damaged;
  - (iii) an indication that special procedures shall be followed in the event the package is damaged, to include inspection and repacking if necessary; and
  - (iv) a telephone number for additional information;
- (h) Except when batteries are installed in equipment, each package shall be capable of withstanding a 1.2 m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery (or cell to cell) contact and without release of contents; and
- (i) Except when batteries are installed in or packed with equipment, packages shall not exceed 30 kg gross mass.

As used above and elsewhere in ADR, "lithium content" means the mass of lithium in the anode of a lithium metal or lithium alloy cell.

Separate entries exist for lithium metal batteries and lithium ion batteries to facilitate the carriage of these batteries for specific modes of carriage and to enable the application of different emergency response actions.

- 190 Aerosol dispensers shall be provided with protection against inadvertent discharge. Aerosols with a capacity not exceeding 50 ml containing only non-toxic constituents are not subject to the requirements of ADR.
- 191 Receptacles, small, with a capacity not exceeding 50 ml, containing only non-toxic constituents are not subject to the requirements of ADR.
- 194 The control and emergency temperatures, if any, and the UN number (generic entry) for each of the currently assigned self-reactive substances are given in 2.2.41.4.
- 196 Formulations which in laboratory testing neither detonate in the cavitated state nor deflagrate, which show no effect when heated under confinement and which exhibit no explosive power may be carried under this entry. The formulation must also be thermally stable (i.e. the SADT is 60 °C or higher for a 50 kg package). Formulations not meeting these criteria shall be carried under the provisions of Class 5.2, (see 2.2.52.4).
- 198 Nitrocellulose solutions containing not more than 20% nitrocellulose may be carried as paint or printing ink, as applicable (see UN Nos. 1210, 1263, 3066, 3469 and 3470).
- 199 Lead compounds which, when mixed in a ratio of 1:1000 with 0.07M hydrochloric acid and stirred for one hour at a temperature of 23 °C  $\pm$  2 °C, exhibit a solubility of 5% or less (see ISO 3711:1990 "*Lead chromate pigments and lead chromate - molybdate pigments – Specifications and methods of test*") are considered insoluble and are not subject to the requirements of ADR unless they meet the criteria for inclusion in another class.
- 201 Lighters and lighter refills shall comply with the provisions of the country in which they were filled. They shall be provided with protection against inadvertent discharge. The liquid portion of the gas shall not exceed 85% of the capacity of the receptacle at 15 °C. The receptacles, including the closures, shall be capable of withstanding an internal pressure of twice the pressure of the liquefied petroleum gas at 55 °C. The valve mechanisms and ignition devices shall be securely sealed, taped or otherwise fastened or designed to prevent operation or leakage of the contents during carriage. Lighters shall not contain more than 10 g of liquefied petroleum gas. Lighter refills shall not contain more than 65 g of liquefied petroleum gas.
- NOTE: For waste lighters collected separately see Chapter 3.3, special provision 654.*
- 203 This entry shall not be used for polychlorinated biphenyls, liquid, UN No. 2315 and polychlorinated biphenyls, solid, UN No. 3432.
- 204 *(Deleted)*
- 205 This entry shall not be used for UN No. 3155 PENTACHLOROPHENOL.
- 207 Polymeric beads and moulding compounds may be made from polystyrene, poly(methyl methacrylate) or other polymeric material.
- 208 The commercial grade of calcium nitrate fertilizer, when consisting mainly of a double salt (calcium nitrate and ammonium nitrate) containing not more than 10% ammonium nitrate and at least 12% water of crystallization, is not subject to the requirements of ADR.
- 210 Toxins from plant, animal or bacterial sources which contain infectious substances, or toxins that are contained in infectious substances, shall be classified in Class 6.2.

- 215 This entry only applies to the technically pure substance or to formulations derived from it having an SADT higher than 75 °C and therefore does not apply to formulations which are self-reactive substances (for self-reactive substances, see 2.2.41.4). Homogeneous mixtures containing not more than 35% by mass of azodicarbonamide and at least 65% of inert substance are not subject to the requirements of ADR unless criteria of other classes are met.
- 216 Mixtures of solids which are not subject to the requirements of ADR and flammable liquids may be carried under this entry without first applying the classification criteria of Class 4.1, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging, vehicle or container is closed. Sealed packets and articles containing less than 10 ml of a packing group II or III flammable liquid absorbed into a solid material are not subject to ADR provided there is no free liquid in the packet or article.
- 217 Mixtures of solids which are not subject to the requirements of ADR and toxic liquids may be carried under this entry without first applying the classification criteria of Class 6.1, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging, vehicle or container is closed. This entry shall not be used for solids containing a packing group I liquid.
- 218 Mixtures of solids which are not subject to the requirements of ADR and corrosive liquids may be carried under this entry without first applying the classification criteria of Class 8, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging, vehicle or container is closed.
- 219 Genetically modified microorganisms and genetically modified organisms which meet the definition of an infectious substance and the criteria for inclusion in Class 6.2 in accordance with section 2.2.62 shall be carried as UN No. 2814, UN No. 2900 or UN No. 3373, as appropriate.
- 220 Only the technical name of the flammable liquid component of this solution or mixture shall be shown in parentheses immediately following the proper shipping name.
- 221 Substances included under this entry shall not be of packing group I.
- 224 Unless it can be demonstrated by testing that the sensitivity of the substance in its frozen state is no greater than in its liquid state, the substance shall remain liquid during normal transport conditions. It shall not freeze at temperatures above -15 °C.
- 225 Fire extinguishers under this entry may include installed actuating cartridges (cartridges, power device of classification code 1.4C or 1.4S), without changing the classification of Class 2, group A or O according to 2.2.2.1.3 provided the total quantity of deflagrating (propellant) explosives does not exceed 3.2 g per extinguishing unit.
- 226 Formulations of this substance containing not less than 30% non-volatile, non-flammable phlegmatizer are not subject to the requirements of ADR.
- 227 When phlegmatized with water and inorganic inert material the content of urea nitrate may not exceed 75% by mass and the mixture shall not be capable of being detonated by the Series 1, type (a), test in the *Manual of Tests and Criteria*, Part 1.
- 228 Mixtures not meeting the criteria for flammable gases (see 2.2.2.1.5) shall be carried under UN No. 3163.

- 230 This entry applies to cells and batteries containing lithium in any form, including lithium polymer and lithium ion cells and batteries.

Lithium cells and batteries may be carried under this entry if they meet the following provisions:

- (a) Each cell or battery is of the type proved to meet the requirements of each test of the *Manual of Tests and Criteria*, Part III, sub-section 38.3;
  - (b) Each cell and battery incorporates a safety venting device or is designed to preclude a violent rupture under normal conditions of carriage;
  - (c) Each cell and battery is equipped with an effective means of preventing external short circuits;
  - (d) Each battery containing cells or series of cells connected in parallel is equipped with effective means as necessary to prevent dangerous reverse current flow (e.g. diodes, fuses, etc.).
- 235 This entry applies to articles which contain Class 1 explosive substances and which may also contain dangerous goods of other classes. These articles are used as life-saving vehicle air bag inflators or air bag modules or seat-belt pretensioners.
- 236 Polyester resin kits consist of two components: a base material (Class 3, packing group II or III) and an activator (organic peroxide). The organic peroxide shall be type D, E or F, not requiring temperature control. Packing group shall be II or III, according to the criteria for Class 3, applied to the base material. The quantity limit referred to in Column (7a) of Table A of Chapter 3.2 applies to the base material.
- 237 The membrane filters, including paper separators, coating or backing materials, etc., that are present in carriage, shall not be liable to propagate a detonation as tested by one of the tests described in the *Manual of Tests and Criteria*, Part I, Test series 1 (a).
- In addition the competent authority may determine, on the basis of the results of suitable burning rate tests taking account of the standard tests in the *Manual of Tests and Criteria*, Part III, sub-section 33.2.1, that nitrocellulose membrane filters in the form in which they are to be carried are not subject to the requirements applicable to flammable solids in Class 4.1.
- 238 (a) Batteries can be considered as non-spillable provided that they are capable of withstanding the vibration and pressure differential tests given below, without leakage of battery fluid.
- Vibration test:** The battery is rigidly clamped to the platform of a vibration machine and a simple harmonic motion having an amplitude of 0.8 mm (1.6 mm maximum total excursion) is applied. The frequency is varied at the rate of 1 Hz/min between the limits of 10 Hz and 55 Hz. The entire range of frequencies and return is traversed in  $95 \pm 5$  minutes for each mounting position (direction of vibration) of the battery. The battery is tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for equal time periods.
- Pressure differential test:** Following the vibration test, the battery is stored for six hours at  $24\text{ }^{\circ}\text{C} \pm 4\text{ }^{\circ}\text{C}$  while subjected to a pressure differential of at least 88 kPa. The battery is tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for at least six hours in each position.
- (b) Non-spillable batteries are not subject to the requirements of ADR if, at a temperature of  $55\text{ }^{\circ}\text{C}$ , the electrolyte will not flow from a ruptured or cracked case and there is no free liquid to flow and if, as packaged for carriage, the terminals are protected from short circuit.



- 239 Batteries or cells shall not contain dangerous substances other than sodium, sulphur and/or polysulphides. Batteries or cells shall not be offered for carriage at a temperature such that liquid elemental sodium is present in the battery or cell unless approved and under the conditions established by the competent authority of the country of origin. If the country of origin is not a Contracting Party to ADR, the approval and conditions of carriage shall be recognized by the competent authority of the first country Contracting Party to ADR reached by the consignment.

Cells shall consist of hermetically sealed metal casings which fully enclose the dangerous substances and which are so constructed and closed as to prevent the release of the dangerous substances under normal conditions of carriage.

Batteries shall consist of cells secured within and fully enclosed by a metal casing so constructed and closed as to prevent the release of the dangerous substances under normal conditions of carriage.

- 241 The formulation shall be prepared so that it remains homogeneous and does not separate during carriage. Formulations with low nitrocellulose contents and not showing dangerous properties when tested for their liability to detonate, deflagrate or explode when heated under defined confinement by tests of Test series 1 (a), 2 (b) and 2 (c) respectively in the *Manual of Tests and Criteria*, Part I and not being a flammable solid when tested in accordance with test No. 1 in the *Manual of Tests and Criteria*, Part III, sub-section 33.2.1.4 (chips, if necessary, crushed and sieved to a particle size of less than 1.25 mm) are not subject to the requirements of ADR.
- 242 Sulphur is not subject to the requirements of ADR when it has been formed to a specific shape (e.g. prills, granules, pellets, pastilles or flakes).
- 243 Gasoline, motor spirit and petrol for use in spark-ignition engines (e.g. in automobiles, stationary engines and other engines) shall be assigned to this entry regardless of variations in volatility.
- 244 This entry includes e.g. aluminium dross, aluminium skimmings, spent cathodes, spent potliner, and aluminium salt slags.
- 247 Alcoholic beverages containing more than 24% alcohol but not more than 70% by volume, when carried as part of the manufacturing process, may be carried in wooden barrels with a capacity of more than 250 litres and not more than 500 litres meeting the general requirements of 4.1.1, as appropriate, on the following conditions:
- (a) The wooden barrels shall be checked and tightened before filling;
  - (b) Sufficient ullage (not less than 3%) shall be left to allow for the expansion of the liquid;
  - (c) The wooden barrels shall be carried with the bungholes pointing upwards;
  - (d) The wooden barrels shall be carried in containers meeting the requirements of the CSC. Each wooden barrel shall be secured in custom-made cradles and be wedged by appropriate means to prevent it from being displaced in any way during carriage.
- 249 Ferrocium, stabilized against corrosion, with a minimum iron content of 10% is not subject to the requirements of ADR.
- 250 This entry may only be used for samples of chemicals taken for analysis in connection with the implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction. The carriage of substances under this entry shall be in accordance with the chain of custody and security procedures specified by the Organisation for the Prohibition of Chemical Weapons.

The chemical sample may only be carried providing prior approval has been granted by the competent authority or the Director General of the Organisation for the Prohibition of Chemical Weapons and providing the sample complies with the following provisions:

- (a) It shall be packed according to packing instruction 623 in the ICAO Technical Instructions (see S-3-8 of the Supplement); and
- (b) During carriage, a copy of the document of approval for transport, showing the quantity limitations and the packing provisions shall be attached to the transport document.

- 251 The entry CHEMICAL KIT or FIRST AID KIT is intended to apply to boxes, cases etc. containing small quantities of various dangerous goods which are used for example for medical, analytical or testing or repair purposes. Such kits may not contain dangerous goods for which the code "LQ0" has been indicated in Column (7a) of Table A of Chapter 3.2.

Components shall not react dangerously (see "dangerous reaction" in 1.2.1). The total quantity of dangerous goods in any one kit shall not exceed either 1 l or 1 kg. The packing group assigned to the kit as a whole shall be the most stringent packing group assigned to any individual substance in the kit.

Kits which are carried on board vehicles for first-aid or operating purposes are not subject to the requirements of ADR.

Chemical kits and first aid kits containing dangerous goods in inner packagings which do not exceed the quantity limits for limited quantities applicable to individual substances as specified in Column (7a) of Table A of Chapter 3.2 in accordance with the LQ code defined in 3.4.6 may be carried in accordance with Chapter 3.4.

- 252 Provided the ammonium nitrate remains in solution under all conditions of carriage, aqueous solutions of ammonium nitrate, with not more than 0.2% combustible material, in a concentration not exceeding 80%, are not subject to the requirements of ADR.
- 266 This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be carried unless specifically authorized by the competent authority (see 2.2.1.1).
- 267 Any explosives, blasting, type C containing chlorates shall be segregated from explosives containing ammonium nitrate or other ammonium salts.
- 270 Aqueous solutions of Class 5.1 inorganic solid nitrate substances are considered as not meeting the criteria of Class 5.1 if the concentration of the substances in solution at the minimum temperature encountered during carriage is not greater than 80% of the saturation limit.
- 271 Lactose or glucose or similar materials, may be used as a phlegmatizer provided that the substance contains not less than 90%, by mass, of phlegmatizer. The competent authority may authorize these mixtures to be classified in Class 4.1 on the basis of a test Series 6(c) of Section 16 of Part I of the *Manual of Tests and Criteria* on at least three packages as prepared for carriage. Mixtures containing at least 98%, by mass, of phlegmatizer are not subject to the requirements of ADR. Packages containing mixtures with not less than 90%, by mass, of phlegmatizer need not bear a label conforming to model No. 6.1.
- 272 This substance shall not be carried under the provisions of Class 4.1 unless specifically authorized by the competent authority (see UN No. 0143).



- 273 Maneb and maneb preparations stabilized against self-heating need not be classified in Class 4.2 when it can be demonstrated by testing that a cubic volume of 1 m<sup>3</sup> of substance does not self-ignite and that the temperature at the centre of the sample does not exceed 200 °C, when the sample is maintained at a temperature of not less than 75 °C ± 2 °C for a period of 24 hours.
- 274 The provisions of 3.1.2.8 apply.
- 278 These substances shall not be classified and carried unless authorized by the competent authority on the basis of results from Series 2 tests and a Series 6(c) test of Part I of the *Manual of Tests and Criteria* on packages as prepared for carriage (see 2.2.1.1). The competent authority shall assign the packing group on the basis of 2.2.3 criteria and the package type used for the Series 6(c) test.
- 279 The substance is assigned to this classification or packing group based on human experience rather than the strict application of classification criteria set out in ADR.
- 280 This entry applies to articles which are used as life-saving vehicle air bag inflators, or air bag modules or seat-belt pretensioners and which contain dangerous goods of Class 1 or dangerous goods of other classes and when carried as component parts and when these articles as presented for carriage have been tested in accordance with Test series 6 (c) of Part I of the *Manual of Tests and Criteria*, with no explosion of the device, no fragmentation of device casing or pressure vessel, and no projection hazard nor thermal effect which would significantly hinder fire-fighting or other emergency response efforts in the immediate vicinity.
- 282 *(Deleted)*
- 283 Articles, containing gas, intended to function as shock absorbers, including impact energy-absorbing devices, or pneumatic springs are not subject to the requirements of ADR provided:
- (a) Each article has a gas space capacity not exceeding 1.6 litres and a charge pressure not exceeding 280 bar where the product of the capacity (litres) and charge pressure (bars) does not exceed 80 (i.e. 0.5 litres gas space and 160 bar charge pressure, 1 litre gas space and 80 bar charge pressure, 1.6 litres gas space and 50 bar charge pressure, 0.28 litres gas space and 280 bar charge pressure);
  - (b) Each article has a minimum burst pressure of 4 times the charge pressure at 20 °C for products not exceeding 0.5 litres gas space capacity and 5 times charge pressure for products greater than 0.5 litres gas space capacity;
  - (c) Each article is manufactured from material which will not fragment upon rupture;
  - (d) Each article is manufactured in accordance with a quality assurance standard acceptable to the competent authority; and
  - (e) The design type has been subjected to a fire test demonstrating that the article relieves its pressure by means of a fire degradable seal or other pressure relief device, such that the article will not fragment and that the article does not rocket.
- See also 1.1.3.2 (d) for equipment used for the operation of the vehicle.
- 284 An oxygen generator, chemical, containing oxidizing substances shall meet the following conditions:
- (a) The generator when containing an explosive actuating device shall only be carried under this entry when excluded from Class 1 in accordance with the NOTE under paragraph 2.2.1.1.1 (b);

- (b) The generator, without its packaging, shall be capable of withstanding a 1.8 m drop test onto a rigid, non-resilient, flat and horizontal surface, in the position most likely to cause damage, without loss of its contents and without actuation;
  - (c) When a generator is equipped with an actuating device, it shall have at least two positive means of preventing unintentional actuation.
- 286 Nitrocellulose membrane filters covered by this entry, each with a mass not exceeding 0.5 g, are not subject to the requirements of ADR when contained individually in an article or a sealed packet.
- 288 These substances shall not be classified and carried unless authorized by the competent authority on the basis of results from Series 2 tests and a Series 6(c) test of Part I of the *Manual of tests and Criteria* on packages as prepared for carriage (see 2.2.1.1).
- 289 Air bag inflators, air bag modules or seat-belt pretensioners installed in conveyances or in completed conveyance components such as steering columns, door panels, seats, etc. are not subject to the requirements of ADR.
- 290 When this material meets the definitions and criteria of other classes as defined in Part 2, it shall be classified in accordance with the predominant subsidiary risk. Such material shall be declared under the proper shipping name and UN number appropriate for the material in that predominant class, with the addition of the name applicable to this material according to Column (2) of Table A of Chapter 3.2, and shall be carried in accordance with the provisions applicable to that UN number. In addition, all other requirements specified in 1.7.1.5 shall apply, except 5.2.1.7.2.
- 291 Flammable liquefied gases shall be contained within refrigerating machine components. These components shall be designed and tested to at least three times the working pressure of the machinery. The refrigerating machines shall be designed and constructed to contain the liquefied gas and preclude the risk of bursting or cracking of the pressure retaining components during normal conditions of carriage. Refrigerating machines and refrigerating-machine components are not subject to the requirements of ADR if they contain less than 12 kg of gas.
- 292 Mixtures containing not more than 23.5% oxygen by volume may be carried under this entry when no other oxidizing gases are present. A label conforming to model No. 5.1 is not required for any concentrations within this limit.
- 293 The following definitions apply to matches:
  - (a) Fusee matches are matches the heads of which are prepared with a friction-sensitive igniter composition and a pyrotechnic composition which burns with little or no flame, but with intense heat;
  - (b) Safety matches are matches which are combined with or attached to the box, book or card that can be ignited by friction only on a prepared surface;
  - (c) Strike anywhere matches are matches that can be ignited by friction on a solid surface;
  - (d) Wax Vesta matches are matches that can be ignited by friction either on a prepared surface or on a solid surface.
- 295 Batteries need not be individually marked and labelled if the pallet bears the appropriate mark and label.

- 296 These entries apply to life-saving appliances such as life rafts, personal flotation devices and self-inflating slides. UN No. 2990 applies to self-inflating appliances and UN No. 3072 applies to life-saving appliances that are not self-inflating. Life-saving appliances may contain:
- (a) Signal devices (Class 1) which may include smoke and illumination signal flares packed in packagings that prevent them from being inadvertently activated;
  - (b) For UN No. 2990 only, cartridges, power device of Division 1.4, compatibility group S, may be contained for purposes of the self-inflating mechanism and provided that the quantity of explosives per appliance does not exceed 3.2 g;
  - (c) Class 2 compressed gases, group A or O, according to 2.2.2.1.3;
  - (d) Electric storage batteries (Class 8) and lithium batteries (Class 9);
  - (e) First aid kits or repair kits containing small quantities of dangerous goods (e.g.: substances of Class 3, 4.1, 5.2, 8 or 9); or
  - (f) "Strike anywhere" matches packed in packagings that prevent them from being inadvertently activated.
- 298 *(Deleted)*
- 300 Fish meal or fish scrap shall not be loaded if the temperature at the time of loading exceeds 35 °C or 5 °C above the ambient temperature whichever is higher.
- 302 In the proper shipping name, the word "UNIT" means:
- a vehicle;
  - a container; or
  - a tank.
- Fumigated vehicles, containers and tanks are only subject to the provisions of 5.5.2.
- 303 Receptacles shall be assigned to the classification code of the gas or mixture of gases contained therein determined in accordance with the provisions of section 2.2.2.
- 304 Batteries, dry, containing corrosive electrolyte which will not flow out of the battery if the battery case is cracked are not subject to the requirements of ADR provided the batteries are securely packed and protected against short-circuits. Examples of such batteries are: alkali-manganese, zinc-carbon, nickel-metal hydride and nickel-cadmium batteries.
- 305 These substances are not subject to the requirements of ADR when in concentrations of not more than 50 mg/kg.
- 306 This entry may only be used for substances that do not exhibit explosive properties of Class 1 when tested in accordance to Test Series 1 and 2 of Class 1 (see *Manual of Tests and Criteria*, Part I).
- 307 This entry may only be used for uniform mixtures containing ammonium nitrate as the main ingredient within the following composition limits:
- (a) Not less than 90% ammonium nitrate with not more than 0.2% total combustible/organic material calculated as carbon and with added matter, if any, which is inorganic and inert towards ammonium nitrate; or
  - (b) Less than 90% but more than 70% ammonium nitrate with other inorganic materials or more than 80% but less than 90% ammonium nitrate mixed with calcium carbonate and/or dolomite and/or mineral calcium sulphate and not more than 0.4% total combustible/organic material calculated as carbon; or

- (c) Nitrogen type ammonium nitrate based fertilizers containing mixtures of ammonium nitrate and ammonium sulphate with more than 45% but less than 70% ammonium nitrate and not more than 0.4% total combustible/organic material calculated as carbon such that the sum of the percentage compositions of ammonium nitrate and ammonium sulphate exceeds 70%.

309 This entry applies to non sensitized emulsions, suspensions and gels consisting primarily of a mixture of ammonium nitrate and fuel, intended to produce a Type E blasting explosive only after further processing prior to use.

The mixture for emulsions typically has the following composition: 60-85% ammonium nitrate, 5-30% water, 2-8% fuel, 0.5-4% emulsifier agent, 0-10% soluble flame suppressants, and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate.

The mixture for suspensions and gels typically has the following composition: 60-85% ammonium nitrate, 0-5% sodium or potassium perchlorate, 0-17% hexamine nitrate or monomethylamine nitrate, 5-30% water, 2-15% fuel, 0.5-4% thickening agent, 0-10% soluble flame suppressants, and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate.

Substances shall satisfactorily pass Test Series 8 of the Manual of Tests and Criteria, Part I, Section 18 and be approved by the competent authority.

310 The testing requirements in sub-section 38.3 of the *Manual of Tests and Criteria* do not apply to production runs consisting of not more than 100 cells and batteries, or to pre-production prototypes of cells and batteries when these prototypes are carried for testing, if:

- (a) the cells and batteries are carried in an outer packaging that is a metal, plastics or plywood drum or a metal, plastics or wooden box and that meets the criteria for packing group I; and
- (b) each cell and battery is individually packed in an inner packaging inside an outer packaging and is surrounded by cushioning material that is non-combustible, and non-conductive.

311 Substances shall not be carried under this entry unless approved by the competent authority on the basis of the results of appropriate tests according to Part I of the *Manual of Tests and Criteria*. Packaging shall ensure that the percentage of diluent does not fall below that stated in the competent authority approval, at any time during carriage.

312 (*Reserved*)

313 Substances and mixtures meeting the criteria for Class 8 shall bear a subsidiary risk label conforming to model No. 8 (see 5.2.2.2.2).

314 (a) These substances are liable to exothermic decomposition at elevated temperatures. Decomposition can be initiated by heat or by impurities (e.g. powdered metals (iron, manganese, cobalt, magnesium) and their compounds);

- (b) During the course of carriage, these substances shall be shaded from direct sunlight and all sources of heat and be placed in adequately ventilated areas.

- 315 This entry shall not be used for Class 6.1 substances which meet the inhalation toxicity criteria for packing group I described in 2.2.61.1.8.
- 316 This entry applies only to calcium hypochlorite, dry, when carried in non friable tablet form.
- 317 "Fissile-excepted" applies only to those packages complying with 6.4.11.2.
- 318 For the purposes of documentation, the proper shipping name shall be supplemented with the technical name (see 3.1.2.8). When the infectious substances to be carried are unknown, but suspected of meeting the criteria for inclusion in Category A and assignment to UN No. 2814 or 2900, the words "suspected Category A infectious substance" shall be shown, in parentheses, following the proper shipping name on the transport document.
- 319 Substances packed and packages which are marked in accordance with packing instruction P650 are not subject to any other requirements of ADR.
- 320 *(Deleted)*
- 321 These storage systems shall always be considered as containing hydrogen.
- 322 When carried in non-friable tablet form, these goods are assigned to packing group III.
- 323 *(Reserved)*
- 324 This substance needs to be stabilized when in concentrations of not more than 99%.
- 325 In the case of non-fissile or fissile excepted uranium hexafluoride, the material shall be classified under UN No. 2978.
- 326 In the case of fissile uranium hexafluoride, the material shall be classified under UN No. 2977.
- 327 Waste aerosols consigned in accordance with 5.4.1.1.3 may be carried under this entry for the purposes of reprocessing or disposal. They need not be protected against inadvertent discharge provided that measures to prevent dangerous build up of pressure and dangerous atmospheres are addressed. Waste aerosols, other than those leaking or severely deformed, shall be packed in accordance with packing instruction P003 and special provision PP87, or packing instruction LP02 and special packing provision L2. Leaking or severely deformed aerosols shall be carried in salvage packagings provided appropriate measures are taken to ensure there is no dangerous build up of pressure.

**NOTE:** *For maritime carriage, waste aerosols shall not be carried in closed containers.*

- 328 This entry applies to fuel cell cartridges including when contained in equipment or packed with equipment. Fuel cell cartridges installed in or integral to a fuel cell system are regarded as contained in equipment. Fuel cell cartridge means an article that stores fuel for discharge into the fuel cell through (a) valve(s) that control(s) the discharge of fuel into the fuel cell. Fuel cell cartridges, including when contained in equipment, shall be designed and constructed to prevent fuel leakage under normal conditions of carriage.

Fuel cell cartridge design types using liquids as fuels shall pass an internal pressure test at a pressure of 100 kPa (gauge) without leakage.

Except for fuel cell cartridges containing hydrogen in metal hydride which shall be in compliance with special provision 339, each fuel cell cartridge design type shall be shown to pass a 1.2 meter drop test onto an unyielding surface in the orientation most likely to result in failure of the containment system with no loss of contents.

329 *(Reserved)*

330 *(Deleted)*

331 *(Reserved)*

332 Magnesium nitrate hexahydrate is not subject to the requirements of ADR.

333 Ethanol and gasoline, motor spirit or petrol mixtures for use in spark-ignition engines (e.g. in automobiles, stationary engines and other engines) shall be assigned to this entry regardless of variations in volatility.

334 A fuel cell cartridge may contain an activator provided it is fitted with two independent means of preventing unintended mixing with the fuel during carriage.

335 Mixtures of solids which are not subject to the requirements of ADR and environmentally hazardous liquids or solids shall be classified as UN 3077 and may be carried under this entry provided there is no free liquid visible at the time the substance is loaded or at the time the packaging or vehicle or container is closed. Each vehicle or container shall be leakproof when used for carriage in bulk. If free liquid is visible at the time the mixture is loaded or at the time the packaging or vehicle or container is closed, the mixture shall be classified as UN 3082. Sealed packets and articles containing less than 10 ml of an environmentally hazardous liquid, absorbed into a solid material but with no free liquid in the packet or article, or containing less than 10 g of an environmentally hazardous solid, are not subject to the requirements of ADR.

336 A single package of non-combustible solid LSA-II or LSA-III material, if carried by air, shall not contain an activity greater than 3 000 A<sub>2</sub>.

337 Type B(U) and Type B(M) packages, if carried by air, shall not contain activities greater than the following:

- (a) For low dispersible radioactive material: as authorized for the package design as specified in the certificate of approval;
- (b) For special form radioactive material: 3 000 A<sub>1</sub> or 100 000 A<sub>2</sub>, whichever is the lower; or
- (c) For all other radioactive material: 3 000 A<sub>2</sub>.

338 Each fuel cell cartridge carried under this entry and designed to contain a liquefied flammable gas shall:

- (a) Be capable of withstanding, without leakage or bursting, a pressure of at least two times the equilibrium pressure of the contents at 55 °C;

- (b) Not contain more than 200 ml of liquefied flammable gas with a vapour pressure not exceeding 1 000 kPa at 55 °C; and
  - (c) Pass the hot water bath test prescribed in 6.2.6.3.1.
- 339 Fuel cell cartridges containing hydrogen in a metal hydride carried under this entry shall have a water capacity less than or equal to 120 ml.

The pressure in the fuel cell cartridge shall not exceed 5 MPa at 55 °C. The design type shall withstand, without leaking or bursting, a pressure of twice the design pressure of the cartridge at 55 °C or 200 kPa more than the design pressure of the cartridge at 55 °C, whichever is greater. The pressure at which this test is conducted is referred to in the drop test and the hydrogen cycling test as the "minimum shell burst pressure".

Fuel cell cartridges shall be filled in accordance with procedures provided by the manufacturer. The manufacturer shall provide the following information with each fuel cell cartridge:

- (a) Inspection procedures to be carried out before initial filling and before refilling of the fuel cell cartridge;
- (b) Safety precautions and potential hazards to be aware of;
- (c) Method for determining when the rated capacity has been achieved;
- (d) Minimum and maximum pressure range;
- (e) Minimum and maximum temperature range; and
- (f) Any other requirements to be met for initial filling and refilling including the type of equipment to be used for initial filling and refilling.

The fuel cell cartridges shall be designed and constructed to prevent fuel leakage under normal conditions of carriage. Each cartridge design type, including cartridges integral to a fuel cell, shall be subjected to and shall pass the following tests:

#### **Drop test**

A 1.8 metre drop test onto an unyielding surface in four different orientations:

- (a) Vertically, on the end containing the shut-off valve assembly;
- (b) Vertically, on the end opposite to the shut-off valve assembly;
- (c) Horizontally, onto a steel apex with a diameter of 38 mm, with the steel apex in the upward position; and
- (d) At a 45° angle on the end containing the shut-off valve assembly.

There shall be no leakage, determined by using a soap bubble solution or other equivalent means on all possible leak locations, when the cartridge is charged to its rated charging pressure. The fuel cell cartridge shall then be hydrostatically pressurized to destruction. The recorded burst pressure shall exceed 85% of the minimum shell burst pressure.



**Fire test**

A fuel cell cartridge filled to rated capacity with hydrogen shall be subjected to a fire engulfment test. The cartridge design, which may include a vent feature integral to it, is deemed to have passed the fire test if:

- (a) The internal pressure vents to zero gauge pressure without rupture of the cartridge; or
- (b) The cartridge withstands the fire for a minimum of 20 minutes without rupture.

**Hydrogen cycling test**

This test is intended to ensure that a fuel cell cartridge design stress limits are not exceeded during use.

The fuel cell cartridge shall be cycled from not more than 5% rated hydrogen capacity to not less than 95% rated hydrogen capacity and back to not more than 5% rated hydrogen capacity. The rated charging pressure shall be used for charging and temperatures shall be held within the operating temperature range. The cycling shall be continued for at least 100 cycles.

Following the cycling test, the fuel cell cartridge shall be charged and the water volume displaced by the cartridge shall be measured. The cartridge design is deemed to have passed the hydrogen cycling test if the water volume displaced by the cycled cartridge does not exceed the water volume displaced by an uncycled cartridge charged to 95% rated capacity and pressurized to 75% of its minimum shell burst pressure.

**Production leak test**

Each fuel cell cartridge shall be tested for leaks at  $15\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ , while pressurized to its rated charging pressure. There shall be no leakage, determined by using a soap bubble solution or other equivalent means on all possible leak locations.

Each fuel cell cartridge shall be permanently marked with the following information:

- (a) The rated charging pressure in MPa;
- (b) The manufacturer's serial number of the fuel cell cartridges or unique identification number; and
- (c) The date of expiry based on the maximum service life (year in four digits; month in two digits).

- 340 Chemical kits, first aid kits and polyester resin kits containing dangerous substances in inner packagings which do not exceed the quantity limits for excepted quantities applicable to individual substances as specified in column (7b) of Table A of Chapter 3.2, may be carried in accordance with Chapter 3.5. Class 5.2 substances, although not individually authorized as excepted quantities in column (7b) of Table A of Chapter 3.2, are authorized in such kits and are assigned Code E2 (see 3.5.1.2).

341-499(*Reserved*)



- 500 UN No. 3064 nitroglycerin, solution in alcohol with more than 1% but not more than 5% nitroglycerin, packed in accordance with packing instruction P300 of 4.1.4.1, is a substance of Class 3.
- 501 For naphthalene, molten, see UN No. 2304.
- 502 UN No. 2006 plastics, nitrocellulose-based, self-heating, n.o.s., and 2002 celluloid scrap are substances of Class 4.2.
- 503 For phosphorus, white or yellow, molten, see UN No. 2447.
- 504 UN No. 1847 potassium sulphide, hydrated with not less than 30% water of crystallization, UN No. 1849 sodium sulphide, hydrated with not less than 30% water of crystallization and UN No. 2949 sodium hydrosulphide hydrated with not less than 25% water of crystallization are substances of Class 8.
- 505 UN No. 2004 magnesium diamide is a substance of Class 4.2.
- 506 Alkaline earth metals and alkaline earth metal alloys in pyrophoric form are substances of Class 4.2.
- UN No. 1869 magnesium or magnesium alloys containing more than 50% magnesium as pellets, turnings or ribbons, are substances of Class 4.1.
- 507 UN No. 3048 aluminium phosphide pesticides, with additives inhibiting the emission of toxic flammable gases are substances of Class 6.1.
- 508 UN No. 1871 titanium hydride and UN No. 1437 zirconium hydride are substances of Class 4.1. UN No. 2870 aluminium borohydride is a substance of Class 4.2.
- 509 UN No. 1908 chlorite solution is a substance of Class 8.
- 510 UN No. 1755 chromic acid solution is a substance of Class 8.
- 511 UN No. 1625 mercuric nitrate, UN No. 1627 mercurous nitrate and UN No. 2727 thallium nitrate are substances of Class 6.1. Thorium nitrate, solid, uranyl nitrate hexahydrate solution and uranyl nitrate, solid are substances of Class 7.
- 512 UN No. 1730 antimony pentachloride, liquid, UN No. 1731 antimony pentachloride solution, UN No. 1732 antimony pentafluoride and UN No. 1733 antimony trichloride are substances of Class 8.
- 513 UN No. 0224 barium azide, dry or wetted with less than 50% water, by mass, is a substance of Class 1. UN No. 1571 barium azide, wetted with not less than 50% water, by mass, is a substance of Class 4.1. UN No. 1854 barium alloys, pyrophoric, are substances of Class 4.2. UN No. 1445 barium chlorate, solid, UN No. 1446 barium nitrate, UN No. 1447 barium perchlorate, solid, UN No. 1448 barium permanganate, UN No. 1449 barium peroxide, UN No. 2719 barium bromate, UN No. 2741 barium hypochlorite with more than 22% available chlorine, UN No. 3405 barium chlorate, solution and UN No. 3406 barium perchlorate, solution, are substances of Class 5.1. UN No. 1565 barium cyanide and UN No. 1884 barium oxide are substances of Class 6.1.
- 514 UN No. 2464 beryllium nitrate is a substance of Class 5.1.

- 515 UN No. 1581 chloropicrin and methyl bromide mixture and UN No. 1582 chloropicrin and methyl chloride mixture are substances of Class 2.
- 516 UN No. 1912 methyl chloride and methylene chloride mixture is a substance of Class 2.
- 517 UN No. 1690 sodium fluoride, solid, UN No. 1812 potassium fluoride, solid, UN No. 2505 ammonium fluoride, UN No. 2674 sodium fluorosilicate, UN No. 2856 fluorosilicates, n.o.s., UN No. 3415 sodium fluoride, solution and UN No. 3422 potassium fluoride, solution, are substances of Class 6.1.
- 518 UN No. 1463 chromium trioxide, anhydrous (chromic acid, solid) is a substance of Class 5.1.
- 519 UN No. 1048 hydrogen bromide, anhydrous, is a substance of Class 2.
- 520 UN No. 1050 hydrogen chloride, anhydrous, is a substance of Class 2.
- 521 Solid chlorites and hypochlorites are substances of Class 5.1.
- 522 UN No. 1873 perchloric acid aqueous solution with more than 50% but not more than 72% pure acid, by mass are substances of Class 5.1. Perchloric acid solutions containing more than 72% pure acid, by mass, or mixtures of perchloric acid with any liquid other than water, are not to be accepted for carriage.
- 523 UN No. 1382 anhydrous potassium sulphide and UN No. 1385 anhydrous sodium sulphide and their hydrates with less than 30% water of crystallization, and UN No. 2318 sodium hydrosulphide with less than 25% water of crystallization are substances of Class 4.2.
- 524 UN No. 2858 finished zirconium products of a thickness of 18 µm or more are substances of Class 4.1.
- 525 Solutions of inorganic cyanides with a total cyanide ion content of more than 30% shall be classified in packing group I, solutions with a total cyanide ion content of more than 3% and not more than 30% in packing group II and solutions with a cyanide ion content of more than 0.3% and not more than 3% in packing group III.
- 526 UN No. 2000 celluloid is assigned to Class 4.1.
- 528 UN No. 1353 fibres or fabrics impregnated with weakly nitrated cellulose, non-self heating are articles of Class 4.1.
- 529 UN No. 0135 mercury fulminate, wetted with not less than 20% water, or mixture of alcohol and water, by mass, is a substance of Class 1. Mercurous chloride (calomel) is a substance of Class 9 (UN No. 3077).
- 530 UN No. 3293 hydrazine, aqueous solution with not more than 37% hydrazine, by mass, is a substance of Class 6.1.
- 531 Mixtures having a flash-point below 23 °C and containing more than 55% nitrocellulose, whatever its nitrogen content or containing not more than 55% nitrocellulose with a nitrogen content above 12.6% (by dry mass), are substances of Class 1 (see UN Nos. 0340 or 0342) or of Class 4.1.

- 532 UN No. 2672 ammonia solution containing not less than 10% but not more than 35% ammonia is a substance of Class 8.
- 533 UN No. 1198 formaldehyde solutions, flammable are substances of Class 3. Formaldehyde solutions, non-flammable, with less than 25% formaldehyde are not subject to the requirements of ADR.
- 534 While in some climatic conditions, petrol (gasoline) may have a vapour pressure at 50 °C of more than 110 kPa (1.10 bar) but not more than 150 kPa (1.50 bar) it is to continue to be considered as a substance having a vapour pressure at 50 °C of not more than 110 kPa (1.10 bar).
- 535 UN No. 1469 lead nitrate, UN No. 1470 lead perchlorate, solid and UN No. 3408 lead perchlorate, solution, are substances of Class 5.1.
- 536 For naphthalene, solid, see UN No. 1334.
- 537 UN No. 2869 titanium trichloride mixture, not pyrophoric, is a substance of Class 8.
- 538 For sulphur (in the solid state), see UN No. 1350.
- 539 Solutions of isocyanates having a flash-point of not less than 23 °C are substances of Class 6.1.
- 540 UN No. 1326 hafnium powder, wetted, UN No. 1352 titanium powder, wetted or UN No. 1358 zirconium powder, wetted, with not less than 25% water, are substances of Class 4.1.
- 541 Nitrocellulose mixtures with a water content, alcohol content or plasticizer content lower than the stated limits are substances of Class 1.
- 542 Talc containing tremolite and/or actinolite is covered by this entry.
- 543 UN No. 1005 ammonia, anhydrous, UN No. 3318 ammonia solution with more than 50% ammonia and UN No. 2073 ammonia solution, with more than 35% but not more than 50% ammonia, are substances of Class 2. Ammonia solutions with not more than 10% ammonia are not subject to the requirements of ADR.
- 544 UN No. 1032 dimethylamine, anhydrous, UN No. 1036 ethylamine, UN No. 1061 methylamine, anhydrous and UN No. 1083 trimethylamine, anhydrous, are substances of Class 2.
- 545 UN No. 0401 dipicryl sulphide, wetted with less than 10% water by mass is a substance of Class 1.
- 546 UN No. 2009 zirconium, dry, finished sheets, strip or coiled wire, in thicknesses of less than 18 µm, is a substance of Class 4.2. Zirconium, dry, finished sheets, strip or coiled wire, in thicknesses of 254 µm or more, is not subject to the requirements of ADR.
- 547 UN No. 2210 maneb or UN No. 2210 maneb preparations in self-heating form are substances of Class 4.2.
- 548 Chlorosilanes which, in contact with water, emit flammable gases, are substances of Class 4.3.

- 549 Chlorosilanes having a flash-point of less than 23 °C and which, in contact with water, do not emit flammable gases are substances of Class 3. Chlorosilanes having a flash-point equal to or greater than 23 °C and which, in contact with water, do not emit flammable gases are substances of Class 8.
- 550 UN No. 1333 cerium in slabs, rods or ingots is a substance of Class 4.1.
- 551 Solutions of these isocyanates having a flash-point below 23 °C are substances of Class 3.
- 552 Metals and metal alloys in powdered or other flammable form, liable to spontaneous combustion, are substances of Class 4.2. Metals and metal alloys in powdered or other flammable form which, in contact with water, emit flammable gases are substances of Class 4.3.
- 553 This mixture of hydrogen peroxide and peroxyacetic acid shall, in laboratory testing (see *Manual of Tests and Criteria*, Part II, section 20), neither detonate in the cavitated state nor deflagrate at all and shall show no effect when heated under confinement nor any explosive power. The formulation shall be thermally stable (self-accelerating decomposition temperature 60 °C or higher for a 50 kg package), and a liquid compatible with peroxyacetic acid shall be used for desensitization. Formulations not meeting these criteria are to be regarded as substances of Class 5.2 (see *Manual of Tests and Criteria*, Part II, paragraph 20.4.3(g)).
- 554 Metal hydrides which, in contact with water, emit flammable gases are substances of Class 4.3. UN No. 2870 aluminium borohydride or UN No. 2870 aluminium borohydride in devices is a substance of Class 4.2.
- 555 Dust and powder of metals in non-spontaneously combustible form, non-toxic which nevertheless, in contact with water, emit flammable gases, are substances of Class 4.3.
- 556 Organometallic compounds and their solutions which ignite spontaneously are substances of Class 4.2. Flammable solutions with organometallic compounds in concentrations which, in contact with water, neither emit flammable gases in dangerous quantities nor ignite spontaneously are substances of Class 3.
- 557 Dust and powder of metals in pyrophoric form are substances of Class 4.2.
- 558 Metals and metal alloys in pyrophoric form are substances of Class 4.2. Metals and metal alloys which, in contact with water, do not emit flammable gases and are not pyrophoric or self-heating, but which are easily ignited, are substances of Class 4.1.
- 559 Mixtures of a hypochlorite with an ammonium salt are not to be accepted for carriage. UN No. 1791 hypochlorite solution is a substance of Class 8.
- 560 UN No. 3257 elevated temperature liquid, n.o.s., at or above 100 °C and, for a substance with a flash-point below its flash-point (including molten metals and molten salts) is a substance of Class 9.
- 561 Chloroformates having predominantly corrosive properties are substances of Class 8.
- 562 Spontaneously combustible organometallic compounds are substances of Class 4.2. Water-reactive organometallic compounds, flammable, are substances of Class 4.3.
- 563 UN No. 1905 selenic acid is a substance of Class 8.

- 564 UN No. 2443 vanadium oxytrichloride, UN No. 2444 vanadium tetrachloride and UN No. 2475 vanadium trichloride are substances of Class 8.
- 565 Unspecified wastes resulting from medical/veterinary treatment of humans/animals or from biological research, and which are unlikely to contain substances of Class 6.2 shall be assigned to this entry. Decontaminated clinical wastes or wastes resulting from biological research which previously contained infectious substances are not subject to the requirements of Class 6.2.
- 566 UN No. 2030 hydrazine aqueous solution, with more than 37% hydrazine, by mass, is a substance of Class 8.
- 567 Mixtures containing more than 21% oxygen by volume shall be classified as oxidizing.
- 568 Barium azide with a water content lower than the stated limit is a substance of Class 1, UN No. 0224.

569-579 (*Reserved*)

- 580 Tank-vehicles, specialized vehicles and specially equipped vehicles for carriage in bulk shall bear on both sides and at the rear the mark referred to in 5.3.3. Tank-containers, portable tanks, special containers and specially equipped containers for carriage in bulk shall bear this mark on both sides and at each end.
- 581 This entry covers mixtures of methylacetylene and propadiene with hydrocarbons, which as

Mixture P1, contain not more than 63% methylacetylene and propadiene by volume and not more than 24% propane and propylene by volume, the percentage of C<sub>4</sub>-saturated hydrocarbons being not less than 14% by volume; and as

Mixture P2, contain not more than 48% methylacetylene and propadiene by volume and not more than 50% propane and propylene by volume, the percentage of C<sub>4</sub>-saturated hydrocarbons being not less than 5% by volume,

as well as mixtures of propadiene with 1 to 4% methylacetylene.

When relevant, in order to meet the requirements for the transport document (5.4.1.1), the term "Mixture P1" or "Mixture P2" may be used as technical name.

- 582 This entry covers, inter alia, mixtures of gases indicated by the letter R ..., which as

Mixture F1, have a vapour pressure at 70 °C not exceeding 1.3 MPa (13 bar) and a density at 50 °C not lower than that of dichlorofluoromethane (1.30 kg/l);

Mixture F2, have a vapour pressure at 70 °C not exceeding 1.9 MPa (19 bar) and a density at 50 °C not lower than that of dichlorodifluoromethane (1.21 kg/l);

Mixture F3, have a vapour pressure at 70 °C not exceeding 3 MPa (30 bar) and a density at 50 °C not lower than that of chlorodifluoromethane (1.09 kg/l).

**NOTE:** *Trichlorofluoromethane (refrigerant R 11), 1,1,2-trichloro-1,2,2-trifluoroethane (refrigerant R 113), 1,1,1-trichloro-2,2,2-trifluoroethane (refrigerant R 113a), 1-chloro-1,2,2-trifluoroethane (refrigerant R 133) and 1-chloro-1,1,2-*

*trifluoroethane (refrigerant R 133 b) are not substances of Class 2. They may, however, enter into the composition of mixtures F 1 to F 3.*

When relevant, in order to meet the requirements for the transport document (5.4.1.1), the term "Mixture F1", "Mixture F2" or "Mixture F3" may be used as technical name.

583 This entry covers, inter alia, mixtures which as

Mixture A, have a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l;

Mixture A01, have a vapour pressure at 70 °C not exceeding 1.6 MPa (16 bar) and a relative density at 50 °C not lower than 0.516 kg/l;

Mixture A02, have a vapour pressure at 70 °C not exceeding 1.6 MPa (16 bar) and a relative density at 50 °C not lower than 0.505 kg/l;

Mixture A0, have a vapour pressure at 70 °C not exceeding 1.6 MPa (16 bar) and a density at 50 °C not lower than 0.495 kg/l;

Mixture A1, have a vapour pressure at 70 °C not exceeding 2.1 MPa (21 bar) and a density at 50 °C not lower than 0.485 kg/l;

Mixture B1, have a vapour pressure at 70 °C not exceeding 2.6 MPa (26 bar) and a relative density at 50 °C not lower than 0.474 kg/l;

Mixture B2, have a vapour pressure at 70 °C not exceeding 2.6 MPa (26 bar) and a relative density at 50 °C not lower than 0.463 kg/l;

Mixture B, have a vapour pressure at 70 °C not exceeding 2.6 MPa (26 bar) and a density at 50 °C not lower than 0.450 kg/l;

Mixture C, have a vapour pressure at 70 °C not exceeding 3.1 MPa (31 bar) and a relative density at 50 °C not lower than 0.440 kg/l;

When relevant, in order to meet the requirements for the transport document (5.4.1.1), the following terms may be used as technical name:

- "Mixture A" or "Butane";
- "Mixture A01" or "Butane";
- "Mixture A02" or "Butane";
- "Mixture A0" or "Butane";
- "Mixture A1";
- "Mixture B1";
- "Mixture B2";
- "Mixture B";
- "Mixture C" or "Propane".

For carriage in tanks, the trade names "butane" or "propane" may be used only as a complement.

- 584 This gas is not subject to the requirements of ADR when:
- it is in the gaseous state;
  - it contains not more than 0.5% air;
  - it is contained in metal capsules (sodors, sparklets) free from defects which may impair their strength;
  - the leakproofness of the closure of the capsule is ensured;
  - a capsule contains not more than 25 g of this gas;
  - a capsule contains not more than 0.75 g of this gas per cm<sup>3</sup> of capacity.
- 585 Cinnabar is not subject to the requirements of ADR.
- 586 Hafnium, titanium and zirconium powders shall contain a visible excess of water. Hafnium, titanium and zirconium powders, wetted, mechanically produced, of a particle size of 53 µm and over, or chemically produced, of a particle size of 840 µm and over, are not subject to the requirements of ADR.
- 587 Barium stearate and barium titanate are not subject to the requirements of ADR.
- 588 Solid hydrated forms of aluminium bromide and aluminium chloride are not subject to the requirements of ADR.
- 589 Calcium hypochlorite mixtures, dry, containing not more than 10% available chlorine are not subject to the requirements of ADR.
- 590 Ferric chloride hexahydrate is not subject to the requirements of ADR.
- 591 Lead sulphate with not more than 3% free acid is not subject to the requirements of ADR.
- 592 Uncleaned empty packagings (including empty IBCs and large packagings), empty tank-vehicles, empty demountable tanks, empty portable tanks, empty tank-containers and empty small containers which have contained this substance are not subject to the requirements of ADR.
- 593 This gas, intended for the cooling of e.g. medical or biological specimens, if contained in double wall receptacles which comply with the provisions of packing instruction P203 (12) of 4.1.4.1 is not subject to the requirements of ADR.
- 594 The following articles, manufactured and filled according to the regulations of the manufacturing State and packaged in strong outer packagings, are not subject to the requirements of ADR:
- UN No. 1044 fire extinguishers provided with protection against inadvertent discharge;
  - UN No. 3164 articles, pressurized pneumatic or hydraulic, designed to withstand stresses greater than the internal gas pressure by virtue of transmission of force, intrinsic strength or construction.



- 596 Cadmium pigments, such as cadmium sulphides, cadmium sulphoselenides and cadmium salts of higher fatty acids (e.g. cadmium stearate), are not subject to the requirements of ADR.
- 597 Acetic acid solutions with not more than 10% pure acid by mass, are not subject to the requirements of ADR.
- 598 The following are not subject to the requirements of ADR:
- (a) New storage batteries when:
    - they are secured in such a way that they cannot slip, fall or be damaged;
    - they are provided with carrying devices, unless they are suitably stacked, e.g. on pallets;
    - there are no dangerous traces of alkalis or acids on the outside;
    - they are protected against short circuits;
  - (b) Used storage batteries when:
    - their cases are undamaged;
    - they are secured in such a way that they cannot leak, slip, fall or be damaged, e.g. by stacking on pallets;
    - there are no dangerous traces of alkalis or acids on the outside of the articles;
    - they are protected against short circuits.
- "Used storage batteries" means storage batteries carried for recycling at the end of their normal service life.
- 599 Manufactured articles or instruments containing not more than 1 kg of mercury are not subject to the requirements of ADR.
- 600 Vanadium pentoxide, fused and solidified, is not subject to the requirements of ADR.
- 601 Pharmaceutical products (medicines) ready for use, which are substances manufactured and packaged for retail sale or distribution for personal or household consumption are not subject to the requirements of ADR.
- 602 Phosphorus sulphides which are not free from yellow and white phosphorus are not to be accepted for carriage.
- 603 Anhydrous hydrogen cyanide not meeting the description for UN No. 1051 or UN No. 1614 is not to be accepted for carriage. Hydrogen cyanide (hydrocyanic acid) containing less than 3% water is stable, if the pH-value is  $2.5 \pm 0.5$  and the liquid is clear and colourless.
- 604 Ammonium bromate and its aqueous solutions and mixtures of a bromate with an ammonium salt are not to be accepted for carriage.
- 605 Ammonium chlorate and its aqueous solutions and mixtures of a chlorate with an ammonium salt are not to be accepted for carriage.



- 606 Ammonium chlorite and its aqueous solutions and mixtures of a chlorite with an ammonium salt are not to be accepted for carriage.
- 607 Mixtures of potassium nitrate and sodium nitrite with an ammonium salt are not to be accepted for carriage.
- 608 Ammonium permanganate and its aqueous solutions and mixtures of a permanganate with an ammonium salt are not to be accepted for carriage.
- 609 Tetranitromethane not free from combustible impurities is not to be accepted for carriage.
- 610 The carriage of this substance, when it contains more than 45% hydrogen cyanide is prohibited.
- 611 Ammonium nitrate containing more than 0.2% combustible substances (including any organic substance calculated as carbon) is not to be accepted for carriage unless it is a constituent of a substance or article of Class 1.
- 612 *(Reserved)*
- 613 Chloric acid solution containing more than 10% chloric acid and mixtures of chloric acid with any liquid other than water is not to be accepted for carriage.
- 614 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) in concentrations considered highly toxic according to the criteria in 2.2.61.1 is not to be accepted for carriage.
- 615 *(Reserved)*
- 616 Substances containing more than 40% liquid nitric esters shall satisfy the exudation test specified in 2.3.1.
- 617 In addition to the type of explosive, the commercial name of the particular explosive shall be marked on the package.
- 618 In receptacles containing 1,2-butadiene, the oxygen concentration in the gaseous phase shall not exceed 50 ml/m<sup>3</sup>.
- 619-622 *(Reserved)*
- 623 UN No. 1829 sulphur trioxide shall be inhibited. Sulphur trioxide, 99.95% pure or above, may be carried without inhibitor in tanks provided that its temperature is maintained at or above 32.5 °C. For the carriage of this substance without inhibitor in tanks at a minimum temperature of 32.5 °C, the specification "**Transport under minimum temperature of the product of 32.5 °C**" shall appear in the transport document.
- 625 Packages containing these articles shall be clearly marked as follows:  
"**UN 1950 AEROSOLS**"
- 626-627 *(Reserved)*
- 632 Considered to be spontaneously flammable (pyrophoric).
- 633 Packages and small containers containing this substance shall bear the following marking: "**Keep away from any source of ignition**". This marking shall be in an

official language of the forwarding country, and also, if that language is not English, French or German, in English, French or German, unless any agreements concluded between the countries concerned in the transport operation provide otherwise.

634 (Deleted)

635 Packages containing these articles need not bear a label conforming to model No. 9 unless the article is fully enclosed by packaging, crates or other means that prevent the ready identification of the article.

636 (a) Cells contained in equipment shall not be capable of being discharged during carriage to the extent that the open circuit voltage falls below 2 volts or two thirds of the voltage of the undischarged cell, whichever is the lower.

(b) Used lithium cells and batteries with a gross mass of not more than 500 g each collected and presented for carriage for disposal between the consumer collecting point and the intermediate processing facility, together with other non-lithium cells or batteries, are not subject to the other provisions of ADR if they meet the following conditions:

(i) The provisions of packing instruction P903b are complied with;

(ii) A quality assurance system is in place to ensure that the total amount of lithium cells or batteries per transport unit does not exceed 333 kg;

(iii) Packages shall bear the inscription: "USED LITHIUM CELLS".

637 Genetically modified microorganisms and genetically modified organisms are those which are not dangerous for humans and animals, but which could alter animals, plants, microbiological substances and ecosystems in such a way as cannot occur naturally. Genetically modified microorganisms and genetically modified organisms are not subject to the requirements of ADR when authorized for use by the competent authorities of the countries of origin, transit and destination<sup>1</sup>.

Live vertebrate or invertebrate animals shall not be used to carry these substances classified under this UN number unless the substance can be carried in no other way.

For the carriage of easily perishable substances under this UN number appropriate information shall be given, e.g.: "**Cool at +2 °/+4 °C**" or "**Carry in frozen state**" or "**Do not freeze**".

638 Substances related to self-reactive substances (see 2.2.41.1.19).

639 See 2.2.2.3, classification code 2F, UN No. 1965, Note 2.

640 The physical and technical characteristics mentioned in column (2) of Table A of Chapter 3.2 determine different tank codes for the carriage of substances of the same packing group in ADR tanks.

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<sup>1</sup> See in particular Part C of Directive 2001/18/EC of the European Parliament and of the Council on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC (Official Journal of the European Communities, No. L 106, of 17 April 2001, pp. 8-14), which sets out the authorization procedures for the European Community.

In order to identify these physical and technical characteristics of the product carried in the tank, the following shall be added, to the particulars required in the transport document, only in case of carriage in ADR tanks:

"Special provision 640X" where "X" is the applicable capital letter appearing after the reference to special provision 640 in column (6) of Table A of Chapter 3.2.

These particulars may, however, be dispensed with in the case of carriage in the type of tank which, for substances of a specific packing group of a specific UN number, meets at least the most stringent requirements.

- 642 Except as authorized under 1.1.4.2, this entry of the UN Model Regulations shall not be used for the carriage of fertilizer ammoniating solutions with free ammonia.
- 643 Stone or aggregate asphalt mixture is not subject to the requirements for Class 9.
- 644 This substance is admitted for carriage provided that:
- The pH is between 5 and 7 measured in an aqueous solution of 10% of the substance carried;
  - The solution does not contain more than 0.2% combustible material or chlorine compounds in quantities such that the chlorine level exceeds 0.02%.
- 645 The classification code as mentioned in Column (3b) of Table A of Chapter 3.2 shall be used only with the approval of the competent authority of a Contracting Party to ADR prior to carriage. When assignment to a division is made in accordance with the procedure in 2.2.1.1.7.2, the competent authority may require the default classification to be verified on the basis of test data derived from Test Series 6 of the Manual of Tests and Criteria, Part I, Section 16.
- 646 Carbon made by steam activation process is not subject to the requirements of ADR.
- 647 The carriage of vinegar and acetic acid food grade with not more than 25% pure acid by mass is subject only to the following requirements:
- (a) Packagings, including IBCs and large packagings, and tanks shall be manufactured from stainless steel or plastic material which is permanently resistant to corrosion of vinegar/acetic acid food grade;
  - (b) Packagings, including IBCs and large packagings, and tanks shall be subjected to a visual inspection by the owner at least once a year. The results of the inspections shall be recorded and the records kept for at least one year. Damaged packagings, including IBCs and large packagings, and tanks shall not be filled;
  - (c) Packagings, including IBCs and large packagings, and tanks shall be filled in a way that no product is spilled or adheres to the outer surface;
  - (d) Seals and closures shall be resistant to vinegar/acetic acid food grade. Packagings, including IBCs and large packagings, and tanks shall be hermetically sealed by the packer or the filler so that under normal conditions of carriage there will be no leakage;
  - (e) Combination packagings with inner packaging made of glass or plastic (see packing instruction P001 in 4.1.4.1) which fulfil the general packing

requirements of 4.1.1.1, 4.1.1.2, 4.1.1.4, 4.1.1.5, 4.1.1.6, 4.1.1.7 and 4.1.1.8 may be used;

The other provisions of ADR do not apply.

648 Articles impregnated with this pesticide, such as fibreboard plates, paper strips, cotton-wool balls, sheets of plastics material, in hermetically closed wrappings, are not subject to the provisions of ADR.

649 To determine the initial boiling point, as mentioned under 2.2.3.1.3 packing group I, the test method according to standard ASTM D86-01<sup>2</sup> is suitable.

Substances which have an initial boiling point above 35 °C determined with this method are substances of packing group II and shall be classified in accordance with the applicable entry of this packing group.

650 Waste consisting of packaging residues, solidified residues and liquid residues of paint may be carried under the conditions of packing group II. In addition to the provisions of UN No. 1263 packing group II, the waste may also be packed and carried as follows:

- (a) The waste may be packed in accordance with packing instruction P002 of 4.1.4.1 or to packing instruction IBC06 of 4.1.4.2;
- (b) The waste may be packed in flexible IBCs of types 13H3, 13H4 and 13H5 in overpacks with complete walls;
- (c) Testing of packagings and IBCs indicated under (a) or (b) may be carried out in accordance with the requirements of Chapters 6.1 or 6.5, as appropriate, in relation to solids, at the packing group II performance level.

The tests shall be carried out on packagings and IBCs, filled with a representative sample of the waste, as prepared for carriage;

- (d) Carriage in bulk in sheeted vehicles, closed containers or sheeted large containers, all with complete walls is allowed. The body of vehicles or containers shall be leakproof or rendered leakproof, for example by means of a suitable and sufficiently stout inner lining;
- (e) If the waste is carried under the conditions of this special provision, the goods shall be declared in accordance with 5.4.1.1.3 in the transport document, as follows: "WASTE, UN 1263 PAINT, 3, II".

651 Special provision V2 (1) does not apply if the net explosive mass per transport unit does not exceed 4000 kg, provided that the net explosive mass per vehicle does not exceed 3000 kg.

652 Austenitic stainless steel, ferritic and austenitic steel (Duplex steel) and welded titanium receptacles which do not meet the requirements of Chapter 6.2 but have been constructed and approved in accordance with national aviation provisions for use as hot air balloon or hot air airship fuel receptacles, brought into service (date of initial

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<sup>2</sup> *Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure, published September 2001 by ASTM International.*

inspection) before 1 July 2004, may be carried by road provided they meet the following conditions:

- (a) The general provisions of 6.2.1 shall be complied with;
- (b) The design and construction of the receptacles shall have been approved for aviation use by a national air transport authority;
- (c) As an exemption from 6.2.3.1.2, the calculation pressure shall be derived from a reduced maximum ambient temperature of +40° C; in this case:
  - (i) as an exemption from 6.2.5.1, cylinders may be manufactured from rolled and annealed commercially pure titanium with the minimum requirements of  $R_m > 450$  MPa,  $\epsilon_A > 20\%$  ( $\epsilon_A$  = elongation after fracture);
  - (ii) austenitic stainless steel and ferritic and austenitic steel (Duplex steel) cylinders may be used with a stress level up to 85% of the minimum guaranteed yield strength ( $R_e$ ) at a calculation pressure derived from a reduced maximum ambient temperature of +40° C;
  - (iii) the receptacles shall be equipped with a pressure relief device having a nominal set pressure of 26 bar; the test pressure of these receptacles shall be not less than 30 bar;
- (d) When the exemptions from (c) are not applied, the receptacles shall be designed for a reference temperature of 65° C and shall be equipped with pressure relief devices with a nominal set pressure specified by the competent authority of the country of use;
- (e) The main body of the receptacles shall be covered by an outer, water-resistant protective layer at least 25 mm thick made from structural cellular foam or similar material;
- (f) During carriage, the receptacle shall be firmly secured in a crate or an additional safety device;
- (g) The receptacles shall be marked with a clear, visible label stating that the receptacles are for use only in hot air balloons and hot air airships;
- (h) The duration of service (from the date of initial inspection) shall not exceed 25 years.

653 The carriage of this gas in cylinders with a maximum capacity of 0.5 litres, is not subject to the other provisions of ADR if the following conditions are met:

- The provisions for construction and testing of cylinders are observed;
- The cylinders are contained in outer packagings which at least meet the requirements of Part 4 for combination packagings. The general provisions of packing of 4.1.1.1, 4.1.1.2 and 4.1.1.5 to 4.1.1.7 shall be observed;
- The cylinders are not packed together with other dangerous goods;
- The total gross mass of a package does not exceed 30 kg; and
- Each package is clearly and durably marked with "UN 1013". This marking is displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm by 100 mm.

- 654 Waste lighters collected separately and consigned in accordance with 5.4.1.1.3 may be carried under this entry for the purposes of disposal. They need not be protected against inadvertent discharge provided that measures are taken to prevent the dangerous build up of pressure and dangerous atmospheres.

Waste lighters, other than those leaking or severely deformed, shall be packed in accordance with packing instruction P003. In addition the following provisions shall apply:

- only rigid packagings of a maximum capacity of 60 litres shall be used;
- the packagings shall be filled with water or any other appropriate protection material to avoid any ignition;
- under normal conditions of carriage all ignition devices of the lighters shall fully be covered by the protection material;
- the packagings shall be adequately vented to prevent the creation of flammable atmosphere and the build up of pressure;
- the packages shall only be carried in ventilated or open vehicles or containers.

Leaking or severely deformed lighters shall be carried in salvage packagings, provided appropriate measures are taken to ensure there is no dangerous build up of pressure.

**NOTE:** *Special provision 201 and special packing provisions PP84 and RR5 of packing instruction P002 in 4.1.4.1 do not apply to waste lighters.*

## CHAPTER 3.4

### DANGEROUS GOODS PACKED IN LIMITED QUANTITIES

#### 3.4.1 General requirements

3.4.1.1 Packagings used in accordance with 3.4.3 to 3.4.6 below, need only to conform to the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

3.4.1.2 The maximum gross mass of a combination packaging shall not exceed 30 kg and for shrink and stretched wrapped trays shall not exceed 20 kg.

**NOTE:**     *The limit for combination packagings does not apply when LQ5 is assigned.*

3.4.1.3 Subject to the maximum limits in 3.4.1.2 and individual limits in table 3.4.6, dangerous goods may be packed together with other articles or substances, provided they will not react dangerously in the event of leakage.

3.4.2 When the code "LQ0" is shown in Column (7a) of Table A in Chapter 3.2 for a given substance or article, that substance or article is not exempted from any of the applicable provisions of Annexes A and B when it is packed in limited quantities, unless otherwise specified in these Annexes.

3.4.3 Unless otherwise provided in this Chapter, when one of the codes "LQ1" or "LQ2" is shown in Column (7a) of Table A in Chapter 3.2 for a given substance or article, the provisions of other Chapters of ADR do not apply to the carriage of that substance or article, provided:

- (a) The provisions of 3.4.5 (a) to (c) are observed; with respect to these provisions, articles are considered to be inner packagings;
- (b) Inner packagings meet the conditions of 6.2.5.1 and 6.2.6.1 to 6.2.6.3.

3.4.4 Unless otherwise provided in this Chapter, when the code "LQ3" is shown in Column (7a) of Table A in Chapter 3.2 for a given substance, the provisions of other Chapters of ADR do not apply to the carriage of that substance, provided:

- (a) The substance is carried in combination packagings, the following outer packagings being allowed:
  - steel or aluminium drums with removable head;
  - steel or aluminium jerricans with removable head;
  - plywood or fibre drums;
  - plastics drums or jerricans with removable head;
  - boxes of natural wood, plywood, reconstituted wood, fibreboard, plastics, steel or aluminium;

and be so designed that they meet the relevant construction requirements of 6.1.4;

- (b) The maximum net quantities per inner packaging shown in columns (2) or (4) and per package in columns (3) or (5), where indicated, of table 3.4.6 are not exceeded;

- (c) Each package is clearly and durably marked with:
- (i) the UN number of the goods contained therein, as given in Column (1) of Table A in Chapter 3.2, preceded by the letters "UN";
  - (ii) in the case of different goods with different UN numbers within a single package:
    - the UN numbers of the goods contained therein, preceded by the letters "UN", or
    - the letters "LQ"<sup>1</sup>.

These markings shall be displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm × 100 mm. The width of line forming the diamond shall be at least 2 mm; the number shall be at least 6 mm high. Where more than one substance assigned to different UN numbers are included in the package, the diamond shall be large enough to include each relevant UN number. If the size of the package so requires, the dimension may be reduced, provided the markings remain clearly visible.

3.4.5 Unless otherwise provided in this Chapter, when one of the codes "LQ4" to "LQ19" and "LQ22" to "LQ28" is shown in Column (7a) of Table A in Chapter 3.2 for a given substance, the provisions of other Chapters of ADR do not apply to the carriage of that substance, provided:

- (a) The substance is carried:
- in combination packagings, corresponding to the prescriptions of 3.4.4 (a), or
  - in metal or plastics inner packagings which are not liable to break or be easily punctured, placed in shrink-wrapped or stretch-wrapped trays;
- (b) The maximum net quantities per inner packaging shown in columns (2) or (4) and per package in columns (3) or (5), where indicated, of table 3.4.6 are not exceeded;
- (c) Each package is clearly and durably marked as indicated in 3.4.4 (c).

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<sup>1</sup> The letters "LQ" are an abbreviation of the English words "Limited Quantities". The letters "LQ" are not permitted by the IMDG Code or the ICAO Technical Instructions.



## 3.4.6 Table

| Code              | Combination packagings <sup>a</sup><br>Maximum net quantity |                          | Inner packagings placed in shrink-wrapped or stretch-wrapped trays <sup>a</sup><br>Maximum net quantity |                          |
|-------------------|---|--------------------------|---|--------------------------|
|                   | per inner packaging   | per package <sup>b</sup> | per inner packaging   | per package <sup>b</sup> |
| (1)               | (2)   | (3)                      | (4)   | (5)                      |
| LQ0               | No exemption under the conditions of 3.4.2.                 |                          |   |                          |
| LQ1               | 120 ml  |                          | 120 ml  |                          |
| LQ2               | 1 l   |                          | 1 l   |                          |
| LQ3 <sup>c</sup>  | 500 ml  | 1 l                      | Not allowed   | Not allowed              |
| LQ4 <sup>c</sup>  | 3 l   |                          | 1 l   |                          |
| LQ5 <sup>c</sup>  | 5 l   | Unlimited                | 1 l   |                          |
| LQ6 <sup>c</sup>  | 5 l   |                          | 1 l   |                          |
| LQ7 <sup>c</sup>  | 5 l   |                          | 5 l   |                          |
| LQ8               | 3 kg  |                          | 500 g   |                          |
| LQ9               | 6 kg  |                          | 3 kg  |                          |
| LQ10              | 500 ml  |                          | 500 ml  |                          |
| LQ11              | 500 g   |                          | 500 g   |                          |
| LQ12              | 1 kg  |                          | 1 kg  |                          |
| LQ13              | 1 l   |                          | 1 l   |                          |
| LQ14              | 25 ml   |                          | 25 ml   |                          |
| LQ15              | 100 g   |                          | 100 g   |                          |
| LQ16              | 125 ml  |                          | 125 ml  |                          |
| LQ17              | 500 ml  | 2 l                      | 100 ml  | 2 l                      |
| LQ18              | 1 kg  | 4kg                      | 500 g   | 4 kg                     |
| LQ19              | 5 kg  |                          | 5 kg  |                          |
| LQ20              | Reserved  | Reserved                 | Reserved  | Reserved                 |
| LQ21              | Reserved  | Reserved                 | Reserved  | Reserved                 |
| LQ22              | 1 l   |                          | 500 ml  |                          |
| LQ23              | 3 kg  |                          | 1 kg  |                          |
| LQ24              | 6 kg  |                          | 2 kg  |                          |
| LQ25 <sup>d</sup> | 1 kg  |                          | 1 kg  |                          |
| LQ26 <sup>d</sup> | 500 ml  | 2l                       | 500 ml  | 2 l                      |
| LQ27              | 6 kg  |                          | 6 kg  |                          |
| LQ28              | 3 l   |                          | 3 l   |                          |

<sup>a</sup> See 3.4.1.2.<sup>b</sup> See 3.4.1.3.<sup>c</sup> In the case of homogenous mixtures of Class 3 containing water, the quantities specified relate only to the substance of Class 3 contained in those mixtures.<sup>d</sup> For UN Nos. 2315, 3151, 3152 and 3432 when carried in apparatus, the inner packaging quantities shall not be exceeded per piece of apparatus. The apparatus shall be carried in a leakproof packaging and the complete package shall conform to 3.4.4 (c). Shrink-wrapped and stretch-wrapped trays shall not be used for apparatus.

3.4.7 Overpacks containing packages conforming to 3.4.3, 3.4.4 or 3.4.5 shall be marked, as required by 3.4.4 (c) for each item of dangerous goods contained in the overpack, unless markings representative of all dangerous goods contained in the overpack are visible.

3.4.8 The requirements

- (a) of 5.2.1.9 on the placement of orientation arrows on packages;
- (b) of 5.1.2.1 (b) on the placement of orientation arrows on overpacks; and
- (c) of 7.5.1.5 on the orientation of packages

shall be applicable also to packages and overpacks carried in accordance with this chapter.

3.4.9 Consignors of dangerous goods packed in limited quantities shall inform the carrier of the total gross mass of such goods to be consigned, in advance of carriage not involving maritime transport.

- 3.4.10
- (a) Transport units with a maximum mass exceeding 12 tonnes carrying packages with dangerous goods in limited quantities shall be marked in accordance with 3.4.12 at the front and at the rear except when orange-coloured plate marking is displayed in accordance with 5.3.2.
  - (b) Containers carrying packages with dangerous goods in limited quantities, on transport units with a maximum mass exceeding 12 tonnes, shall be marked in accordance with 3.4.12 on all four sides except when placards are already affixed in accordance with 5.3.1.

The carrying transport unit need not be marked, except when the marking affixed to the containers is not visible from outside this carrying transport unit. In this latter case, the same marking shall be affixed at the front and at the rear of the transport unit.

3.4.11 Markings specified in 3.4.10 may be dispensed with, if the total gross mass of the packages containing dangerous goods packed in limited quantities carried does not exceed 8 tonnes per transport unit.

3.4.12 The marking shall consist of "LTD QTY"<sup>2</sup> in black letters not less than 65 mm high on a white background.

3.4.13 Markings according to chapter 3.4 of the IMDG Code are also acceptable for carriage in a transport chain including maritime carriage.

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<sup>2</sup> The letters "LTD QTY" are an abbreviation of the English words "Limited Quantity".

## CHAPTER 3.5

### DANGEROUS GOODS PACKED IN EXCEPTED QUANTITIES

#### 3.5.1 Excepted quantities

3.5.1.1 Excepted quantities of dangerous goods of certain classes, other than articles, meeting the provisions of this Chapter are not subject to any other provisions of ADR except for:

- (a) The training requirements in Chapter 1.3;
- (b) The classification procedures and packing group criteria in Part 2;
- (c) The packaging requirements of 4.1.1.1, 4.1.1.2, 4.1.1.4 and 4.1.1.6.

*NOTE: In the case of radioactive material, the requirements for radioactive material in excepted packages in 1.7.1.5 apply.*

3.5.1.2 Dangerous goods which may be carried as excepted quantities in accordance with the provisions of this Chapter are shown in column (7b) of Table A of Chapter 3.2 list by means of an alphanumeric code as follows:

| Code | Maximum net quantity<br>per inner packaging<br>(in grams for solids<br>and ml for liquids and gases) | Maximum net quantity per outer packaging<br>(in grams for solids and ml for liquids<br>and gases, or sum of grams and ml<br>in the case of mixed packing) |
|------|--|---|
| E0   | Not permitted as Excepted Quantity   |   |
| E1   | 30   | 1000  |
| E2   | 30   | 500   |
| E3   | 30   | 300   |
| E4   | 1  | 500   |
| E5   | 1  | 300   |

For gases, the volume indicated for inner packagings refers to the water capacity of the inner receptacle and the volume indicated for outer packagings refers to the combined water capacity of all inner packagings within a single outer packaging.

3.5.1.3 Where dangerous goods in excepted quantities for which different codes are assigned are packaged together the total quantity per outer packaging shall be limited to that corresponding to the most restrictive code.

#### 3.5.2 Packagings

Packagings used for the carriage of dangerous goods in excepted quantities shall be in compliance with the following:

- (a) There shall be an inner packaging and each inner packaging shall be constructed of plastic (with a minimum thickness of 0.2 mm when used for liquids), or of glass, porcelain, stoneware, earthenware or metal (see also 4.1.1.2) and the closure of each inner packaging shall be held securely in place with wire, tape or other positive means; any receptacle having a neck with moulded screw threads shall have a leak proof threaded type cap. The closure shall be resistant to the contents;

- (b) Each inner packaging shall be securely packed in an intermediate packaging with cushioning material in such a way that, under normal conditions of carriage, they cannot break, be punctured or leak their contents. The intermediate packaging shall completely contain the contents in case of breakage or leakage, regardless of package orientation. For liquids, the intermediate packaging shall contain sufficient absorbent material to absorb the entire contents of the inner packaging. In such cases, the absorbent material may be the cushioning material. Dangerous goods shall not react dangerously with cushioning, absorbent material and packaging material or reduce the integrity or function of the materials;
- (c) The intermediate packaging shall be securely packed in a strong, rigid outer packaging (wooden, fibreboard or other equally strong material);
- (d) Each package type shall be in compliance with the provisions in 3.5.3;
- (e) Each package shall be of such a size that there is adequate space to apply all necessary markings; and
- (f) Overpacks may be used and may also contain packages of dangerous goods or goods not subject to the requirements of ADR.

### 3.5.3 Tests for packages

3.5.3.1 The complete package as prepared for carriage, with inner packagings filled to not less than 95% of their capacity for solids or 98% for liquids, shall be capable of withstanding, as demonstrated by testing which is appropriately documented, without breakage or leakage of any inner packaging and without significant reduction in effectiveness:

- (a) Drops onto a rigid, non-resilient flat and horizontal surface from a height of 1.8 m:
  - (i) Where the sample is in the shape of a box, it shall be dropped in each of the following orientations:
    - flat on the base;
    - flat on the top;
    - flat on the longest side;
    - flat on the shortest side;
    - on a corner;
  - (ii) Where the sample is in the shape of a drum, it shall be dropped in each of the following orientations:
    - diagonally on the top chime, with the centre of gravity directly above the point of impact;
    - diagonally on the base chime;
    - flat on the side;

**NOTE:** *Each of the above drops may be performed on different but identical packages.*

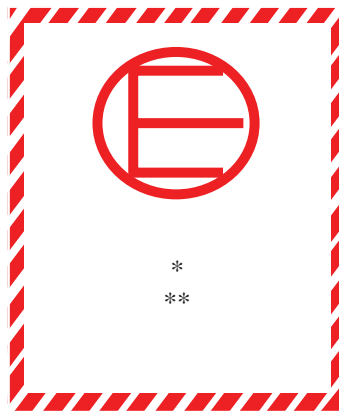
- (b) A force applied to the top surface for a duration of 24 hours, equivalent to the total weight of identical packages if stacked to a height of 3 m (including the sample).

3.5.3.2 For the purposes of testing, the substances to be carried in the packaging may be replaced by other substances except where this would invalidate the results of the tests. For solids, when another substance is used, it must have the same physical characteristics (mass, grain size, etc.) as the substance to be carried. In the drop tests for liquids, when another substance is used, its relative density (specific gravity) and viscosity should be similar to those of the substance to be carried.

### 3.5.4 Marking of packages

3.5.4.1 Packages containing excepted quantities of dangerous goods prepared in accordance with this Chapter shall be durably and legibly marked with the mark shown in 3.5.4.2. The first or only label number indicated in column (5) of Table A of Chapter 3.2 for each of the dangerous goods contained in the package shall be shown in the mark. Where the name of the consignor or consignee is not shown elsewhere on the package this information shall be included within the mark.

3.5.4.2 The dimensions of the mark shall be a minimum of 100 mm × 100 mm.



Excepted quantities mark

Hatching and symbol of the same colour, black or red,  
on white or suitable contrasting background

- \* *The first or only label number indicated in column (5) of Table A of Chapter 3.2 shall be shown in this location.*
- \*\* *The name of the consignor or of the consignee shall be shown in this location if not shown elsewhere on the package.*

3.5.4.3 An overpack containing dangerous goods in excepted quantities shall display the markings required by 3.5.4.1, unless such markings on packages within the overpack are clearly visible.

### 3.5.5 Maximum number of packages in any vehicle or container

The number of packages in any vehicle or container shall not exceed 1 000.

### 3.5.6 Documentation

If a document or documents (such as a bill of lading, air waybill or CMR/CIM consignment note) accompanies(y) dangerous goods in excepted quantities, at least one of these documents shall include the statement "Dangerous Goods in Excepted Quantities" and indicate the number of packages.

## **PART 4**

### **Packing and tank provisions**

## CHAPTER 4.1

### USE OF PACKAGINGS, INCLUDING INTERMEDIATE BULK CONTAINERS (IBCs) AND LARGE PACKAGINGS

#### 4.1.1 General provisions for the packing of dangerous goods in packagings, including IBCs and large packagings

*NOTE:* For the packing of goods of Classes 2, 6.2 and 7, the general provisions of this section only apply as indicated in 4.1.8.2 (Class 6.2), 4.1.9.1.5 (Class 7) and in the applicable packing instructions of 4.1.4 (P201 and LP02 for Class 2 and P620, P621, IBC620 and LP621 for Class 6.2).

4.1.1.1 Dangerous goods shall be packed in good quality packagings, including IBCs and large packagings, which shall be strong enough to withstand the shocks and loadings normally encountered during carriage, including trans-shipment between transport units and between transport units and warehouses as well as any removal from a pallet or overpack for subsequent manual or mechanical handling. Packagings, including IBCs and large packagings, shall be constructed and closed so as to prevent any loss of contents when prepared for transport which might be caused under normal conditions of transport, by vibration, or by changes in temperature, humidity or pressure (resulting from altitude, for example). Packagings, including IBCs and large packagings, shall be closed in accordance with the information provided by the manufacturer. No dangerous residue shall adhere to the outside of packagings, IBCs and large packagings during carriage. These provisions apply, as appropriate, to new, reused, reconditioned or remanufactured packagings and to new, reused, repaired or remanufactured IBCs, and to new or reused large packagings.

4.1.1.2 Parts of packagings, including IBCs and large packagings, which are in direct contact with dangerous goods:

- (a) shall not be affected or significantly weakened by those dangerous goods; and
- (b) shall not cause a dangerous effect e.g. catalysing a reaction or reacting with the dangerous goods.

Where necessary, they shall be provided with a suitable inner coating or treatment.

*NOTE:* For chemical compatibility of plastics packagings, including IBCs, made from polyethylene see 4.1.1.19.

4.1.1.3 Unless otherwise provided elsewhere in ADR, each packaging, including IBCs and large packagings, except inner packagings, shall conform to a design type successfully tested in accordance with the requirements of 6.1.5, 6.3.2, 6.5.6 or 6.6.5, as applicable. The packagings for which the test is not required are mentioned under 6.1.1.3.

4.1.1.4 When filling packagings, including IBCs and large packagings, with liquids, sufficient ullage (outage) shall be left to ensure that neither leakage nor permanent distortion of the packaging occurs as a result of an expansion of the liquid caused by temperatures likely to occur during transport. Unless specific requirements are prescribed, liquids shall not completely fill a packaging at a temperature of 55 °C. However, sufficient ullage shall be left in an IBC to ensure that at the mean bulk temperature of 50 °C it is not filled to more than 98% of its water capacity. For a filling temperature of 15 °C, the maximum degree of filling shall be determined as follows, unless otherwise provided, either:

|     |  |      |               |                |                |       |
|-----|--|------|---------------|----------------|----------------|-------|
| (a) | Boiling point (initial boiling point) of the substance in °C       | < 60 | ≥ 60<br>< 100 | ≥ 100<br>< 200 | ≥ 200<br>< 300 | ≥ 300 |
|     | Degree of filling as a percentage of the capacity of the packaging | 90   | 92            | 94             | 96             | 98    |

or

$$(b) \quad \text{degree of filling} = \frac{98}{1 + \alpha (50 - t_f)} \% \text{ of the capacity of the packaging.}$$

In this formula  $\alpha$  represents the mean coefficient of cubic expansion of the liquid substance between 15 °C and 50 °C; that is to say, for a maximum rise in temperature of 35 °C,

$$\alpha \text{ is calculated according to the formula : } \alpha = \frac{d_{15} - d_{50}}{35 \times d_{50}}$$

$d_{15}$  and  $d_{50}$  being the relative densities<sup>1</sup> of the liquid at 15 °C and 50 °C and  $t_f$  the mean temperature of the liquid at the time of filling.

4.1.1.5 Inner packagings shall be packed in an outer packaging in such a way that, under normal conditions of carriage, they cannot break, be punctured or leak their contents into the outer packaging. Inner packagings containing liquids shall be packed with their closures upward and placed within outer packagings consistent with the orientation markings prescribed in 5.2.1.9. Inner packagings that are liable to break or be punctured easily, such as those made of glass, porcelain or stoneware or of certain plastics materials, etc., shall be secured in outer packagings with suitable cushioning material. Any leakage of the contents shall not substantially impair the protective properties of the cushioning material or of the outer packaging.

4.1.1.5.1 Where an outer packaging of a combination packaging or a large packaging has been successfully tested with different types of inner packagings, a variety of such different inner packagings may also be assembled in this outer packaging or large packaging. In addition, provided an equivalent level of performance is maintained, the following variations in inner packagings are allowed without further testing of the package:

- (a) Inner packagings of equivalent or smaller size may be used provided:
  - (i) the inner packagings are of similar design to the tested inner packagings (e.g. shape - round, rectangular, etc.);
  - (ii) the material of construction of the inner packagings (glass, plastics, metal, etc.) offers resistance to impact and stacking forces equal to or greater than that of the originally tested inner packaging;
  - (iii) the inner packagings have the same or smaller openings and the closure is of similar design (e.g. screw cap, friction lid, etc.);
  - (iv) sufficient additional cushioning material is used to take up void spaces and to prevent significant movement of the inner packagings; and
  - (v) inner packagings are oriented within the outer packaging in the same manner as in the tested package.

<sup>1</sup> Relative density ( $d$ ) is considered to be synonymous with specific gravity ( $SG$ ) and will be used throughout this Chapter.



- (b) A lesser number of the tested inner packagings, or of the alternative types of inner packagings identified in (a) above, may be used provided sufficient cushioning is added to fill the void space(s) and to prevent significant movement of the inner packagings.

4.1.1.6 Dangerous goods shall not be packed together in the same outer packaging or in large packagings, with dangerous or other goods if they react dangerously with each other and cause:

- (a) combustion or evolution of considerable heat;
- (b) evolution of flammable, asphyxiant, oxidizing or toxic gases;
- (c) the formation of corrosive substances; or
- (d) the formation of unstable substances.

**NOTE:** For mixed packing special provisions, see 4.1.10.

4.1.1.7 The closures of packagings containing wetted or diluted substances shall be such that the percentage of liquid (water, solvent or phlegmatizer) does not fall below the prescribed limits during transport.

4.1.1.7.1 Where two or more closure systems are fitted in series on an IBC, that nearest to the substance being carried shall be closed first.

4.1.1.8 Where pressure may develop in a package by the emission of gas from the contents (as a result of temperature increase or other causes), the packaging or IBC may be fitted with a vent provided that the gas emitted will not cause danger on account of its toxicity, its flammability or the quantity released, for example.

A venting device shall be fitted if dangerous overpressure may develop due to normal decomposition of substances. The vent shall be so designed that, when the packaging or IBC is in the attitude in which it is intended to be carried, leakages of liquid and the penetration of foreign substances are prevented under normal conditions of carriage.

**NOTE:** Venting of the package is not permitted for air carriage.

4.1.1.8.1 Liquids may only be filled into inner packagings which have an appropriate resistance to internal pressure that may be developed under normal conditions of carriage.

4.1.1.9 New, remanufactured or reused packagings, including IBCs and large packagings, or reconditioned packagings and repaired or routinely maintained IBCs shall be capable of passing the tests prescribed in 6.1.5, 6.3.2, 6.5.6 or 6.6.5, as applicable. Before being filled and handed over for carriage, every packaging, including IBCs and large packagings, shall be inspected to ensure that it is free from corrosion, contamination or other damage and every IBC shall be inspected with regard to the proper functioning of any service equipment. Any packaging which shows signs of reduced strength as compared with the approved design type shall no longer be used or shall be so reconditioned, that it is able to withstand the design type tests. Any IBC which shows signs of reduced strength as compared with the tested design type shall no longer be used or shall be so repaired or routinely maintained that it is able to withstand the design type tests.

4.1.1.10 Liquids shall be filled only into packagings, including IBCs, which have an appropriate resistance to the internal pressure that may develop under normal conditions of carriage.

Packagings and IBCs marked with the hydraulic test pressure prescribed in 6.1.3.1 (d) and 6.5.2.2.1, respectively shall be filled only with a liquid having a vapour pressure:

- (a) such that the total gauge pressure in the packaging or IBC (i.e. the vapour pressure of the filling substance plus the partial pressure of air or other inert gases, less 100 kPa) at 55 °C, determined on the basis of a maximum degree of filling in accordance with 4.1.1.4 and a filling temperature of 15 °C, will not exceed two-thirds of the marked test pressure; or
- (b) at 50 °C less than four-sevenths of the sum of the marked test pressure plus 100 kPa; or
- (c) at 55 °C less than two-thirds of the sum of the marked test pressure plus 100 kPa.

IBCs intended for the carriage of liquids shall not be used to carry liquids having a vapour pressure of more than 110kPa (1.1 bar) at 50 °C or 130kPa (1.3 bar) at 55 °C.

**Examples of required marked test pressures for packagings, including IBCs, calculated as in 4.1.1.10 (c)**

| UN No | Name            | Class | Packing group | $V_{p55}$ (kPa) | $V_{p55} \times 1.5$ (kPa) | $(V_{p55} \times 1.5)$ minus 100 (kPa) | Required minimum test pressure gauge under 6.1.5.5.4(c) (kPa) | Minimum test pressure (gauge) to be marked on the packaging (kPa) |
|-------|-----------------|-------|---------------|-----------------|----------------------------|--|---|---|
| 2056  | Tetrahydrofuran | 3     | II            | 70              | 105                        | 5                                      | 100   | 100   |
| 2247  | n-Decane        | 3     | III           | 1.4             | 2.1                        | -97.9                                  | 100   | 100   |
| 1593  | Dichloromethane | 6.1   | III           | 164             | 246                        | 146                                    | 146   | 150   |
| 1155  | Diethyl ether   | 3     | I             | 199             | 299                        | 199                                    | 199   | 250   |

**NOTE 1:** For pure liquids the vapour pressure at 55 °C ( $V_{p55}$ ) can often be obtained from scientific tables.

**NOTE 2:** The table refers to the use of 4.1.1.10 (c) only, which means that the marked test pressure shall exceed 1.5 times the vapour pressure at 55 °C less 100 kPa. When, for example, the test pressure for n-decane is determined according to 6.1.5.5.4 (a), the minimum marked test pressure may be lower.

**NOTE 3:** For diethyl ether the required minimum test pressure under 6.1.5.5.5 is 250 kPa.

4.1.1.11 Empty packagings, including IBCs and large packagings, that have contained a dangerous substance are subject to the same requirements as those for a filled packaging, unless adequate measures have been taken to nullify any hazard.

4.1.1.12 Every packagings as specified in Chapter 6.1 intended to contain liquids shall successfully undergo a suitable leakproofness test, and be capable of meeting the appropriate test level indicated in 6.1.5.4.3:

- (a) before it is first used for carriage;
- (b) after remanufacturing or reconditioning of any packaging, before it is re-used for carriage.

For this test the packaging need not have its closures fitted. The inner receptacle of a composite packaging may be tested without the outer packaging, provided the test results are not affected. This test is not required for:

- inner packagings of combination packagings or large packagings;
- inner receptacles of composite packagings (glass, porcelain or stoneware) marked with the symbol "RID/ADR" in accordance with 6.1.3.1 (a) (ii);
- light gauge metal packagings marked with the symbol "RID/ADR" in accordance with 6.1.3.1 (a) (ii).

4.1.1.13 Packagings, including IBCs, used for solids which may become liquid at temperatures likely to be encountered during carriage shall also be capable of containing the substance in the liquid state.

4.1.1.14 Packagings, including IBCs, used for powdery or granular substances shall be sift-proof or shall be provided with a liner.

4.1.1.15 For plastics drums and jerricans, rigid plastics IBCs and composite IBCs with plastics inner receptacles, unless otherwise approved by the competent authority, the period of use permitted for the carriage of dangerous substances shall be five years from the date of manufacture of the receptacles, except where a shorter period of use is prescribed because of the nature of the substance to be carried.

4.1.1.16 Packagings, including IBCs and large packagings, marked in accordance with 6.1.3, 6.2.2.7, 6.2.2.8, 6.3.1, 6.5.2 or 6.6.3 but which were approved in a State which is not a Contracting Party to ADR may nevertheless be used for carriage under ADR.

**4.1.1.17 *Explosives, self-reactive substances and organic peroxides***

Unless specific provision to the contrary is made in ADR, the packagings, including IBCs and large packagings, used for goods of Class 1, self-reactive substances of Class 4.1 and organic peroxides of Class 5.2 shall comply with the provisions for the medium danger group (packing group II).

**4.1.1.18 *Use of salvage packagings***

4.1.1.18.1 Damaged, defective, leaking or non-conforming packages, or dangerous goods that have spilled or leaked may be carried in salvage packagings mentioned in 6.1.5.1.11. This does not prevent the use of a bigger size packaging of appropriate type and performance level under the conditions of 4.1.1.18.2 and 4.1.1.18.3.

4.1.1.18.2 Appropriate measures shall be taken to prevent excessive movement of the damaged or leaking packages within a salvage packaging. When the salvage packaging contains liquids, sufficient inert absorbent material shall be added to eliminate the presence of free liquid.

4.1.1.18.3 Appropriate measures shall be taken to ensure that there is no dangerous build up of pressure.

#### 4.1.1.19 *Verification of the chemical compatibility of plastics packagings, including IBCs, by assimilation of filling substances to standard liquids*

##### 4.1.1.19.1 *Scope*

For polyethylene packagings as specified in 6.1.5.2.6, and for polyethylene IBCs as specified in 6.5.6.3.5, the chemical compatibility with filling substances may be verified by assimilation to standard liquids following the procedures, as set out in 4.1.1.19.3 to 4.1.1.19.5 and using the list in table 4.1.1.19.6, provided that the particular design types have been tested with these standard liquids in accordance with 6.1.5 or 6.5.6, taking into account 6.1.6 and that the conditions in 4.1.1.19.2 are met. When assimilation in accordance with this sub-section is not possible, the chemical compatibility needs to be verified by design type testing in accordance with 6.1.5.2.5 or by laboratory tests in accordance with 6.1.5.2.7 for packagings, and in accordance with 6.5.6.3.3 or 6.5.6.3.6 for IBCs, respectively.

**NOTE:** *Irrespective of the provisions of this sub-section, the use of packagings, including IBCs, for a specific filling substance is subject to the limitations of Table A of Chapter 3.2, and the packing instructions in Chapter 4.1.*

##### 4.1.1.19.2 *Conditions*

The relative densities of the filling substances shall not exceed that used to determine the height for the drop test performed successfully according to 6.1.5.3.5 or 6.5.6.9.4 and the mass for the stacking test performed successfully according to 6.1.5.6 or where necessary according to 6.5.6.6 with the assimilated standard liquid(s). The vapour pressures of the filling substances at 50 °C or 55 °C shall not exceed that used to determine the pressure for the internal pressure (hydraulic) test performed successfully according to 6.1.5.5.4 or 6.5.6.8.4.2 with the assimilated standard liquid(s). In case that filling substances are assimilated to a combination of standard liquids, the corresponding values of the filling substances shall not exceed the minimum values derived from the applied drop heights, stacking masses and internal test pressures.

*Example: UN 1736 Benzoyl chloride is assimilated to the combination of standard liquids "Mixture of hydrocarbons and wetting solution". It has a vapour pressure of 0.34 kPa at 50 °C and a relative density of approximately 1.2. Design type tests for plastics drums and jerricans were frequently performed at minimum required test levels. In practice this means that the stacking test is commonly performed with stacking loads considering only a relative density of 1.0 for the "Mixture of hydrocarbons" and a relative density of 1.2 for the "Wetting solution" (see definition of standard liquids in 6.1.6). As a consequence chemical compatibility of such tested design types would not be verified for benzoyl chloride by reason of the inadequate test level of the design type with the standard liquid "mixture of hydrocarbons". (Due to the fact that in the majority of cases the applied internal hydraulic test pressure is not less than 100 kPa, the vapour pressure of benzoyl chloride would be covered by such test level according to 4.1.1.10).*

All components of a filling substance, which may be a solution, mixture or preparation, such as wetting agents in detergents and disinfectants, irrespective whether dangerous or non-dangerous, shall be included in the assimilation procedure.

##### 4.1.1.19.3 *Assimilation procedure*

The following steps shall be taken to assign filling substances to listed substances or groups of substances in table 4.1.1.19.6 (see also scheme in Figure 4.1.1.19.1):

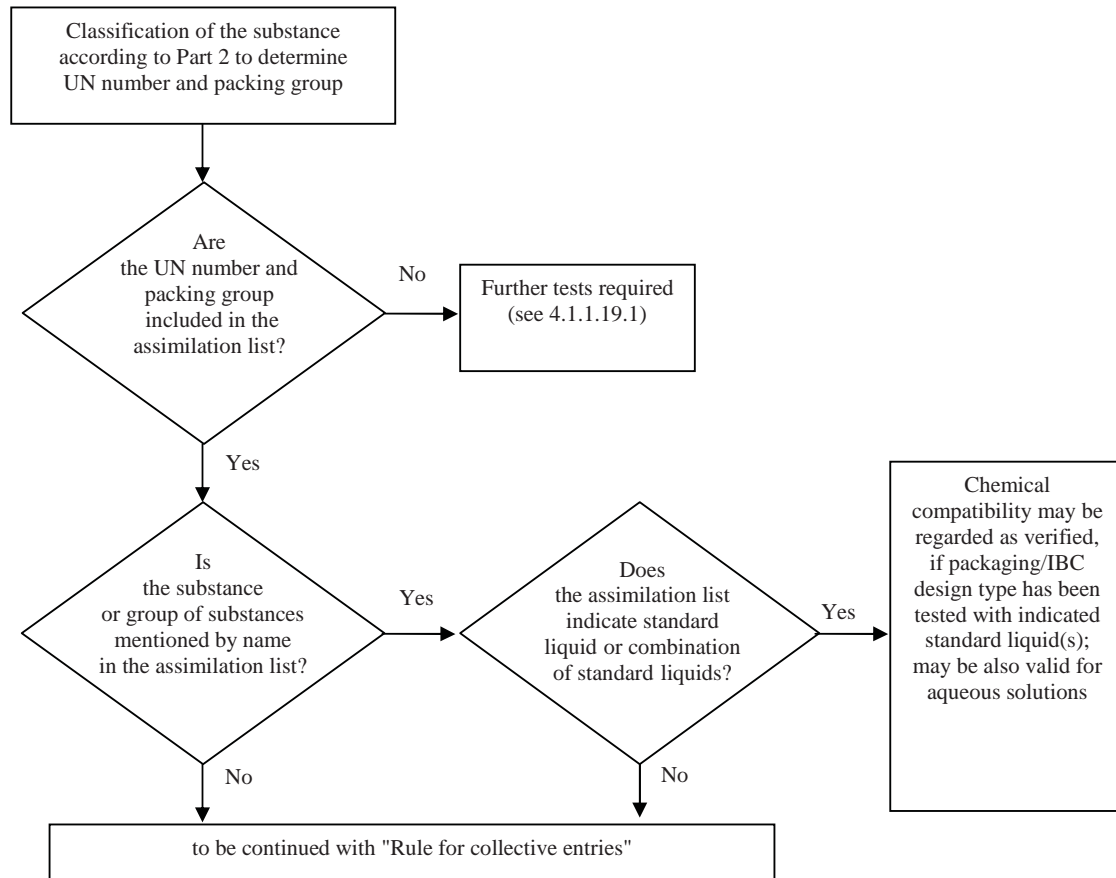
- (a) Classify the filling substance in accordance with the procedures and criteria of Part 2 (determination of the UN number and packing group);

- (b) If it is included there, go to the UN number in column (1) of table 4.1.1.19.6;
- (c) Select the line that corresponds in terms of packing group, concentration, flashpoint, the presence of non-dangerous components etc. by means of the information given in columns (2a), (2b) and (4), if there is more than one entry for this UN number.

If this is not possible, the chemical compatibility shall be verified in accordance with 6.1.5.2.5 or 6.1.5.2.7 for packagings, and in accordance with 6.5.6.3.3 or 6.5.6.3.6 for IBCs (however, in the case of aqueous solutions, see 4.1.1.19.4);

- (d) If the UN number and packing group of the filling substance determined in accordance with (a) is not included in the assimilation list, the chemical compatibility shall be proved in accordance with 6.1.5.2.5 or 6.1.5.2.7 for packagings, and in accordance with 6.5.6.3.3 or 6.5.6.3.6 for IBCs;
- (e) Apply the "Rule for collective entries", as described in 4.1.1.19.5, if this is indicated in column (5) of the selected line;
- (f) The chemical compatibility of the filling substance may be regarded as verified taking into account 4.1.1.19.1 and 4.1.1.19.2, if a standard liquid or a combination of standard liquids is assimilated in column (5) and the design type is approved for that/those standard liquid(s).

**Figure 4.1.1.19.1: Scheme for the assimilation of filling substances to standard liquids**



4.1.1.19.4 *Aqueous solutions*

Aqueous solutions of substances and groups of substances assimilated to specific standard liquid(s) in accordance with 4.1.1.19.3 may also be assimilated to that (those) standard liquid(s) provided the following conditions are met:

- (a) the aqueous solution can be assigned to the same UN number as the listed substance in accordance with the criteria of 2.1.3.3, and
- (b) the aqueous solution is not specifically mentioned by name otherwise in the assimilation list in 4.1.1.19.6, and
- (c) no chemical reaction is taking place between the dangerous substance and the solvent water.

Example: *Aqueous solutions of UN 1120 tert-Butanol:*

- *Pure tert-Butanol itself is assigned to the standard liquid "acetic acid" in the assimilation list.*
- *Aqueous solutions of tert-Butanol can be classified under the entry UN 1120 BUTANOLS in accordance with 2.1.3.3, because the aqueous solution of tert-Butanol does not differ from the entries of the pure substances relating to the class, the packing group(s) and the physical state. Furthermore, the entry "1120 BUTANOLS" is not explicitly limited to the pure substances, and aqueous solutions of these substances are not specifically mentioned by name otherwise in Table A of chapter 3.2 as well as in the assimilation list.*
- *UN 1120 BUTANOLS do not react with water under normal conditions of carriage.*

*As a consequence, aqueous solutions of UN 1120 tert-Butanol may be assigned to the standard liquid "acetic acid".*

4.1.1.19.5 *Rule for collective entries*

For the assimilation of filling substances for which "Rule for collective entries" is indicated in column (5), the following steps shall be taken and conditions be met (see also scheme in Figure 4.1.1.19.2):

- (a) Perform the assimilation procedure for each dangerous component of the solution, mixture or preparation in accordance with 4.1.1.19.3 taking into account the conditions in 4.1.1.19.2. In the case of generic entries, components may be neglected, that are known to have no damaging effect on high density polyethylene (e.g. solid pigments in UN 1263 PAINT or PAINT RELATED MATERIAL);
- (b) A solution, mixture or preparation cannot be assimilated to a standard liquid, if:
  - (i) the UN number and packing group of one or more of the dangerous components does not appear in the assimilation list; or
  - (ii) "Rule for collective entries" is indicated in column (5) of the assimilation list for one or more of the components; or
  - (iii) (with the exception of UN 2059 NITROCELLULOSE SOLUTION, FLAMMABLE) the classification code of one or more of its dangerous components differs from that of the solution, mixture or preparation.

- (c) If all dangerous components are listed in the assimilation list, and its classification codes are in accordance with the classification code of the solution, mixture or preparation itself, and all dangerous components are assimilated to the same standard liquid or combination of standard liquids in column (5), the chemical compatibility of the solution, mixture or preparation may be regarded as verified taking into account 4.1.1.19.1 and 4.1.1.19.2;
- (d) If all dangerous components are listed in the assimilation list and its classification codes are in accordance with the classification code of the solution, mixture or preparation itself, but different standard liquids are indicated in column (5), the chemical compatibility may only be regarded as verified for the following combinations of standard liquids taking into account 4.1.1.19.1 and 4.1.1.19.2:
- (i) water/nitric acid 55%; with the exception of inorganic acids with the classification code C1, which are assigned to standard liquid "water";
  - (ii) water/wetting solution;
  - (iii) water/acetic acid;
  - (iv) water/mixture of hydrocarbons;
  - (v) water/n-butyl acetate – n-butyl acetate-saturated wetting solution;
- (e) In the scope of this rule, chemical compatibility is not regarded as verified for other combinations of standard liquids than those specified in (d) and for all cases specified in (b). In such cases the chemical compatibility shall be verified by other means (see 4.1.1.19.3 (d)).

*Example 1: Mixture of UN 1940 THIOGLYCOLIC ACID (50%) and UN 2531 METHACRYLIC ACID, STABILIZED (50%); classification of the mixture: UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.*

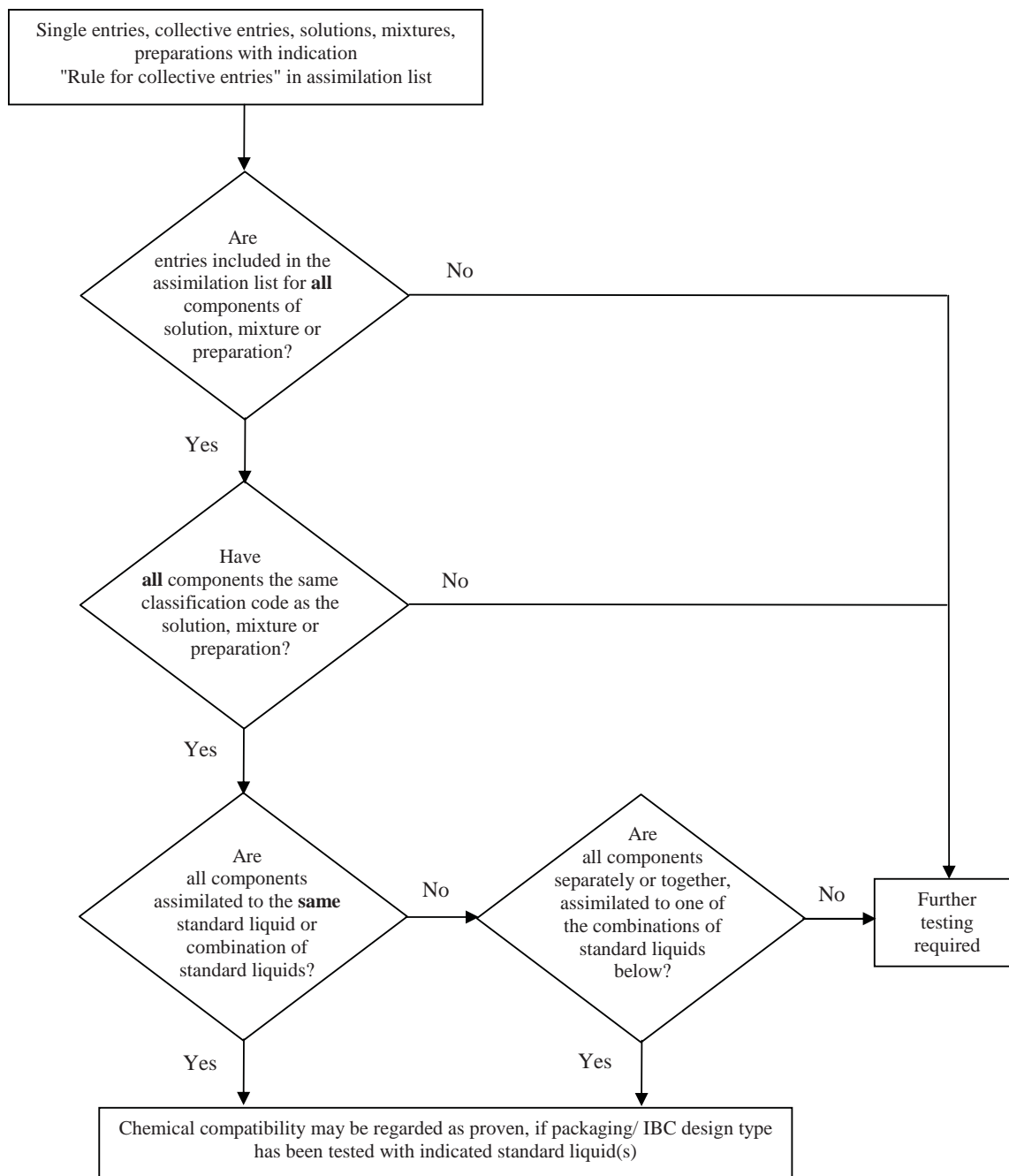
- Both the UN numbers of the components and the UN number of the mixture are included in the assimilation list;
- Both the components and the mixture have the same classification code: C3;
- UN 1940 THIOGLYCOLIC ACID is assimilated to standard liquid "acetic acid", and UN 2531 METHACRYLIC ACID, STABILIZED is assimilated to standard liquid "n-butyl acetate/n-butyl acetate-saturated wetting solution". According to paragraph (d) this is not an acceptable combination of standard liquids. The chemical compatibility of the mixture has to be verified by other means.

*Example 2: Mixture of UN 1793 ISOPROPYL ACID PHOSPHATE (50%) and UN 1803 PHENOLSULPHONIC ACID, LIQUID (50%); classification of the mixture: UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.*

- Both the UN numbers of the components and the UN number of the mixture are included in the assimilation list;
- Both the components and the mixture have the same classification code: C3;
- UN 1793 ISOPROPYL ACID PHOSPHATE is assimilated to standard liquid "wetting solution", and UN 1803 PHENOLSULPHONIC ACID, LIQUID is assimilated to standard liquid "water". According to paragraph (d) this is one of the acceptable combinations of standard liquids. As a consequence the chemical compatibility may be regarded as verified for this mixture, provided the packaging design type is approved for the standard liquids "wetting solution" and "water".



Figure 4.1.1.19.2: Scheme "Rules for collective entries"



Acceptable combinations of standard liquids:

- water/nitric acid (55%), with the exception of inorganic acids of classification code C1 which are assigned to standard liquid "water";
- water/wetting solution;
- water/acetic acid;
- water/mixture of hydrocarbons;
- water/n-butyl acetate – n-butyl acetate saturated wetting solution



4.1.1.19.6 *Assimilation list*

In the following table (assimilation list) dangerous substances are listed in the numerical order of their UN numbers. As a rule, each line deals with a dangerous substance, single entry or collective entry covered by a specific UN number. However, several consecutive lines may be used for the same UN number, if substances belonging to the same UN number have different names (e.g. individual isomers of a group of substances), different chemical properties, different physical properties and/or different transport conditions. In such cases the single entry or collective entry within the particular packing group is the last one of such consecutive lines.

Columns (1) to (4) of table 4.1.1.19.6, following a structure similar to that of Table A of Chapter 3.2, are used to identify the substance for the purpose of this sub-section. The last column indicates the standard liquid(s) to which the substance can be assimilated.

Explanatory notes for each column:

**Column (1) UN No.**

Contains the UN number:

- of the dangerous substance, if the substance has been assigned its own specific UN number, or
- of the collective entry to which dangerous substances not listed by name have been assigned in accordance with the criteria ("decision trees") of Part 2.

**Column (2a) Proper shipping name or technical name**

Contains the name of the substance, the name of the single entry, which may cover various isomers, or the name of the collective entry itself.

The indicated name can deviate from the applicable proper shipping name.

**Column (2b) Description**

Contains a descriptive text to clarify the scope of the entry in those cases when the classification, the transport conditions and/or the chemical compatibility of the substance may be variable.

**Column (3a) Class**

Contains the number of the class, whose heading covers the dangerous substance. This class number is assigned in accordance with the procedures and criteria of Part 2.

**Column (3b) Classification code**

Contains the classification code of the dangerous substance in accordance with the procedures and criteria of Part 2.

**Column (4) Packing group**

Contains the packing group number(s) (I, II or III) assigned to the dangerous substance in accordance with the procedures and criteria of Part 2. Certain substances are not assigned to packing groups.

**Column (5) Standard liquid**

This column indicates, as definite information, either a standard liquid or a combination of standard liquids to which the substance can be assimilated, or a reference to the rule for collective entries in 4.1.1.19.5.

**Table 4.1.1.19.6: Assimilation list**

| UN No. | Proper shipping name<br>or<br>technical name | Description  | Class | Classification Code | Packing group | Standard liquid  |
|--------|--|--|-------|---------------------|---------------|--|
| (1)    | (2a)   | (2b)   | (3a)  | (3b)                | (4)           | (5)  |
| 1090   | <b>Acetone</b>                               |  | 3     | F1                  | II            | Mixture of hydrocarbons<br><b>Remark:</b> applicable only, if it is proved that the permeability of the substance out of the package intended for carriage has an acceptable level |
| 1093   | <b>Acrylonitrile, stabilized</b>             |  | 3     | FT1                 | I             | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution   |
| 1104   | <b>Amyl acetates</b>                         | pure isomers and isomeric mixture  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution   |
| 1105   | <b>Pentanol</b> s                            | pure isomers and isomeric mixture  | 3     | F1                  | II/III        | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution   |
| 1106   | <b>Amyl amines</b>                           | pure isomers and isomeric mixture  | 3     | FC                  | II/III        | Mixture of hydrocarbons <b>and</b> wetting solution  |
| 1109   | <b>Amyl formates</b>                         | pure isomers and isomeric mixture  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution   |
| 1120   | <b>Butanol</b> s                             | pure isomers and isomeric mixture  | 3     | F1                  | II/III        | Acetic acid  |
| 1123   | <b>Butyl acetates</b>                        | pure isomers and isomeric mixture  | 3     | F1                  | II/III        | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution   |
| 1125   | <b>n-Butylamine</b>                          |  | 3     | FC                  | II            | Mixture of hydrocarbons <b>and</b> wetting solution  |
| 1128   | <b>n-Butyl formate</b>                       |  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution   |
| 1129   | <b>Butyraldehyde</b>                         |  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 1133   | <b>Adhesives</b>                             | containing flammable liquid  | 3     | F1                  | I/II/III      | Rule for collective entries  |
| 1139   | <b>Coating solution</b>                      | includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining | 3     | F1                  | I/II/III      | Rule for collective entries  |

| UN No. | Proper shipping name<br>or<br>technical name | Description                       | Class | Classification Code | Packing group | Standard liquid  |
|--------|--|-----------------------------------|-------|---------------------|---------------|--|
| (1)    | (2a)   | (2b)                              | (3a)  | (3b)                | (4)           | (5)  |
| 1145   | Cyclohexane                                  |                                   | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 1146   | Cyclopentane                                 |                                   | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 1153   | Ethylene glycol diethyl ether                |                                   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution<br><u>and</u><br>mixture of hydrocarbons |
| 1154   | Diethylamine                                 |                                   | 3     | FC                  | II            | Mixture of hydrocarbons<br><u>and</u><br>wetting solution  |
| 1158   | Diisopropylamine                             |                                   | 3     | FC                  | II            | Mixture of hydrocarbons<br><u>and</u><br>wetting solution  |
| 1160   | Dimethylamine aqueous solution               |                                   | 3     | FC                  | II            | Mixture of hydrocarbons<br><u>and</u><br>wetting solution  |
| 1165   | Dioxane                                      |                                   | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 1169   | Extracts, aromatic, liquid                   |                                   | 3     | F1                  | I/II/III      | Rule for collective entries  |
| 1170   | Ethanol or Ethanol solution                  | aqueous solution                  | 3     | F1                  | II/III        | Acetic acid  |
| 1171   | Ethylene glycol monoethyl ether              |                                   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution<br><u>and</u><br>mixture of hydrocarbons |
| 1172   | Ethylene glycol monoethyl ether acetate      |                                   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution<br><u>and</u><br>mixture of hydrocarbons |
| 1173   | Ethyl acetate                                |                                   | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution  |
| 1177   | 2-Ethylbutyl acetate                         |                                   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution  |
| 1178   | 2-Ethylbutyraldehyde                         |                                   | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 1180   | Ethyl butyrate                               |                                   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution  |
| 1188   | Ethylene glycol monomethyl ether             |                                   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution<br><u>and</u><br>mixture of hydrocarbons |
| 1189   | Ethylene glycol monomethyl ether acetate     |                                   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution<br><u>and</u><br>mixture of hydrocarbons |
| 1190   | Ethyl formate                                |                                   | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution  |
| 1191   | Octyl aldehydes                              | pure isomers and isomeric mixture | 3     | F1                  | III           | Mixture of hydrocarbons  |

| UN No. | Proper shipping name<br>or<br>technical name           | Description   | Class | Classification Code | Packing group | Standard liquid   |
|--------|--|---|-------|---------------------|---------------|---|
| (1)    | (2a)   | (2b)  | (3a)  | (3b)                | (4)           | (5)   |
| 1192   | Ethyl lactate  |   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 1195   | Ethyl propionate                                       |   | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 1197   | Extracts, flavouring,<br>liquid                        |   | 3     | F1                  | I/II/III      | Rule for collective entries                                       |
| 1198   | Formaldehyde solution,<br>flammable                    | aqueous solution, flashpoint<br>between 23 °C and 60 °C                       | 3     | FC                  | III           | Acetic acid   |
| 1202   | Diesel fuel  | complying with<br>EN 590:2004 or with a<br>flashpoint not more than<br>100 °C | 3     | F1                  | III           | Mixture of hydrocarbons   |
| 1202   | Gas oil  | flashpoint not more than<br>100 °C  | 3     | F1                  | III           | Mixture of hydrocarbons   |
| 1202   | Heating oil, light                                     | extra light   | 3     | F1                  | III           | Mixture of hydrocarbons   |
| 1202   | Heating oil, light                                     | complying with<br>EN 590:2004 or with a<br>flashpoint not more than<br>100 °C | 3     | F1                  | III           | Mixture of hydrocarbons   |
| 1203   | Motor spirit, or gasoline,<br>or petrol                |   | 3     | F1                  | II            | Mixture of hydrocarbons   |
| 1206   | Heptanes   | pure isomers and isomeric<br>mixture  | 3     | F1                  | II            | Mixture of hydrocarbons   |
| 1207   | Hexaldehyde  | n-Hexaldehyde   | 3     | F1                  | III           | Mixture of hydrocarbons   |
| 1208   | Hexanes  | pure isomers and isomeric<br>mixture  | 3     | F1                  | II            | Mixture of hydrocarbons   |
| 1210   | Printing ink<br>or<br>Printing ink related<br>material | flammable, including<br>printing ink thinning or<br>reducing compound         | 3     | F1                  | I/II/III      | Rule for collective entries                                       |
| 1212   | Isobutanol   |   | 3     | F1                  | III           | Acetic acid   |
| 1213   | Isobutyl acetate                                       |   | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 1214   | Isobutylamine  |   | 3     | FC                  | II            | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 1216   | Isooctenes   | pure isomers and isomeric<br>mixture  | 3     | F1                  | II            | Mixture of hydrocarbons   |
| 1219   | Isopropanol  |   | 3     | F1                  | II            | Acetic acid   |
| 1220   | Isopropyl acetate                                      |   | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 1221   | Isopropylamine   |   | 3     | FC                  | I             | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 1223   | Kerosene   |   | 3     | F1                  | III           | Mixture of hydrocarbons   |
| 1224   | 3,3-Dimethyl-2-butanone                                |   | 3     | F1                  | II            | Mixture of hydrocarbons   |
| 1224   | Ketones, liquid, n.o.s.                                |   | 3     | F1                  | II/III        | Rule for collective entries                                       |
| 1230   | Methanol   |   | 3     | FT1                 | II            | Acetic acid   |

| UN No. | Proper shipping name or technical name                      | Description  | Class | Classification Code | Packing group | Standard liquid  |
|--------|---|--|-------|---------------------|---------------|--|
| (1)    | (2a)  | (2b)   | (3a)  | (3b)                | (4)           | (5)  |
| 1231   | Methyl acetate  |  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1233   | Methylamyl acetate  |  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1235   | Methylamine, aqueous solution                               |  | 3     | FC                  | II            | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 1237   | Methyl butyrate   |  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1247   | Methyl methacrylate monomer, stabilized                     |  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1248   | Methyl propionate   |  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1262   | Octanes   | pure isomers and isomeric mixture  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 1263   | Paint or Paint related material                             | including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base or including paint thinning and reducing compound | 3     | F1                  | I/II/III      | Rule for collective entries                                    |
| 1265   | Pentanes  | n-Pentane  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 1266   | Perfumery products  | with flammable solvents  | 3     | F1                  | I/II/III      | Rule for collective entries                                    |
| 1268   | Coal tar naphtha  | vapour pressure at 50 °C not more than 110 kPa   | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 1268   | Petroleum distillates, n.o.s. or Petroleum products, n.o.s. |  | 3     | F1                  | I/II/III      | Rule for collective entries                                    |
| 1274   | n-Propanol  |  | 3     | F1                  | II/III        | Acetic acid  |
| 1275   | Propionaldehyde   |  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 1276   | n-Propyl acetate  |  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1277   | Propylamine   | n-Propylamine  | 3     | FC                  | II            | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 1281   | Propyl formates   | pure isomers and isomeric mixture  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1282   | Pyridine  |  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 1286   | Rosin oil   |  | 3     | F1                  | I/II/III      | Rule for collective entries                                    |
| 1287   | Rubber solution   |  | 3     | F1                  | I/II/III      | Rule for collective entries                                    |
| 1296   | Triethylamine   |  | 3     | FC                  | II            | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 1297   | Trimethylamine, aqueous solution                            | not more than 50% trimethylamine, by mass  | 3     | FC                  | I/II/III      | Mixture of hydrocarbons <b>and</b> wetting solution            |

| UN No. | Proper shipping name or technical name                                   | Description  | Class | Classification Code | Packing group | Standard liquid  |
|--------|--|--|-------|---------------------|---------------|--|
| (1)    | (2a)   | (2b)   | (3a)  | (3b)                | (4)           | (5)  |
| 1301   | Vinyl acetate, stabilized  |  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1306   | Wood preservatives, liquid   |  | 3     | F1                  | II/III        | Rule for collective entries                                    |
| 1547   | Aniline  |  | 6.1   | T1                  | II            | Acetic acid  |
| 1590   | Dichloroanilines, liquid   | pure isomers and isomeric mixture                        | 6.1   | T1                  | II            | Acetic acid  |
| 1602   | Dye, liquid, toxic, n.o.s. or<br>Dye intermediate, liquid, toxic, n.o.s. |  | 6.1   | T1                  | I/II/III      | Rule for collective entries                                    |
| 1604   | Ethylenediamine  |  | 8     | CF1                 | II            | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 1715   | Acetic anhydride   |  | 8     | CF1                 | II            | Acetic acid  |
| 1717   | Acetyl chloride  |  | 3     | FC                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1718   | Butyl acid phosphate   |  | 8     | C3                  | III           | Wetting solution   |
| 1719   | Hydrogen sulphide  | aqueous solution   | 8     | C5                  | III           | Acetic acid  |
| 1719   | Caustic alkali liquid, n.o.s.  | inorganic  | 8     | C5                  | II/III        | Rule for collective entries                                    |
| 1730   | Antimony pentachloride, liquid   | pure   | 8     | C1                  | II            | Water  |
| 1736   | Benzoyl chloride   |  | 8     | C3                  | II            | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 1750   | Chloroacetic acid solution   | aqueous solution   | 6.1   | TC1                 | II            | Acetic acid  |
| 1750   | Chloroacetic acid solution   | mixtures of mono- and dichloroacetic acid                | 6.1   | TC1                 | II            | Acetic acid  |
| 1752   | Chloroacetyl chloride  |  | 6.1   | TC1                 | I             | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1755   | Chromic acid solution  | aqueous solution with not more than 30% chromic acid     | 8     | C1                  | II/III        | Nitric acid  |
| 1760   | Cyanamide  | aqueous solution with not more than 50% cyanamide        | 8     | C9                  | II            | Water  |
| 1760   | O,O-Diethyl-dithiophosphoric acid  |  | 8     | C9                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1760   | O,O-Diisopropyl-dithiophosphoric acid                                    |  | 8     | C9                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1760   | O,O-Di-n-propyl-dithiophosphoric acid                                    |  | 8     | C9                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1760   | Corrosive liquid, n.o.s.   | flashpoint more than 60 °C                               | 8     | C9                  | I/II/III      | Rule for collective entries                                    |
| 1761   | Cupriethylenediamine solution  | aqueous solution   | 8     | CT1                 | II/III        | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 1764   | Dichloroacetic acid  |  | 8     | C3                  | II            | Acetic acid  |
| 1775   | Fluoroboric acid   | aqueous solution with not more than 50% fluoroboric acid | 8     | C1                  | II            | Water  |
| 1778   | Fluorosilicic acid   |  | 8     | C1                  | II            | Water  |

| UN No.   | Proper shipping name or technical name         | Description   | Class | Classification Code | Packing group | Standard liquid  |
|--|--|---|-------|---------------------|---------------|--|
|  | 3.1.2  | 3.1.2   | 2.2   | 2.2                 | 2.1.1.3       |  |
| (1)  | (2a)   | (2b)  | (3a)  | (3b)                | (4)           | (5)  |
| 1779   | <b>Formic acid</b>                             | with more than 85% acid by mass                                   | 8     | C3                  | II            | Acetic acid  |
| 1783   | <b>Hexamethylenediamine solution</b>           | aqueous solution  | 8     | C7                  | II/III        | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 1787   | <b>Hydriodic acid</b>                          | aqueous solution  | 8     | C1                  | II/III        | Water  |
| 1788   | <b>Hydrobromic acid</b>                        | aqueous solution  | 8     | C1                  | II/III        | Water  |
| 1789   | <b>Hydrochloric acid</b>                       | not more than 38% aqueous solution                                | 8     | C1                  | II/III        | Water  |
| 1790   | <b>Hydrofluoric acid</b>                       | with not more than 60% hydrofluoric acid                          | 8     | CT1                 | II            | Water<br>the permissible period of use: not more than 2 years  |
| 1791   | <b>Hypochlorite solution</b>                   | aqueous solution, containing wetting agents as customary in trade | 8     | C9                  | II/III        | Nitric acid <b>and</b> wetting solution *                      |
| 1791   | <b>Hypochlorite solution</b>                   | aqueous solution  | 8     | C9                  | II/III        | Nitric acid *  |
| * For UN 1791: Test to be carried out only with vent. If the test is carried out with nitric acid as the standard liquid, an acid-resistant vent and gasket shall be used. If the test is carried out with hypochlorite solutions themselves, vents and gaskets of the same design type, resistant to hypochlorite (e.g. of silicone rubber) but not resistant to nitric acid, are also permitted. |  |   |       |                     |               |  |
| 1793   | <b>Isopropyl acid phosphate</b>                |   | 8     | C3                  | III           | Wetting solution   |
| 1802   | <b>Perchloric acid</b>                         | aqueous solution with not more than 50% acid, by mass             | 8     | CO1                 | II            | Water  |
| 1803   | <b>Phenolsulphonic acid, liquid</b>            | isomeric mixture  | 8     | C3                  | II            | Water  |
| 1805   | <b>Phosphoric acid, solution</b>               |   | 8     | C1                  | III           | Water  |
| 1814   | <b>Potassium hydroxide solution</b>            | aqueous solution  | 8     | C5                  | II/III        | Water  |
| 1824   | <b>Sodium hydroxide solution</b>               | aqueous solution  | 8     | C5                  | II/III        | Water  |
| 1830   | <b>Sulphuric acid</b>                          | with more than 51% pure acid                                      | 8     | C1                  | II            | Water  |
| 1832   | <b>Sulphuric acid, spent</b>                   | chemical stable   | 8     | C1                  | II            | Water  |
| 1833   | <b>Sulphurous acid</b>                         |   | 8     | C1                  | II            | Water  |
| 1835   | <b>Tetramethylammonium hydroxide, solution</b> | aqueous solution, flashpoint more than 60 °C                      | 8     | C7                  | II            | Water  |
| 1840   | <b>Zinc chloride solution</b>                  | aqueous solution  | 8     | C1                  | III           | Water  |
| 1848   | <b>Propionic acid</b>                          | with not less than 10% and less than 90% acid by mass             | 8     | C3                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1862   | <b>Ethyl crotonate</b>                         |   | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1863   | <b>Fuel, aviation, turbine engine</b>          |   | 3     | F1                  | I/II/III      | Mixture of hydrocarbons  |
| 1866   | <b>Resin solution</b>                          | flammable   | 3     | F1                  | I/II/III      | Rule for collective entries                                    |
| 1902   | <b>Diisooctyl acid phosphate</b>               |   | 8     | C3                  | III           | Wetting solution   |
| 1906   | <b>Sludge acid</b>                             |   | 8     | C1                  | II            | Nitric acid  |
| 1908   | <b>Chlorite solution</b>                       | aqueous solution  | 8     | C9                  | II/III        | Acetic acid  |
| 1914   | <b>Butyl propionates</b>                       |   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 1915   | <b>Cyclohexanone</b>                           |   | 3     | F1                  | III           | Mixture of hydrocarbons  |

| UN No. | Proper shipping name<br>or<br>technical name   | Description  | Class | Classification Code | Packing group | Standard liquid   |
|--------|--|--|-------|---------------------|---------------|---|
| (1)    | (2a)   | (2b)   | (3a)  | (3b)                | (4)           | (5)   |
| 1917   | <b>Ethyl acrylate, stabilized</b>              |  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 1919   | <b>Methyl acrylate, stabilized</b>             |  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 1920   | <b>Nonanes</b>                                 | pure isomers and isomeric<br>mixture, flashpoint between<br>23 °C and 60 °C                      | 3     | F1                  | III           | Mixture of hydrocarbons   |
| 1935   | <b>Cyanide solution, n.o.s.</b>                | inorganic  | 6.1   | T4                  | I/II/III      | Water   |
| 1940   | <b>Thioglycolic acid</b>                       |  | 8     | C3                  | II            | Acetic acid   |
| 1986   | <b>Alcohols, flammable,<br/>toxic, n.o.s.</b>  |  | 3     | FT1                 | I/II/III      | Rule for collective entries                                       |
| 1987   | Cyclohexanol                                   | technical pure   | 3     | F1                  | III           | Acetic acid   |
| 1987   | <b>Alcohols, n.o.s.</b>                        |  | 3     | F1                  | II/III        | Rule for collective entries                                       |
| 1988   | <b>Aldehydes, flammable,<br/>toxic, n.o.s.</b> |  | 3     | FT1                 | I/II/III      | Rule for collective entries                                       |
| 1989   | <b>Aldehydes, n.o.s.</b>                       |  | 3     | F1                  | I/II/III      | Rule for collective entries                                       |
| 1992   | 2,6-cis-Dimethyl-<br>morpholine                |  | 3     | FT1                 | III           | Mixture of hydrocarbons   |
| 1992   | <b>Flammable liquid, toxic,<br/>n.o.s.</b>     |  | 3     | FT1                 | I/II/III      | Rule for collective entries                                       |
| 1993   | Propionic acid vinyl ester                     |  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 1993   | (1-Methoxy-2-propyl)<br>acetate                |  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 1993   | <b>Flammable liquid, n.o.s.</b>                |  | 3     | F1                  | I/II/III      | Rule for collective entries                                       |
| 2014   | <b>Hydrogen peroxide,<br/>aqueous solution</b> | with not less than 20% but<br>not more than 60% hydrogen<br>peroxide, stabilized as<br>necessary | 5.1   | OC1                 | II            | Nitric acid   |
| 2022   | <b>Cresylic acid</b>                           | liquid mixture containing<br>cresols, xlenols and methyl<br>phenols                              | 6.1   | TC1                 | II            | Acetic acid   |
| 2030   | <b>Hydrazine aqueous<br/>solution</b>          | with not less than 37% but<br>not more than 64%<br>hydrazine, by mass                            | 8     | CT1                 | II            | Water   |
| 2030   | Hydrazine hydrate                              | aqueous solution with 64%<br>hydrazine   | 8     | CT1                 | II            | Water   |
| 2031   | <b>Nitric acid</b>                             | other than red fuming, with<br>not more than 55% pure acid                                       | 8     | CO1                 | II            | Nitric acid   |
| 2045   | <b>Isobutyraldehyde</b>                        |  | 3     | F1                  | II            | Mixture of hydrocarbons   |
| 2050   | <b>Diisobutylene isomeric<br/>compounds</b>    |  | 3     | F1                  | II            | Mixture of hydrocarbons   |
| 2053   | <b>Methyl isobutyl carbinol</b>                |  | 3     | F1                  | III           | Acetic acid   |
| 2054   | <b>Morpholine</b>                              |  | 8     | CF1                 | I             | Mixture of hydrocarbons   |
| 2057   | <b>Tripropylene</b>                            |  | 3     | F1                  | II/III        | Mixture of hydrocarbons   |
| 2058   | <b>Valeraldehyde</b>                           | pure isomers and isomeric<br>mixture   | 3     | F1                  | II            | Mixture of hydrocarbons   |



| UN No. | Proper shipping name or technical name | Description  | Class | Classification Code | Packing group | Standard liquid  |
|--------|--|--|-------|---------------------|---------------|--|
| (1)    | (2a)                                   | (2b)   | (3a)  | (3b)                | (4)           | (5)  |
| 2059   | Nitrocellulose solution, flammable     |  | 3     | D                   | I/II/III      | Rule for collective entries: Deviating from the general procedure this rule may be applied to solvents of classification code F1 |
| 2075   | Chloral, anhydrous, stabilized         |  | 6.1   | T1                  | II            | Wetting solution   |
| 2076   | Cresols, liquid                        | pure isomers and isomeric mixture                                | 6.1   | TC1                 | II            | Acetic acid  |
| 2078   | Toluene diisocyanate                   | liquid   | 6.1   | T1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution   |
| 2079   | Diethylenetriamine                     |  | 8     | C7                  | II            | Mixture of hydrocarbons  |
| 2209   | Formaldehyde solution                  | aqueous solution with 37% Form-aldehyde, methanol content: 8-10% | 8     | C9                  | III           | Acetic acid  |
| 2209   | Formaldehyde solution                  | aqueous solution, with not less than 25% formaldehyde            | 8     | C9                  | III           | Water  |
| 2218   | Acrylic acid, stabilized               |  | 8     | CF1                 | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution   |
| 2227   | n-Butyl methacrylate, stabilized       |  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution   |
| 2235   | Chlorobenzyl chlorides, liquid         | para-Chlorobenzyl chloride                                       | 6.1   | T2                  | III           | Mixture of hydrocarbons  |
| 2241   | Cycloheptane                           |  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 2242   | Cycloheptene                           |  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 2243   | Cyclohexyl acetate                     |  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution   |
| 2244   | Cyclopentanol                          |  | 3     | F1                  | III           | Acetic acid  |
| 2245   | Cyclopentanone                         |  | 3     | F1                  | III           | Mixture of hydrocarbons  |
| 2247   | n-Decane                               |  | 3     | F1                  | III           | Mixture of hydrocarbons  |
| 2248   | Di-n-butylamine                        |  | 8     | CF1                 | II            | Mixture of hydrocarbons  |
| 2258   | 1,2-Propylenediamine                   |  | 8     | CF1                 | II            | Mixture of hydrocarbons<br><b>and</b><br>wetting solution  |
| 2259   | Triethylenetetramine                   |  | 8     | C7                  | II            | Water  |
| 2260   | Tripropylamine                         |  | 3     | FC                  | III           | Mixture of hydrocarbons<br><b>and</b><br>wetting solution  |
| 2263   | Dimethylcyclohexanes                   | pure isomers and isomeric mixture                                | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 2264   | N,N-Dimethyl-cyclohexylamine           |  | 8     | CF1                 | II            | Mixture of hydrocarbons<br><b>and</b><br>wetting solution  |
| 2265   | N,N-Dimethyl-formamide                 |  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution   |
| 2266   | Dimethyl-N-propylamine                 |  | 3     | FC                  | II            | Mixture of hydrocarbons<br><b>and</b><br>wetting solution  |

| UN No. | Proper shipping name or technical name   | Description  | Class | Classification Code | Packing group | Standard liquid  |
|--------|--|--|-------|---------------------|---------------|--|
| (1)    | (2a)                                     | (2b)   | (3a)  | (3b)                | (4)           | (5)  |
| 2269   | <b>3,3'-Imino-dipropylamine</b>          |  | 8     | C7                  | III           | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 2270   | <b>Ethylamine, aqueous solution</b>      | with not less than 50% but not more than 70% ethylamine, flashpoint below 23 °C, corrosive or slightly corrosive | 3     | FC                  | II            | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 2275   | <b>2-Ethylbutanol</b>                    |  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 2276   | <b>2-Ethylhexylamine</b>                 |  | 3     | FC                  | III           | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 2277   | <b>Ethyl methacrylate, stabilized</b>    |  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 2278   | <b>n-Heptene</b>                         |  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 2282   | <b>Hexanols</b>                          | pure isomers and isomeric mixture  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 2283   | <b>Isobutyl methacrylate, stabilized</b> |  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 2286   | <b>Pentamethylheptane</b>                |  | 3     | F1                  | III           | Mixture of hydrocarbons  |
| 2287   | <b>Isoheptenes</b>                       |  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 2288   | <b>Isohexenes</b>                        |  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 2289   | <b>Isophoronediamine</b>                 |  | 8     | C7                  | III           | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 2293   | <b>4-Methoxy-4-methyl-pentan-2-one</b>   |  | 3     | F1                  | III           | Mixture of hydrocarbons  |
| 2296   | <b>Methylcyclohexane</b>                 |  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 2297   | <b>Methylcyclohexanone</b>               | pure isomers and isomeric mixture  | 3     | F1                  | III           | Mixture of hydrocarbons  |
| 2298   | <b>Methylcyclopentane</b>                |  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 2302   | <b>5-Methylhexan-2-one</b>               |  | 3     | F1                  | III           | Mixture of hydrocarbons  |
| 2308   | <b>Nitrosylsulphuric acid, liquid</b>    |  | 8     | C1                  | II            | Water  |
| 2309   | <b>Octadienes</b>                        |  | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 2313   | <b>Picolines</b>                         | pure isomers and isomeric mixture  | 3     | F1                  | III           | Mixture of hydrocarbons  |
| 2317   | <b>Sodium cuprocyanide solution</b>      | aqueous solution   | 6.1   | T4                  | I             | Water  |
| 2320   | <b>Tetraethylenepentamine</b>            |  | 8     | C7                  | III           | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 2324   | <b>Triisobutylene</b>                    | mixture of C12-mono-olefines, flashpoint between 23 °C and 60 °C   | 3     | F1                  | III           | Mixture of hydrocarbons  |
| 2326   | <b>Trimethyl-cyclohexylamine</b>         |  | 8     | C7                  | III           | Mixture of hydrocarbons <b>and</b> wetting solution            |

| UN No. | Proper shipping name<br>or<br>technical name | Description                           | Class | Classification Code | Packing group | Standard liquid   |
|--------|--|---------------------------------------|-------|---------------------|---------------|---|
| (1)    | (2a)   | (2b)                                  | (3a)  | (3b)                | (4)           | (5)   |
| 2327   | <b>Trimethylhexamethylene-diamines</b>       | pure isomers and isomeric mixture     | 8     | C7                  | III           | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2330   | <b>Undecane</b>                              |                                       | 3     | F1                  | III           | Mixture of hydrocarbons   |
| 2336   | <b>Allyl formate</b>                         |                                       | 3     | FT1                 | I             | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2348   | <b>Butyl acrylates, stabilized</b>           | pure isomers and isomeric mixture     | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2357   | <b>Cyclohexylamine</b>                       | flashpoint between 23 °C<br>and 60 °C | 8     | CF1                 | II            | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2361   | <b>Diisobutylamine</b>                       |                                       | 3     | FC                  | III           | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2366   | <b>Diethyl carbonate</b>                     |                                       | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2367   | <b>alpha-Methyl-valeraldehyde</b>            |                                       | 3     | F1                  | II            | Mixture of hydrocarbons   |
| 2370   | <b>1-Hexene</b>                              |                                       | 3     | F1                  | II            | Mixture of hydrocarbons   |
| 2372   | <b>1,2-Di-(dimethylamino)-ethane</b>         |                                       | 3     | F1                  | II            | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2379   | <b>1,3-Dimethylbutylamine</b>                |                                       | 3     | FC                  | II            | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2383   | <b>Dipropylamine</b>                         |                                       | 3     | FC                  | II            | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2385   | <b>Ethyl isobutyrate</b>                     |                                       | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2393   | <b>Isobutyl formate</b>                      |                                       | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2394   | <b>Isobutyl propionate</b>                   | flashpoint between 23 °C<br>and 60 °C | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2396   | <b>Methacrylaldehyde, stabilized</b>         |                                       | 3     | FT1                 | II            | Mixture of hydrocarbons   |
| 2400   | <b>Methyl isovalerate</b>                    |                                       | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2401   | <b>Piperidine</b>                            |                                       | 8     | CF1                 | I             | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2403   | <b>Isopropenyl acetate</b>                   |                                       | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2405   | <b>Isopropyl butyrate</b>                    |                                       | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |

| UN No. | Proper shipping name<br>or<br>technical name | Description      | Class | Classification Code | Packing group | Standard liquid   |
|--------|--|------------------|-------|---------------------|---------------|---|
| (1)    | (2a)   | (2b)             | (3a)  | (3b)                | (4)           | (5)   |
| 2406   | Isopropyl isobutyrate                        |                  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2409   | Isopropyl propionate                         |                  | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2410   | 1,2,3,6-Tetrahydro-<br>pyridine              |                  | 3     | F1                  | II            | Mixture of hydrocarbons   |
| 2427   | Potassium chlorate,<br>aqueous solution      |                  | 5.1   | O1                  | II/III        | Water   |
| 2428   | Sodium chlorate, aqueous<br>solution         |                  | 5.1   | O1                  | II/III        | Water   |
| 2429   | Calcium chlorate, aqueous<br>solution        |                  | 5.1   | O1                  | II/III        | Water   |
| 2436   | Thioacetic acid                              |                  | 3     | F1                  | II            | Acetic acid   |
| 2457   | 2,3-Dimethylbutane                           |                  | 3     | F1                  | II            | Mixture of hydrocarbons   |
| 2491   | Ethanolamine                                 |                  | 8     | C7                  | III           | Wetting solution  |
| 2491   | Ethanolamine solution                        | aqueous solution | 8     | C7                  | III           | Wetting solution  |
| 2496   | Propionic anhydride                          |                  | 8     | C3                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2524   | Ethyl orthoformate                           |                  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2526   | Furfurylamine                                |                  | 3     | FC                  | III           | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2527   | Isobutyl acrylate,<br>stabilized             |                  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2528   | Isobutyl isobutyrate                         |                  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2529   | Isobutyric acid                              |                  | 3     | FC                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2531   | Methacrylic acid,<br>stabilized              |                  | 8     | C3                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2542   | Tributylamine                                |                  | 6.1   | T1                  | II            | Mixture of hydrocarbons   |
| 2560   | 2-Methylpentan-2-ol                          |                  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2564   | Trichloroacetic acid<br>solution             | aqueous solution | 8     | C3                  | II/III        | Acetic acid   |
| 2565   | Dicyclohexylamine                            |                  | 8     | C7                  | III           | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2571   | Ethylsulphuric acid                          |                  | 8     | C3                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2571   | Alkylsulphuric acids                         |                  | 8     | C3                  | II            | Rule for collective entries                                       |
| 2580   | Aluminium bromide<br>solution                | aqueous solution | 8     | C1                  | III           | Water   |

| UN No. | Proper shipping name<br>or<br>technical name | Description  | Class | Classification Code | Packing group | Standard liquid  |
|--------|--|--|-------|---------------------|---------------|--|
| (1)    | (2a)   | (2b)   | (3a)  | (3b)                | (4)           | (5)  |
| 2581   | <b>Aluminium chloride solution</b>           | aqueous solution   | 8     | C1                  | III           | Water  |
| 2582   | <b>Ferric chloride solution</b>              | aqueous solution   | 8     | C1                  | III           | Water  |
| 2584   | Methane sulphonic acid                       | with more than 5% free sulphuric acid  | 8     | C1                  | II            | Water  |
| 2584   | <b>Alkylsulphonic acids, liquid</b>          | with more than 5% free sulphuric acid  | 8     | C1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 2584   | Benzene sulphonic acid                       | with more than 5% free sulphuric acid  | 8     | C1                  | II            | Water  |
| 2584   | Toluene sulphonic acids                      | with more than 5% free sulphuric acid  | 8     | C1                  | II            | Water  |
| 2584   | <b>Arylsulphonic acids, liquid</b>           | with more than 5% free sulphuric acid  | 8     | C1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 2586   | Methane sulfonic acid                        | with not more than 5% free sulphuric acid  | 8     | C1                  | III           | Water  |
| 2586   | <b>Alkylsulphonic acids, liquid</b>          | with not more than 5% free sulphuric acid  | 8     | C1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 2586   | Benzene sulphonic acid                       | with not more than 5% free sulphuric acid  | 8     | C1                  | III           | Water  |
| 2586   | Toluene sulphonic acids                      | with not more than 5% free sulphuric acid  | 8     | C1                  | III           | Water  |
| 2586   | <b>Arylsulphonic acids, liquid</b>           | with not more than 5% free sulphuric acid  | 8     | C1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 2610   | <b>Triallylamine</b>                         |  | 3     | FC                  | III           | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 2614   | <b>Methallyl alcohol</b>                     |  | 3     | F1                  | III           | Acetic acid  |
| 2617   | <b>Methylcyclohexanols</b>                   | pure isomers and isomeric mixture, flashpoint between 23 °C and 60 °C  | 3     | F1                  | III           | Acetic acid  |
| 2619   | <b>Benzyl dimethylamine</b>                  |  | 8     | CF1                 | II            | Mixture of hydrocarbons <b>and</b> wetting solution            |
| 2620   | <b>Amyl butyrates</b>                        | pure isomers and isomeric mixture, flashpoint between 23 °C and 60 °C  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 2622   | <b>Glycidaldehyde</b>                        | flashpoint below 23 °C   | 3     | FT1                 | II            | Mixture of hydrocarbons  |
| 2626   | <b>Chloric acid, aqueous solution</b>        | with not more than 10% chloric acid  | 5.1   | O1                  | II            | Nitric acid  |
| 2656   | <b>Quinoline</b>                             | flashpoint more than 60 °C   | 6.1   | T1                  | III           | Water  |
| 2672   | <b>Ammonia solution</b>                      | relative density between 0.880 and 0.957 at 15 °C in water, with more than 10% but not more than 35% ammonia | 8     | C5                  | III           | Water  |
| 2683   | <b>Ammonium sulphide solution</b>            | aqueous solution, flashpoint between 23 °C and 60 °C   | 8     | CFT                 | II            | Acetic acid  |
| 2684   | <b>3-Diethylamino-propylamine</b>            |  | 3     | FC                  | III           | Mixture of hydrocarbons <b>and</b> wetting solution            |

| UN No. | Proper shipping name<br>or<br>technical name   | Description   | Class | Classification Code | Packing group | Standard liquid   |
|--------|--|---|-------|---------------------|---------------|---|
| (1)    | (2a)   | (2b)  | (3a)  | (3b)                | (4)           | (5)   |
| 2685   | <b>N,N-Diethylethylene-diamine</b>   |   | 8     | CF1                 | II            | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2693   | <b>Bisulphites, aqueous solution, n.o.s.</b>   | inorganic   | 8     | C1                  | III           | Water   |
| 2707   | <b>Dimethyldioxanes</b>  | pure isomers and isomeric mixture                                   | 3     | F1                  | II/III        | Mixture of hydrocarbons   |
| 2733   | <b>Amines, flammable, corrosive, n.o.s.</b><br>or<br><b>Polyamines, flammable, corrosive, n.o.s.</b>                 |   | 3     | FC                  | I/II/III      | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2734   | Di-sec-butylamine  |   | 8     | CF1                 | II            | Mixture of hydrocarbons   |
| 2734   | <b>Amines, liquid, corrosive, flammable, n.o.s.</b><br>or<br><b>Polyamines, liquid, corrosive, flammable, n.o.s.</b> |   | 8     | CF1                 | I/II          | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2735   | <b>Amines, liquid, corrosive, n.o.s.</b><br>or<br><b>Polyamines, liquid, corrosive, n.o.s.</b>                       |   | 8     | C7                  | I/II/III      | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2739   | <b>Butyric anhydride</b>   |   | 8     | C3                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2789   | <b>Acetic acid, glacial</b><br>or<br><b>Acetic acid solution</b>   | aqueous solution, more than 80% acid, by mass                       | 8     | CF1                 | II            | Acetic acid   |
| 2790   | <b>Acetic acid solution</b>  | aqueous solution, more than 10% but not more than 80% acid, by mass | 8     | C3                  | II/III        | Acetic acid   |
| 2796   | <b>Sulphuric acid</b>  | with not more than 51% pure acid                                    | 8     | C1                  | II            | Water   |
| 2797   | <b>Battery fluid, alkali</b>   | Potassium/Sodium hydroxide, aqueous solution                        | 8     | C5                  | II            | Water   |
| 2810   | 2-Chloro-6-fluorobenzyl chloride   | stabilized  | 6.1   | T1                  | III           | Mixture of hydrocarbons   |
| 2810   | 2-Phenylethanol  |   | 6.1   | T1                  | III           | Acetic acid   |
| 2810   | Ethylene glycol monohexyl ether  |   | 6.1   | T1                  | III           | Acetic acid   |
| 2810   | <b>Toxic liquid, organic, n.o.s.</b>   |   | 6.1   | T1                  | I/II/III      | Rule for collective entries                                       |
| 2815   | <b>N-Aminoethylpiperazine</b>  |   | 8     | C7                  | III           | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2818   | <b>Ammonium polysulphide solution</b>  | aqueous solution  | 8     | CT1                 | II/III        | Acetic acid   |
| 2819   | <b>Amyl acid phosphate</b>   |   | 8     | C3                  | III           | Wetting solution  |
| 2820   | <b>Butyric acid</b>  | n-Butyric acid  | 8     | C3                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2821   | <b>Phenol solution</b>   | aqueous solution, toxic, non-alkaline                               | 6.1   | T1                  | II/III        | Acetic acid   |

| UN No. | Proper shipping name<br>or<br>technical name        | Description   | Class | Classification Code | Packing group | Standard liquid   |
|--------|---|---|-------|---------------------|---------------|---|
| (1)    | (2a)  | (2b)  | (3a)  | (3b)                | (4)           | (5)   |
| 2829   | <b>Caproic acid</b>                                 | n-Caproic acid  | 8     | C3                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2837   | <b>Bisulphates, aqueous solution</b>                |   | 8     | C1                  | II/III        | Water   |
| 2838   | <b>Vinyl butyrate, stabilized</b>                   |   | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2841   | <b>Di-n-amylamine</b>                               |   | 3     | FT1                 | III           | Mixture of hydrocarbons<br><b>and</b><br>wetting solution         |
| 2850   | <b>Propylene tetramer</b>                           | mixture of C12-<br>monoolefines, flashpoint<br>between 23 °C and 60 °C      | 3     | F1                  | III           | Mixture of hydrocarbons   |
| 2873   | <b>Dibutylaminoethanol</b>                          | N,N-Di-n-<br>butylaminoethanol  | 6.1   | T1                  | III           | Acetic acid   |
| 2874   | <b>Furfuryl alcohol</b>                             |   | 6.1   | T1                  | III           | Acetic acid   |
| 2920   | O,O-Diethyl-<br>dithiophosphoric acid               | flashpoint between 23 °C<br>and 60 °C                                       | 8     | CF1                 | II            | n-Butylacetate/<br>n-Butylacetate-saturated<br>wetting solution   |
| 2920   | O,O-Dimethyl-<br>dithiophosphoric acid              | flashpoint between 23 °C<br>and 60 °C                                       | 8     | CF1                 | II            | Wetting solution  |
| 2920   | Hydrogen bromide                                    | 33% solution in glacial acetic<br>acid                                      | 8     | CF1                 | II            | Wetting solution  |
| 2920   | Tetramethylammonium<br>hydroxide                    | aqueous solution, flashpoint<br>between 23 °C and 60 °C                     | 8     | CF1                 | II            | Water   |
| 2920   | <b>Corrosive liquid,<br/>flammable, n.o.s.</b>      |   | 8     | CF1                 | I/II          | Rule for collective entries                                       |
| 2922   | Ammonium sulphide                                   | aqueous solution, flashpoint<br>more than 60 °C                             | 8     | CT1                 | II            | Water   |
| 2922   | Cresols   | aqueous alkaline solution,<br>mixture of sodium and<br>potassium cresolate, | 8     | CT1                 | II            | Acetic acid   |
| 2922   | Phenol  | aqueous alkaline solution,<br>mixture of sodium and<br>potassium phenolate  | 8     | CT1                 | II            | Acetic acid   |
| 2922   | Sodium hydrogen difluoride                          | aqueous solution  | 8     | CT1                 | III           | Water   |
| 2922   | <b>Corrosive liquid, toxic,<br/>n.o.s.</b>          |   | 8     | CT1                 | I/II/III      | Rule for collective entries                                       |
| 2924   | <b>Flammable liquid,<br/>corrosive, n.o.s.</b>      | slightly corrosive  | 3     | FC                  | I/II/III      | Rule for collective entries                                       |
| 2927   | <b>Toxic liquid, corrosive,<br/>organic, n.o.s.</b> |   | 6.1   | TC1                 | I/II          | Rule for collective entries                                       |
| 2933   | <b>Methyl 2-chloro-<br/>propionate</b>              |   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2934   | <b>Isopropyl 2-chloro-<br/>propionate</b>           |   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2935   | <b>Ethyl 2-chloropropionate</b>                     |   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution |
| 2936   | <b>Thiolactic acid</b>                              |   | 6.1   | T1                  | II            | Acetic acid   |
| 2941   | <b>Fluoroanilines</b>                               | pure isomers and isomeric<br>mixture  | 6.1   | T1                  | III           | Acetic acid   |

| UN No. | Proper shipping name<br>or<br>technical name                         | Description  | Class | Classification Code | Packing group | Standard liquid  |
|--------|--|--|-------|---------------------|---------------|--|
| (1)    | (2a)   | (2b)   | (3a)  | (3b)                | (4)           | (5)  |
| 2943   | <b>Tetrahydrofurfurylamine</b>                                       |  | 3     | F1                  | III           | Mixture of hydrocarbons  |
| 2945   | <b>N-Methylbutylamine</b>  |  | 3     | FC                  | II            | Mixture of hydrocarbons<br><b>and</b><br>wetting solution  |
| 2946   | <b>2-Amino-5-diethyl-aminopentane</b>                                |  | 6.1   | T1                  | III           | Mixture of hydrocarbons<br><b>and</b><br>wetting solution  |
| 2947   | <b>Isopropyl chloroacetate</b>                                       |  | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution  |
| 2984   | <b>Hydrogen peroxide,<br/>aqueous solution</b>                       | with not less than 8% but<br>less than 20% hydrogen<br>peroxide, stabilized as<br>necessary  | 5.1   | O1                  | III           | Nitric acid  |
| 3056   | <b>n-Heptaldehyde</b>  |  | 3     | F1                  | III           | Mixture of hydrocarbons  |
| 3065   | <b>Alcoholic beverages</b>   | with more than 24% alcohol<br>by volume  | 3     | F1                  | II/III        | Acetic acid  |
| 3066   | <b>Paint<br/>or<br/>Paint related material</b>                       | including paint, lacquer,<br>enamel, stain, shellac,<br>varnish, polish, liquid filler<br>and liquid lacquer base<br>or<br>including paint thinning and<br>reducing compound | 8     | C9                  | II/III        | Rule for collective entries  |
| 3079   | <b>Methacrylonitrile,<br/>stabilized</b>                             |  | 3     | FT1                 | I             | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution  |
| 3082   | sec-Alcohol C <sub>6</sub> -C <sub>17</sub> poly<br>(3-6) ethoxylate |  | 9     | M6                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution<br><b>and</b><br>mixture of hydrocarbons |
| 3082   | Alcohol C <sub>12</sub> -C <sub>15</sub> poly (1-3)<br>ethoxylate    |  | 9     | M6                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution<br><b>and</b><br>mixture of hydrocarbons |
| 3082   | Alcohol C <sub>13</sub> -C <sub>15</sub> poly (1-6)<br>ethoxylate    |  | 9     | M6                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution<br><b>and</b><br>mixture of hydrocarbons |
| 3082   | Aviation turbine fuel JP-5   | flashpoint more than 60 °C   | 9     | M6                  | III           | Mixture of hydrocarbons  |
| 3082   | Aviation turbine fuel JP-7   | flashpoint more than 60 °C   | 9     | M6                  | III           | Mixture of hydrocarbons  |
| 3082   | Coal tar   | flashpoint more than 60 °C   | 9     | M6                  | III           | Mixture of hydrocarbons  |
| 3082   | Coal tar naphtha   | flashpoint more than 60 °C   | 9     | M6                  | III           | Mixture of hydrocarbons  |
| 3082   | Creosote produced of coal<br>tar                                     | flashpoint more than 60 °C   | 9     | M6                  | III           | Mixture of hydrocarbons  |
| 3082   | Creosote produced of wood<br>tar                                     | flashpoint more than 60 °C   | 9     | M6                  | III           | Mixture of hydrocarbons  |
| 3082   | Cresyl diphenyl phosphate  |  | 9     | M6                  | III           | Wetting solution   |
| 3082   | Decyl acrylate   |  | 9     | M6                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated<br>wetting solution<br><b>and</b><br>mixture of hydrocarbons |



| UN No.   | Proper shipping name or technical name  | Description   | Class | Classification Code | Packing group | Standard liquid  |
|--|---|---|-------|---------------------|---------------|--|
| (1)  | (2a)  | (2b)  | (3a)  | (3b)                | (4)           | (5)  |
| 3082   | Diisobutyl phthalate  |   | 9     | M6                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution<br><b>and</b><br>mixture of hydrocarbons                                |
| 3082   | Di-n-butyl phthalate  |   | 9     | M6                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution<br><b>and</b><br>mixture of hydrocarbons                                |
| 3082   | Hydrocarbons  | liquid, flashpoint more than 60 °C, environmentally hazardous   | 9     | M6                  | III           | Rule for collective entries  |
| 3082   | Isodecyl diphenyl phosphate   |   | 9     | M6                  | III           | Wetting solution   |
| 3082   | Methylnaphthalenes  | isomeric mixture, liquid  | 9     | M6                  | III           | Mixture of hydrocarbons  |
| 3082   | Triaryl phosphates  | n.o.s.  | 9     | M6                  | III           | Wetting solution   |
| 3082   | Tricresyl phosphate   | with not more than 3% ortho-isomer  | 9     | M6                  | III           | Wetting solution   |
| 3082   | Trixylenyl phosphate  |   | 9     | M6                  | III           | Wetting solution   |
| 3082   | Zinc alkyl dithiophosphate  | C3-C14  | 9     | M6                  | III           | Wetting solution   |
| 3082   | Zinc aryl dithiophosphate   | C7-C16  | 9     | M6                  | III           | Wetting solution   |
| 3082   | <b>Environmentally hazardous substance, liquid, n.o.s.</b>  |   | 9     | M6                  | III           | Rule for collective entries  |
| 3099   | <b>Toxic, n.o.s.</b>  |   | 5.1   | OT1                 | I/II/III      | Rule for collective entries  |
| 3101<br>3103<br>3105<br>3107<br>3109<br>3111<br>3113<br>3115<br>3117<br>3119   | <b>Organic Peroxide, Type B, C, D, E or F, liquid or Organic Peroxide, Type B, C, D, E or F, liquid, temperature controlled</b> |   | 5.2   | P1                  |               | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution<br><b>and</b><br>mixture of hydrocarbons<br><b>and</b><br>nitric acid** |
| ** For UN Nos. 3101, 3103, 3105, 3107, 3109, 3111, 3113, 3115, 3117, 3119 (tert-butyl hydroperoxide with more than 40% peroxide content and peroxyacetic acids are excluded): All organic peroxides in a technically pure form or in solution in solvents which, as far as their compatibility is concerned, are covered by the standard liquid "mixture of hydrocarbons" in this list. Compatibility of vents and gaskets with organic peroxides may be verified, also independently of the design type test, by laboratory tests with nitric acid. |   |   |       |                     |               |  |
| 3145   | Butylphenols  | liquid, n.o.s.  | 8     | C3                  | I/II/III      | Acetic acid  |
| 3145   | <b>Alkylphenols, liquid, n.o.s.</b>   | including C2 to C12 homologues  | 8     | C3                  | I/II/III      | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution   |
| 3149   | <b>Hydrogen peroxide and peroxyacetic acid mixture, stabilized</b>  | with UN 2790 acetic acid, UN 2796 sulphuric acid and/or UN 1805 phosphoric acid, water and not more than 5% peroxyacetic acid | 5.1   | OC1                 | II            | Wetting solution<br><b>and</b><br>nitric acid  |
| 3210   | <b>Chlorates, inorganic, aqueous solution, n.o.s.</b>   |   | 5.1   | O1                  | II/III        | Water  |
| 3211   | <b>Perchlorates, inorganic, aqueous solution, n.o.s.</b>  |   | 5.1   | O1                  | II/III        | Water  |

| UN No. | Proper shipping name<br>or<br>technical name              | Description                             | Class | Classification Code | Packing group | Standard liquid   |
|--------|---|---|-------|---------------------|---------------|---|
|        | 3.1.2   | 3.1.2                                   | 2.2   | 2.2                 | 2.1.1.3       |   |
| (1)    | (2a)  | (2b)                                    | (3a)  | (3b)                | (4)           | (5)   |
| 3213   | <b>Bromates, inorganic, aqueous solution, n.o.s.</b>      |   | 5.1   | O1                  | II/III        | Water   |
| 3214   | <b>Permanganates, inorganic, aqueous solution, n.o.s.</b> |   | 5.1   | O1                  | II            | Water   |
| 3216   | <b>Persulphates, inorganic, aqueous solution, n.o.s.</b>  |   | 5.1   | O1                  | III           | Wetting solution  |
| 3218   | <b>Nitrates, inorganic, aqueous solution, n.o.s.</b>      |   | 5.1   | O1                  | II/III        | Water   |
| 3219   | <b>Nitrites, inorganic, aqueous solution, n.o.s.</b>      |   | 5.1   | O1                  | II/III        | Water   |
| 3264   | Cupric chloride   | aqueous solution, slightly corrosive    | 8     | C1                  | III           | Water   |
| 3264   | Hydroxylamine sulphate                                    | 25% aqueous solution                    | 8     | C1                  | III           | Water   |
| 3264   | Phosphorous acid  | aqueous solution                        | 8     | C1                  | III           | Water   |
| 3264   | <b>Corrosive liquid, acidic, inorganic, n.o.s.</b>        | flashpoint more than 60 °C              | 8     | C1                  | I/II/III      | Rule for collective entries; not applicable to mixtures having components of UN Nos.: 1830, 1832, 1906 and 2308 |
| 3265   | Methoxyacetic acid  |   | 8     | C3                  | I             | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution  |
| 3265   | Allyl succinic acid anhydride                             |   | 8     | C3                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution  |
| 3265   | Dithioglycolic acid                                       |   | 8     | C3                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution  |
| 3265   | Butyl phosphate   | mixture of mono- and di-butyl phosphate | 8     | C3                  | III           | Wetting solution  |
| 3265   | Caprylic acid   |   | 8     | C3                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution  |
| 3265   | Isovaleric acid   |   | 8     | C3                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution  |
| 3265   | Pelargonic acid   |   | 8     | C3                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution  |
| 3265   | Pyruvic acid  |   | 8     | C3                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution  |
| 3265   | Valeric acid  |   | 8     | C3                  | III           | Acetic acid   |
| 3265   | <b>Corrosive liquid, acidic, organic, n.o.s.</b>          | flashpoint more than 60 °C              | 8     | C3                  | I/II/III      | Rule for collective entries   |
| 3266   | Sodium hydrosulphide                                      | aqueous solution                        | 8     | C5                  | II            | Acetic acid   |
| 3266   | Sodium sulphide   | aqueous solution, slightly corrosive    | 8     | C5                  | III           | Acetic acid   |
| 3266   | <b>Corrosive liquid, basic, inorganic, n.o.s.</b>         | flashpoint more than 60 °C              | 8     | C5                  | I/II/III      | Rule for collective entries   |
| 3267   | 2,2'-(Butylimino)-bisethanol                              |   | 8     | C7                  | II            | Mixture of hydrocarbons <b>and</b> wetting solution   |
| 3267   | <b>Corrosive liquid, basic, organic, n.o.s.</b>           | flashpoint more than 60 °C              | 8     | C7                  | I/II/III      | Rule for collective entries   |

| UN No. | Proper shipping name or technical name     | Description                               | Class | Classification Code | Packing group | Standard liquid  |
|--------|--|---|-------|---------------------|---------------|--|
| (1)    | (2a)                                       | (2b)                                      | (3a)  | (3b)                | (4)           | (5)  |
| 3271   | Ethylene glycol monobutyl ether            | flashpoint 60 °C                          | 3     | F1                  | III           | Acetic acid  |
| 3271   | <b>Ether, n.o.s.</b>                       |   | 3     | F1                  | II/III        | Rule for collective entries                                    |
| 3272   | Acrylic acid tert-butyl ester              |   | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 3272   | Isobutyl propionate                        | flashpoint below 23 °C                    | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 3272   | Methyl valerate                            |   | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 3272   | Trimethyl ortho-formate                    |   | 3     | F1                  | II            | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 3272   | Ethyl valerate                             |   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 3272   | Isobutyl isovalerate                       |   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 3272   | n-Amyl propionate                          |   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 3272   | n-Butylbutyrate                            |   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 3272   | Methyl lactate                             |   | 3     | F1                  | III           | n-Butyl acetate/<br>n-butyl acetate-saturated wetting solution |
| 3272   | <b>Ester, n.o.s.</b>                       |   | 3     | F1                  | II/III        | Rule for collective entries                                    |
| 3287   | Sodium nitrite                             | 40% aqueous solution                      | 6.1   | T4                  | III           | Water  |
| 3287   | <b>Toxic liquid, inorganic, n.o.s.</b>     |   | 6.1   | T4                  | I/II/III      | Rule for collective entries                                    |
| 3291   | <b>Clinical waste, unspecified, n.o.s.</b> | liquid                                    | 6.2   | I3                  | II            | Water  |
| 3293   | <b>Hydrazine, aqueous solution</b>         | with not more than 37% hydrazine, by mass | 6.1   | T4                  | III           | Water  |
| 3295   | Heptenes                                   | n.o.s                                     | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 3295   | Nonanes                                    | flashpoint below 23 °C                    | 3     | F1                  | II            | Mixture of hydrocarbons  |
| 3295   | Decanes                                    | n.o.s                                     | 3     | F1                  | III           | Mixture of hydrocarbons  |
| 3295   | 1,2,3-Trimethylbenzene                     |   | 3     | F1                  | III           | Mixture of hydrocarbons  |
| 3295   | <b>Hydrocarbons, liquid, n.o.s.</b>        |   | 3     | F1                  | I/II/III      | Rule for collective entries                                    |
| 3405   | <b>Barium chlorate, solution</b>           | aqueous solution                          | 5.1   | OT1                 | II/III        | Water  |
| 3406   | <b>Barium perchlorate, solution</b>        | aqueous solution                          | 5.1   | OT1                 | II/III        | Water  |
| 3408   | <b>Lead perchlorate, solution</b>          | aqueous solution                          | 5.1   | OT1                 | II/III        | Water  |
| 3413   | <b>Potassium cyanide, solution</b>         | aqueous solution                          | 6.1   | T4                  | I/II/III      | Water  |
| 3414   | <b>Sodium cyanide, solution</b>            | aqueous solution                          | 6.1   | T4                  | I/II/III      | Water  |
| 3415   | <b>Sodium fluoride, solution</b>           | aqueous solution                          | 6.1   | T4                  | III           | Water  |
| 3422   | <b>Potassium fluoride, solution</b>        | aqueous solution                          | 6.1   | T4                  | III           | Water  |

**4.1.2 Additional general provisions for the use of IBCs**

4.1.2.1 When IBCs are used for the carriage of liquids with a flash-point of 60 °C (closed cup) or lower, or of powders liable to dust explosion, measures shall be taken to prevent a dangerous electrostatic discharge.

4.1.2.2 Every metal, rigid plastics and composite IBC, shall be inspected and tested, as relevant, in accordance with 6.5.4.4 or 6.5.4.5:

- before it is put into service;
- thereafter at intervals not exceeding two and a half and five years, as appropriate;
- after the repair or remanufacture, before it is re-used for carriage.

An IBC shall not be filled and offered for carriage after the date of expiry of the last periodic test or inspection. However, an IBC filled prior to the date of expiry of the last periodic test or inspection may be carried for a period not to exceed three months beyond the date of expiry of the last periodic test or inspection. In addition, an IBC may be carried after the date of expiry of the last periodic test or inspection:

- (a) after emptying but before cleaning, for purposes of performing the required test or inspection prior to refilling; and
- (b) unless otherwise approved by the competent authority, for a period not to exceed six months beyond the date of expiry of the last periodic test or inspection in order to allow the return of dangerous goods or residues for proper disposal or recycling.

*NOTE: For the particulars in the transport document, see 5.4.1.1.11.*

4.1.2.3 IBCs of type 31HZ2 shall be filled to at least 80% of the volume of the outer casing.

4.1.2.4 Except for routine maintenance of metal, rigid plastics, composite and flexible IBCs performed by the owner of the IBC, whose State and name or authorized symbol is durably marked on the IBC, the party performing routine maintenance shall durably mark the IBC near the manufacturer's UN design type marking to show:

- (a) The State in which the routine maintenance was carried out; and
- (b) The name or authorized symbol of the party performing the routine maintenance.

**4.1.3 General provisions concerning packing instructions**

4.1.3.1 Packing instructions applicable to dangerous goods of Classes 1 to 9 are specified in Section 4.1.4. They are subdivided in three sub-sections depending on the type of packagings to which they apply:

Sub-section 4.1.4.1 for packagings other than IBCs and large packagings; these packing instructions are designated by an alphanumeric code starting with the letter "P" or "R" for packagings specific to RID and ADR;

Sub-section 4.1.4.2 for IBCs; these are designated by an alphanumeric code starting with the letters "IBCs";

Sub-section 4.1.4.3      for large packagings; these are designated by an alphanumeric code starting with the letters "LP".

Generally, packing instructions specify that the general provisions of 4.1.1, 4.1.2 or 4.1.3, as appropriate, are applicable. They may also require compliance with the special provisions of Sections 4.1.5, 4.1.6, 4.1.7, 4.1.8 or 4.1.9 when appropriate. Special packing provisions may also be specified in the packing instruction for individual substances or articles. They are also designated by an alphanumeric code comprising the letters:

"PP" for packagings other than IBCs and large packagings, or "RR" for special provisions specific to RID and ADR;

"B" for IBCs or "BB" for special packing provisions specific to RID and ADR;

"L" for large packagings.

Unless otherwise specified, each packaging shall conform to the applicable requirements of Part 6. Generally packing instructions do not provide guidance on compatibility and the user shall not select a packaging without checking that the substance is compatible with the packaging material selected (e.g. glass receptacles are unsuitable for most fluorides). Where glass receptacles are permitted in the packing instructions porcelain, earthenware and stoneware packagings are also allowed.

4.1.3.2      Column (8) of Table A of Chapter 3.2 shows for each article or substance the packing instruction(s) that shall be used. Columns (9a) and (9b) indicate the special packing provisions and the mixed packing provisions (see 4.1.10) applicable to specific substances or articles.

4.1.3.3      Each packing instruction shows, where applicable, the acceptable single and combination packagings. For combination packagings, the acceptable outer packagings, inner packagings and when applicable the maximum quantity permitted in each inner or outer packaging, are shown. Maximum net mass and maximum capacity are as defined in 1.2.1.

4.1.3.4      The following packagings shall not be used when the substances being carried are liable to become liquid during carriage:

#### Packagings

|                       |   |
|-----------------------|---|
| Drums:                | 1D and 1G   |
| Boxes:                | 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H1 and 4H2                         |
| Bags:                 | 5L1, 5L2, 5L3, 5H1, 5H2, 5H3, 5H4, 5M1 and 5M2                    |
| Composite packagings: | 6HC, 6HD2, 6HG1, 6HG2, 6HD1, 6PC, 6PD1, 6PD2, 6PG1, 6PG2 and 6PH1 |

#### Large packagings

Flexible plastics:      51H (outer packaging)

#### IBCs

For substances of packing group I: All types of IBC

For substances of packing groups II and III:

|             |   |
|-------------|---|
| Wooden:     | 11C, 11D and 11F  |
| Fibreboard: | 11G   |
| Flexible:   | 13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 and 13M2 |
| Composite:  | 11HZ2 and 21HZ2   |

For the purposes of this paragraph, substances and mixtures of substances having a melting point equal to or less than 45 °C shall be treated as solids liable to become liquid during carriage.

- 4.1.3.5 Where the packing instructions in this Chapter authorize the use of a particular type of packaging (e.g. 4G; 1A2), packagings bearing the same packaging identification code followed by the letters "V", "U" or "W" marked in accordance with the requirements of Part 6 (e.g. 4GV, 4GU or 4GW; 1A2V, 1A2U or 1A2W) may also be used under the same conditions and limitations applicable to the use of that type of packaging according to the relevant packing instructions. For example, a combination packaging marked with the packaging code "4GV" may be used whenever a combination packaging marked "4G" is authorized, provided the requirements in the relevant packing instruction regarding types of inner packagings and quantity limitations are respected.

**4.1.3.6 *Pressure receptacles for liquids and solids***

- 4.1.3.6.1 Unless otherwise indicated in ADR, pressure receptacles conforming to:

- (a) the applicable requirements of Chapter 6.2; or
- (b) the national or international standards on the design, construction, testing, manufacturing and inspection, as applied by the country in which the pressure receptacles are manufactured, provided that the provisions of 4.1.3.6 are met, and that, for metallic cylinders, tubes, pressure drums and bundles of cylinders, the construction is such that the minimum burst ratio (burst pressure divided by test pressure) is:
  - (i) 1.50 for refillable pressure receptacles;
  - (ii) 2.00 for non-refillable pressure receptacles,

are authorized for the carriage of any liquid or solid substance other than explosives, thermally unstable substances, organic peroxides, self-reactive substances, substances where significant pressure may develop by evolution of chemical reaction and radioactive material (unless permitted in 4.1.9).

This sub-section is not applicable to the substances mentioned in 4.1.4.1, packing instruction P200, table 3.

- 4.1.3.6.2 Every design type of pressure receptacle shall be approved by the competent authority of the country of manufacture or as indicated in Chapter 6.2.

- 4.1.3.6.3 Unless otherwise indicated, pressure receptacles having a minimum test pressure of 0.6 MPa shall be used.

- 4.1.3.6.4 Unless otherwise indicated, pressure receptacles may be provided with an emergency pressure relief device designed to avoid bursting in case of overfill or fire accidents.

Pressure receptacle valves shall be designed and constructed in such a way that they are inherently able to withstand damage without release of the contents or shall be protected from damage which could cause inadvertent release of the contents of the pressure receptacle, by one of the methods as given in 4.1.6.8 (a) to (e).

- 4.1.3.6.5 The level of filling shall not exceed 95% of the capacity of the pressure receptacle at 50 °C. Sufficient ullage (outage) shall be left to ensure that the pressure receptacle will not be liquid full at a temperature of 55 °C.

- 4.1.3.6.6 Unless otherwise indicated pressure receptacles shall be subjected to a periodic inspection and test every 5 years. The periodic inspection shall include an external examination, an internal examination or alternative method as approved by the competent authority, a pressure test or equivalent effective non-destructive testing with the agreement of the competent authority including an inspection of all accessories (e.g. tightness of valves, emergency relief valves or fusible elements). Pressure receptacles shall not be filled after they become due for periodic inspection and test but may be carried after the expiry of the time limit. Pressure receptacle repairs shall meet the requirements of 4.1.6.11.
- 4.1.3.6.7 Prior to filling, the packer shall perform an inspection of the pressure receptacle and ensure that the pressure receptacle is authorized for the substances to be carried and that the requirements of ADR have been met. Shut-off valves shall be closed after filling and remain closed during carriage. The consignor shall verify that the closures and equipment are not leaking.
- 4.1.3.6.8 Refillable pressure receptacles shall not be filled with a substance different from that previously contained unless the necessary operations for change of service have been performed.
- 4.1.3.6.9 Marking of pressure receptacles for liquids and solids according to 4.1.3.6 (not conforming to the requirements of Chapter 6.2) shall be in accordance with the requirements of the competent authority of the country of manufacturing.
- 4.1.3.7 Packagings or IBCs not specifically authorized in the applicable packing instruction shall not be used for the carriage of a substance or article unless specifically allowed under a temporary derogation agreed between Contracting Parties in accordance with 1.5.1.
- 4.1.3.8 *Unpackaged articles other than Class 1 articles***
- 4.1.3.8.1 Where large and robust articles cannot be packaged in accordance with the requirements of Chapters 6.1 or 6.6 and they have to be carried empty, uncleaned and unpackaged, the competent authority of the country of origin<sup>2</sup> may approve such carriage. In doing so the competent authority shall take into account that:
- (a) Large and robust articles shall be strong enough to withstand the shocks and loadings normally encountered during carriage including trans-shipment between transport units and between transport units and warehouses, as well as any removal from a pallet for subsequent manual or mechanical handling;
  - (b) All closures and openings shall be sealed so that there can be no loss of contents which might be caused under normal conditions of carriage, by vibration, or by changes in temperature, humidity or pressure (resulting from altitude, for example). No dangerous residue shall adhere to the outside of the large and robust articles;
  - (c) Parts of large and robust articles, which are in direct contact with dangerous goods:
    - (i) shall not be affected or significantly weakened by those dangerous goods; and
    - (ii) shall not cause a dangerous effect e.g. catalysing a reaction or reacting with the dangerous goods;
  - (d) Large and robust articles containing liquids shall be stowed and secured to ensure that neither leakage nor permanent distortion of the article occurs during carriage;

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<sup>2</sup> If the country of origin is not a contracting party to ADR, the competent authority of the first country contracting party to the ADR reached by the consignment.

- (e) They shall be fixed in cradles or crates or other handling devices or to the transport unit or container in such a way that they will not become loose during normal conditions of carriage.

4.1.3.8.2 Unpackaged articles approved by the competent authority in accordance with the provisions of 4.1.3.8.1 shall be subject to the consignment procedures of Part 5. In addition the consignor of such articles shall ensure that a copy of any such approval is attached to the transport document.

***NOTE:** A large and robust article may include flexible fuel containment systems, military equipment, machinery or equipment containing dangerous goods above the limited quantities according to 3.4.6.*

#### **4.1.4 List of packing instructions**

***NOTE:** Although the following packing instructions use the same numbering system as used in the IMDG Code and the UN Model Regulations, readers should be aware that some of the details may be different in the case of ADR.*



**4.1.4.1** *Packing instructions concerning the use of packagings (except IBCs and large packagings)*

| P001  |   | PACKING INSTRUCTION (LIQUIDS)           |                  |                   | P001 |
|---|---|---|------------------|-------------------|------|
| The following packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met: |   |   |                  |                   |      |
| Combination packagings:   |   | Maximum capacity/Net mass (see 4.1.3.3) |                  |                   |      |
| Inner packagings  | Outer packagings                          | Packing group I                         | Packing group II | Packing group III |      |
| Glass 10 l<br>Plastics 30 l<br>Metal 40 l   | <b>Drums</b>                              |   |                  |                   |      |
|   | steel (1A2)                               | 250 kg                                  | 400 kg           | 400 kg            |      |
|   | aluminium (1B2)                           | 250 kg                                  | 400 kg           | 400 kg            |      |
|   | metal other than steel or aluminium (1N2) | 250 kg                                  | 400 kg           | 400 kg            |      |
|   | plastics (1H2)                            | 250 kg                                  | 400 kg           | 400 kg            |      |
|   | plywood (1D)                              | 150 kg                                  | 400 kg           | 400 kg            |      |
|   | fibre (1G)                                | 75 kg                                   | 400 kg           | 400 kg            |      |
|   | <b>Boxes</b>                              |   |                  |                   |      |
|   | steel (4A)                                | 250 kg                                  | 400 kg           | 400 kg            |      |
|   | aluminium (4B)                            | 250 kg                                  | 400 kg           | 400 kg            |      |
|   | natural wood (4C1, 4C2)                   | 150 kg                                  | 400 kg           | 400 kg            |      |
|   | plywood (4D)                              | 150 kg                                  | 400 kg           | 400 kg            |      |
|   | reconstituted wood (4F)                   | 75 kg                                   | 400 kg           | 400 kg            |      |
|   | fibreboard (4G)                           | 75 kg                                   | 400 kg           | 400 kg            |      |
|   | expanded plastics (4H1)                   | 60 kg                                   | 60 kg            | 60 kg             |      |
|   | solid plastics (4H2)                      | 150 kg                                  | 400 kg           | 400 kg            |      |
|   | <b>Jerricans</b>                          |   |                  |                   |      |
|   | steel (3A2)                               | 120 kg                                  | 120 kg           | 120 kg            |      |
|   | aluminium (3B2)                           | 120 kg                                  | 120 kg           | 120 kg            |      |
|   | plastics (3H2)                            | 120 kg                                  | 120 kg           | 120 kg            |      |
| <b>Single packagings:</b>   |   |   |                  |                   |      |
| <b>Drums</b>  |   |   |                  |                   |      |
| steel, non-removable head (1A1)   |   | 250 l                                   | 450 l            | 450 l             |      |
| steel, removable head (1A2)   |   | 250 l <sup>a</sup>                      | 450 l            | 450 l             |      |
| aluminium, non-removable head (1B1)   |   | 250 l                                   | 450 l            | 450 l             |      |
| aluminium, removable head (1B2)   |   | 250 l <sup>a</sup>                      | 450 l            | 450 l             |      |
| metal other than steel or aluminium, non-removable head (1N1)                                       |   | 250 l                                   | 450 l            | 450 l             |      |
| metal other than steel or aluminium, removable head (1N2)   |   | 250 l <sup>a</sup>                      | 450 l            | 450 l             |      |
| plastics, non-removable head (1H1)  |   | 250 l                                   | 450 l            | 450 l             |      |
| plastics, removable head (1H2)  |   | 250 l <sup>a</sup>                      | 450 l            | 450 l             |      |
| <b>Jerricans</b>  |   |   |                  |                   |      |
| steel, non-removable head (3A1)   |   | 60 l                                    | 60 l             | 60 l              |      |
| steel, removable head (3A2)   |   | 60 l <sup>a</sup>                       | 60 l             | 60 l              |      |
| aluminium, non-removable head (3B1)   |   | 60 l                                    | 60 l             | 60 l              |      |
| aluminium, removable head (3B2)   |   | 60 l <sup>a</sup>                       | 60 l             | 60 l              |      |
| plastics, non-removable head (3H1)  |   | 60 l                                    | 60 l             | 60 l              |      |
| plastics, removable head (3H2)  |   | 60 l <sup>a</sup>                       | 60 l             | 60 l              |      |
| <sup>a</sup> Only substances with a viscosity of more than 2 680 mm <sup>2</sup> /s are authorized. |   |   |                  |                   |      |

<sup>a</sup> Only substances with a viscosity of more than 2 680 mm<sup>2</sup>/s are authorized.

(Cont'd on next page)

| P001   | PACKING INSTRUCTION (LIQUIDS) (cont'd)  |                  |                   | P001 |
|--|---|------------------|-------------------|------|
| Single packagings (cont'd)   | Maximum capacity/Net mass (see 4.1.3.3) |                  |                   |      |
| Composite packagings   | Packing group I                         | Packing group II | Packing group III |      |
| plastics receptacle with outer steel or aluminium drum (6HA1, 6HB1)  | 250 l                                   | 250 l            | 250 l             |      |
| plastics receptacle with outer fibre, plastics or plywood drum (6HG1, 6HH1, 6HD1)  | 120 l                                   | 250 l            | 250 l             |      |
| plastics receptacle with outer steel or aluminium crate or box or plastics receptacle with outer wooden, plywood, fibreboard or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2)   | 60 l                                    | 60 l             | 60 l              |      |
| glass receptacle with outer steel, aluminium, fibreboard, plywood, solid plastics or expanded plastics drum (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 or 6PH2) or with outer steel or aluminium crate or box or with outer wooden or fibreboard box or with outer wickerwork hamper (6PA2, 6PB2, 6PC, 6PG2 or 6PD2)  | 60 l                                    | 60 l             | 60 l              |      |
| Pressure receptacles, provided that the general provisions of 4.1.3.6 are met.   |   |                  |                   |      |
| Additional requirement:<br>For substances of Class 3, packing group III, which give off small quantities of carbon dioxide or nitrogen, the packagings shall be vented.  |   |                  |                   |      |
| Special packing provisions:  |   |                  |                   |      |
| PP1 For UN Nos. 1133, 1210, 1263 and 1866 and for adhesives, printing inks, printing ink related materials, paints, paint related materials and resin solutions which are assigned to UN 3082, metal or plastics packagings for substances of packing groups II and III in quantities of 5 litres or less per packaging are not required to meet the performance tests in Chapter 6.1 when carried:<br><br>(a) in palletized loads, a pallet box or unit load device, e.g. individual packagings placed or stacked and secured by strapping, shrink or stretch-wrapping or other suitable means to a pallet; or<br><br>(b) as inner packagings of combination packagings with a maximum net mass of 40 kg. |   |                  |                   |      |
| PP2 For UN 3065, wooden barrels with a maximum capacity of 250 litres and which do not meet the provisions of Chapter 6.1 may be used.   |   |                  |                   |      |
| PP4 For UN No. 1774, packagings shall meet the packing group II performance level.   |   |                  |                   |      |
| PP5 For UN No. 1204, packagings shall be so constructed that explosion is not possible by reason of increased internal pressure. Cylinders, tubes and pressure drums shall not be used for these substances.   |   |                  |                   |      |
| PP6 (Deleted)  |   |                  |                   |      |
| PP10 For UN No. 1791, packing group II, the packaging shall be vented.   |   |                  |                   |      |
| PP31 For UN No. 1131, packagings shall be hermetically sealed.   |   |                  |                   |      |
| PP33 For UN No. 1308, packing groups I and II, only combination packagings with a maximum gross mass of 75 kg allowed.   |   |                  |                   |      |
| PP81 For UN No. 1790 with more than 60% but not more than 85% hydrogen fluoride and UN No. 2031 with more than 55% nitric acid, the permitted use of plastics drums and jerricans as single packagings shall be two years from their date of manufacture.  |   |                  |                   |      |
| Special packing provisions specific to RID and ADR:  |   |                  |                   |      |
| RR2 For UN No. 1261, removable head packagings are not permitted.  |   |                  |                   |      |

| P002   |  | PACKING INSTRUCTION (SOLIDS)   |                  |                   | P002 |
|--|--|--------------------------------|------------------|-------------------|------|
| The following packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met:                                      |  |                                |                  |                   |      |
| Combination packagings:  |  | Maximum net mass (see 4.1.3.3) |                  |                   |      |
| Inner packagings   | Outer packagings                           | Packing group I                | Packing group II | Packing group III |      |
| Glass 10 kg<br>Plastics <sup>a</sup> 50 kg<br>Metal 50 kg<br>Paper <sup>a, b, c</sup> 50 kg<br>Fibre <sup>a, b, c</sup> 50 kg            | <b>Drums</b>                               |                                |                  |                   |      |
|  | steel (1A2)                                | 400 kg                         | 400 kg           | 400 kg            |      |
|  | aluminium (1B2)                            | 400 kg                         | 400 kg           | 400 kg            |      |
|  | metal, other than steel or aluminium (1N2) | 400 kg                         | 400 kg           | 400 kg            |      |
|  | plastics (1H2)                             | 400 kg                         | 400 kg           | 400 kg            |      |
|  | plywood (1D)                               | 400 kg                         | 400 kg           | 400 kg            |      |
|  | fibre (1G)                                 | 400 kg                         | 400 kg           | 400 kg            |      |
| <sup>a</sup> These inner packagings shall be sift-proof.   | <b>Boxes</b>                               |                                |                  |                   |      |
|  | steel (4A)                                 | 400 kg                         | 400 kg           | 400 kg            |      |
|  | aluminium (4B)                             | 400 kg                         | 400 kg           | 400 kg            |      |
|  | natural wood (4C1)                         | 250 kg                         | 400 kg           | 400 kg            |      |
|  | natural wood with sift proof walls (4C2)   | 250 kg                         | 400 kg           | 400 kg            |      |
|  | plywood (4D)                               | 250 kg                         | 400 kg           | 400 kg            |      |
|  | reconstituted wood (4F)                    | 125 kg                         | 400 kg           | 400 kg            |      |
| <sup>b</sup> These inner packagings shall not be used when the substances being carried may become liquid during carriage (see 4.1.3.4). | fibreboard (4G)                            | 125 kg                         | 400 kg           | 400 kg            |      |
|  | expanded plastics (4H1)                    | 60 kg                          | 60 kg            | 60 kg             |      |
|  | solid plastics (4H2)                       | 250 kg                         | 400 kg           | 400 kg            |      |
|  | <b>Jerricans</b>                           |                                |                  |                   |      |
|  | steel (3A2)                                | 120 kg                         | 120 kg           | 120 kg            |      |
|  | aluminium (3B2)                            | 120 kg                         | 120 kg           | 120 kg            |      |
|  | plastics (3H2)                             | 120 kg                         | 120 kg           | 120 kg            |      |
| <b>Single packagings:</b>  |  |                                |                  |                   |      |
| <b>Drums</b>   |  |                                |                  |                   |      |
| steel (1A1 or 1A2 <sup>d</sup> )   |  | 400 kg                         | 400 kg           | 400 kg            |      |
| aluminium (1B1 or 1B2 <sup>d</sup> )   |  | 400 kg                         | 400 kg           | 400 kg            |      |
| metal, other than steel or aluminium (1N1 or 1N2 <sup>d</sup> )  |  | 400 kg                         | 400 kg           | 400 kg            |      |
| plastics (1H1 or 1H2 <sup>d</sup> )  |  | 400 kg                         | 400 kg           | 400 kg            |      |
| fibre (1G) <sup>e</sup>  |  | 400 kg                         | 400 kg           | 400 kg            |      |
| plywood (1D) <sup>e</sup>  |  | 400 kg                         | 400 kg           | 400 kg            |      |
| <b>Jerricans</b>   |  |                                |                  |                   |      |
| steel (3A1 or 3A2 <sup>d</sup> )   |  | 120 kg                         | 120 kg           | 120 kg            |      |
| aluminium (3B1 or 3B2 <sup>d</sup> )   |  | 120 kg                         | 120 kg           | 120 kg            |      |
| plastics (3H1 or 3H2 <sup>d</sup> )  |  | 120 kg                         | 120 kg           | 120 kg            |      |
| <sup>d</sup> These packagings shall not be used for substances of packing group I that may become liquid during carriage (see 4.1.3.4).  |  |                                |                  |                   |      |
| <sup>e</sup> These packagings shall not be used when substances being carried may become liquid during carriage (see 4.1.3.4).           |  |                                |                  |                   |      |

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| P002   | PACKING INSTRUCTION (SOLIDS) (cont'd) |                                |                  | P002              |
|--|---------------------------------------|--------------------------------|------------------|-------------------|
|  |                                       | Maximum net mass (see 4.1.3.3) |                  |                   |
| Single packagings (cont'd):  |                                       | Packing group I                | Packing group II | Packing group III |
| <b>Boxes</b><br>steel (4A) <sup>e</sup><br>aluminium (4B) <sup>e</sup><br>natural wood (4C1) <sup>e</sup><br>plywood (4D) <sup>e</sup><br>reconstituted wood (4F) <sup>e</sup><br>natural wood with sift-proof walls (4C2) <sup>e</sup><br>fibreboard (4G) <sup>e</sup><br>solid plastics (4H2) <sup>e</sup>   |                                       | Not allowed                    |                  |                   |
| <b>Bags</b>  |                                       |                                |                  |                   |
| bags (5H3, 5H4, 5L3, 5M2) <sup>e</sup>   |                                       | Not allowed                    | 50 kg            | 50 kg             |
| <b>Composite packagings</b>  |                                       |                                |                  |                   |
| plastics receptacle with outer steel, aluminium, plywood, fibre or plastics drum (6HA1, 6HB1, 6HG1 <sup>e</sup> , 6HD1 <sup>e</sup> , or 6HH1)   |                                       | 400 kg                         | 400 kg           | 400 kg            |
| plastics receptacle with outer steel or aluminium crate or box, wooden box, plywood box, fibreboard box or solid plastics box (6HA2, 6HB2, 6HC, 6HD2 <sup>e</sup> , 6HG2 <sup>e</sup> or 6HH2)   |                                       | 75 kg                          | 75 kg            | 75 kg             |
| glass receptacle with outer steel, aluminium plywood or fibre drum (6PA1, 6PB1, 6PD1 <sup>e</sup> or 6PG1 <sup>e</sup> ) or with outer steel or aluminium crate or box or with outer wooden, or fibreboard box or with outer wickerwork hamper (6PA2, 6PB2, 6PC, 6PD2 <sup>e</sup> , or 6PG2 <sup>e</sup> ) or with outer solid plastics or expanded plastics packaging (6PH2 or 6PH1 <sup>e</sup> ) |                                       | 75 kg                          | 75 kg            | 75 kg             |
| <b>Pressure receptacles</b> , provided that the general provisions of 4.1.3.6 are met.   |                                       |                                |                  |                   |
| <sup>e</sup> These packagings shall not be used when the substances being carried may become liquid during carriage (see 4.1.3.4).   |                                       |                                |                  |                   |

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| P002  | PACKING INSTRUCTION (SOLIDS) (cont'd) | P002 |
|---|---------------------------------------|------|
| <b>Special packing provisions:</b>  |                                       |      |
| <b>PP6</b> <i>(Deleted)</i>   |                                       |      |
| <b>PP7</b> For UN No. 2000, celluloid may also be transported unpacked on pallets, wrapped in plastic film and secured by appropriate means, such as steel bands as a full load in closed vehicles or containers. Each pallet shall not exceed 1 000 kg.  |                                       |      |
| <b>PP8</b> For UN No. 2002, packagings shall be so constructed that explosion is not possible by reason of increased internal pressure. Cylinders, tubes and pressure drums shall not be used for these substances.   |                                       |      |
| <b>PP9</b> For UN Nos. 3175, 3243 and 3244, packagings shall conform to a design type that has passed a leakproofness test at the packing group II performance level. For UN No. 3175, the leakproofness test is not required when the liquids are fully absorbed in solid material contained in sealed bags.   |                                       |      |
| <b>PP11</b> For UN No. 1309, packing group III, and UN No. 1362, 5H1, 5L1 and 5M1 bags are allowed if they are overpacked in plastic bags and are wrapped in shrink or stretch wrap on pallets.   |                                       |      |
| <b>PP12</b> For UN Nos. 1361, 2213 and UN No. 3077, 5H1, 5L1 and 5M1 bags are allowed when carried in closed vehicles or containers.  |                                       |      |
| <b>PP13</b> For articles classified under UN No. 2870, only combination packagings meeting the packing group I performance level are authorized.  |                                       |      |
| <b>PP14</b> For UN Nos. 2211, 2698 and 3314, packagings are not required to meet the performance tests in Chapter 6.1.  |                                       |      |
| <b>PP15</b> For UN Nos. 1324 and 2623, packagings shall meet the packing group III performance level.   |                                       |      |
| <b>PP20</b> For UN No. 2217, any sift-proof, tearproof receptacle may be used.  |                                       |      |
| <b>PP30</b> For UN No. 2471, paper or fibre inner packagings are not permitted.   |                                       |      |
| <b>PP34</b> For UN No. 2969 (as whole beans), 5H1, 5L1 and 5M1 bags are permitted.  |                                       |      |
| <b>PP37</b> For UN Nos. 2590 and 2212, 5M1 bags are permitted. All bags of any type shall be carried in closed vehicles or containers or be placed in closed rigid overpacks.   |                                       |      |
| <b>PP38</b> For UN No. 1309, packing group II, bags are permitted only in closed vehicles or containers.  |                                       |      |
| <b>PP84</b> For UN No. 1057, rigid outer packagings meeting the packing group II performance level shall be used. The packagings shall be designed and constructed and arranged to prevent movement, inadvertent ignition of the devices or inadvertent release of flammable gas or liquid.<br><b>NOTE:</b> For waste lighters collected separately see Chapter 3.3, special provision 654. |                                       |      |
| <b>Special packing provision specific to RID and ADR:</b>   |                                       |      |
| <b>RR5</b> Notwithstanding special packing provision PP84, only the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.5 to 4.1.1.7 need be complied with if the gross mass of the package is not more than 10 kg.<br><b>NOTE:</b> For waste lighters collected separately see Chapter 3.3, special provision 654.  |                                       |      |

| P003   | PACKING INSTRUCTION | P003 |
|--|---------------------|------|
| <p>Dangerous goods shall be placed in suitable outer packagings. The packagings shall meet the provisions of <b>4.1.1.1, 4.1.1.2, 4.1.1.4, 4.1.1.8</b> and <b>4.1.3</b> and be so designed that they meet the construction requirements of 6.1.4. Outer packagings constructed of suitable material of adequate strength and design in relation to the packaging capacity and its intended use shall be used. Where this packing instruction is used for the transport of articles or inner packagings of combination packagings, the packaging shall be designed and constructed to prevent inadvertent discharge of articles during normal conditions of carriage.</p> |                     |      |
| <b>Special packing provisions:</b>   |                     |      |
| <p><b>PP16</b> For UN No. 2800, batteries shall be protected from short circuits and shall be securely packed in strong outer packagings.</p> <p><i>NOTE 1: Non-spillable batteries which are an integral part of, and necessary for, the operation of mechanical or electronic equipment shall be securely fastened in the battery holder on the equipment and protected in such a manner as to prevent damage and short circuits.</i></p> <p><i>NOTE 2: For used batteries (UN 2800), see P801a.</i></p>   |                     |      |
| <p><b>PP17</b> For UN Nos. 1950 and 2037, packages shall not exceed 55 kg net mass for fibreboard packagings or 125 kg net mass for other packagings.</p>  |                     |      |
| <p><b>PP19</b> For UN Nos. 1364 and 1365, carriage as bales is authorized.</p>   |                     |      |
| <p><b>PP20</b> For UN Nos. 1363, 1386, 1408 and 2793 any sift-proof, tearproof receptacle may be used.</p>   |                     |      |
| <p><b>PP32</b> UN Nos. 2857 and 3358 may be carried unpackaged, in crates or in appropriate overpacks.</p>   |                     |      |
| <p><b>PP87</b> For UN 1950 waste aerosols carried in accordance with special provision 327, the packagings shall have a means of retaining any free liquid that might escape during carriage, e.g. absorbent material. The packaging shall be adequately ventilated to prevent the creation of flammable atmosphere and the build-up of pressure.</p>  |                     |      |
| <p><b>PP88</b> (<i>Deleted</i>)</p>  |                     |      |
| <b>Special packing provision specific to RID and ADR:</b>  |                     |      |
| <p><b>RR6</b> For UN 1950 and 2037 in the case of carriage by full load, metal articles may also be packed as follows: the articles shall be grouped together in units on trays and held in position with an appropriate plastics cover; these units shall be stacked and suitably secured on pallets.</p>   |                     |      |

| P004   | PACKING INSTRUCTION | P004 |
|--|---------------------|------|
| This instruction applies to UN Nos. 3473, 3476, 3477, 3478 and 3479.   |                     |      |
| <p>The following packagings are authorized provided the general provisions of <b>4.1.1.1, 4.1.1.2, 4.1.1.3, 4.1.1.6</b> and <b>4.1.3</b> are met:</p>  |                     |      |
| <p>(1) For fuel cell cartridges, packagings conforming to the packing group II performance level; and</p>  |                     |      |
| <p>(2) For fuel cell cartridges contained in equipment or packed with equipment, strong outer packagings. Large robust equipment (see 4.1.3.8) containing fuel cell cartridges may be carried unpackaged. When fuel cell cartridges are packed with equipment, they shall be packed in inner packagings or placed in the outer packaging with cushioning material or divider(s) so that the fuel cell cartridges are protected against damage that may be caused by the movement or placement of the contents within the outer packaging. Fuel cell cartridges which are installed in equipment shall be protected against short circuit and the entire system shall be protected against inadvertent operation.</p> |                     |      |

|  |                            |                |
|--|----------------------------|----------------|
| <b>P110(a)</b>   | <b>PACKING INSTRUCTION</b> | <b>P110(a)</b> |
| <i>(Reserved)</i>  |                            |                |
| <i><b>NOTE:</b> This packing instruction in the UN Model Regulations is not admitted for carriage under ADR.</i> |                            |                |



| P110(b) PACKING INSTRUCTION P110(b)   |  |  |
|---|--|--|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:   |  |  |
| <b>Inner packagings and arrangements</b><br><br><b>Receptacles</b><br>metal<br>wood<br>rubber, conductive<br>plastics, conductive<br><br><b>Bags</b><br>rubber, conductive<br>plastics, conductive  | <b>Intermediate packagings and arrangements</b><br><br><b>Dividing partitions</b><br>metal<br>wood<br>plastics<br>fibreboard | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>natural wood, sift-proof wall (4C2)<br>plywood (4D)<br>reconstituted wood (4F) |
| <b>Special packing provision:</b><br><b>PP42</b> For UN Nos. 0074, 0113, 0114, 0129, 0130, 0135 and 0224, the following conditions shall be met:<br>(a) Inner packagings shall not contain more than 50 g of explosive substance (quantity corresponding to dry substance);<br>(b) Compartments between dividing partitions shall not contain more than one inner packaging, firmly fitted; and<br>(c) The outer packaging may be partitioned into up to 25 compartments. |  |  |

| P111 PACKING INSTRUCTION P111   |  |  |
|---|--|--|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:           |  |  |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>paper, waterproofed<br>plastics<br>textile, rubberized<br><br><b>Sheets</b><br>plastics<br>textile, rubberized     | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, expanded (4H1)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibreboard (1G)<br>plastics, removable head (1H2) |
| <b>Special packing provision:</b><br><b>PP43</b> For UN No. 0159, inner packagings are not required when metal (1A2 or 1B2) or plastics (1H2) drums are used as outer packagings. |  |  |



| P112(a)   | PACKING INSTRUCTION<br>(Solid wetted, 1.1D)  |   | P112(a) |
|---|--|---|---------|
| The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:   |  |   |         |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>paper, multiwall, water resistant<br>plastics<br>textile<br>textile, rubberized<br>woven plastics<br><br><b>Receptacles</b><br>metal<br>plastics                 | <b>Intermediate packagings and arrangements</b><br><br><b>Bags</b><br>plastics<br>textile, plastic coated<br>or lined<br><br><b>Receptacles</b><br>metal<br>plastics | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, expanded (4H1)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |         |
| <b>Additional requirement:</b><br><br>Intermediate packagings are not required if leakproof removable head drums are used as the outer packaging.   |  |   |         |
| <b>Special packing provisions:</b><br><br><b>PP26</b> For UN Nos. 0004, 0076, 0078, 0154, 0219 and 0394, packagings shall be lead free.<br><br><b>PP45</b> For UN Nos. 0072 and 0226, intermediate packagings are not required. |  |   |         |

| P112(b)  | PACKING INSTRUCTION<br>(Solid dry, other than powder 1.1D)  |   | P112(b) |
|--|---|---|---------|
| The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:                                |   |   |         |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>paper, kraft<br>paper, multiwall, water resistant<br>plastics<br>textile<br>textile, rubberized<br>woven plastics | <b>Intermediate packagings and arrangements</b><br><br><b>Bags</b> (for UN No. 0150 only)<br>plastics<br>textile, plastic coated or lined | <b>Outer packagings and arrangements</b><br><br><b>Bags</b><br>woven plastics, sift-proof (5H2)<br>woven plastics, water-resistant (5H3)<br>plastics, film (5H4)<br>textile, sift-proof (5L2)<br>textile, water resistant (5L3)<br>paper, multiwall, water resistant (5M2)<br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, expanded (4H1)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |         |
| <b>Special packing provisions:</b>   |   |   |         |
| <b>PP26</b> For UN Nos. 0004, 0076, 0078, 0154, 0216, 0219 and 0386, packagings shall be lead free.  |   |   |         |
| <b>PP46</b> For UN Nos. 0209, bags, sift-proof (5H2) are recommended for flake or prilled TNT in the dry state and a maximum net mass of 30 kg.                                  |   |   |         |
| <b>PP47</b> For UN No. 0222, inner packagings are not required when the outer packaging is a bag.  |   |   |         |

| P112(c)   | PACKING INSTRUCTION<br>(Solid dry powder 1.1D)   |   | P112(c) |
|---|--|---|---------|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:   |  |   |         |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>paper, multiwall, water resistant<br>plastics<br>woven plastics<br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br>wood   | <b>Intermediate packagings and arrangements</b><br><br><b>Bags</b><br>paper, multiwall, water resistant with inner lining<br>plastics<br><br><b>Receptacles</b><br>metal<br>plastics | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |         |
| <b>Additional requirements:</b><br><br>1. Inner packagings are not required if drums are used as the outer packaging.<br><br>2. The packaging shall be sift-proof.  |  |   |         |
| <b>Special packing provisions:</b><br><br><b>PP26</b> For UN Nos. 0004, 0076, 0078, 0154, 0216, 0219 and 0386, packagings shall be lead free.<br><br><b>PP46</b> For UN No. 0209, bags, sift-proof (5H2) are recommended for flake or prilled TNT in the dry state and a maximum net mass of 30 kg.<br><br><b>PP48</b> For UN No. 0504, metal packagings shall not be used. |  |   |         |

| P113  | PACKING INSTRUCTION  | P113  |
|---|--|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:   |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>paper<br>plastics<br>textile, rubberized<br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br>wood  | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |
| <b>Additional requirement:</b><br>The packaging shall be sift-proof.  |  |   |
| <b>Special packing provisions:</b><br><br><b>PP49</b> For UN Nos. 0094 and 0305, no more than 50 g of substance shall be packed in an inner packaging.<br><br><b>PP50</b> For UN No. 0027, inner packagings are not necessary when drums are used as outer packagings.<br><br><b>PP51</b> For UN No. 0028, paper kraft or waxed paper sheets may be used as inner packagings. |  |   |

| P114(a)   | PACKING INSTRUCTION<br>(Solid wetted)  |   | P114(a) |
|---|--|---|---------|
| The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:   |  |   |         |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>plastics<br>textile<br>woven plastics<br><br><b>Receptacles</b><br>metal<br>plastics   | <b>Intermediate packagings and arrangements</b><br><br><b>Bags</b><br>plastics<br>textile, plastic coated<br>or lined<br><br><b>Receptacles</b><br>metal<br>plastics | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |         |
| <b>Additional requirement:</b><br><br>Intermediate packagings are not required if leakproof removable head drums are used as outer packagings.  |  |   |         |
| <b>Special packing provisions:</b><br><br><b>PP26</b> For UN Nos. 0077, 0132, 0234, 0235 and 0236, packagings shall be lead free.<br><br><b>PP43</b> For UN No. 0342, inner packagings are not required when metal (1A2 or 1B2) or plastics (1H2) drums are used as outer packagings. |  |   |         |

| P114(b)  | PACKING INSTRUCTION<br>(Solid dry)                                   | P114(b)  |
|--|--|--|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:  |  |  |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>paper, kraft<br>plastics<br>textile, sift-proof<br>woven plastics, sift-proof<br><br><b>Receptacles</b><br>fibreboard<br>metal<br>paper<br>plastics<br>woven plastics, sift-proof   | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |
| <b>Special packing provisions:</b><br><br><b>PP26</b> For UN Nos. 0077, 0132, 0234, 0235 and 0236, packagings shall be lead free.<br><br><b>PP48</b> For UN No. 0508, metal packagings shall not be used.<br><br><b>PP50</b> For UN Nos. 0160, 0161 and 0508, inner packagings are not necessary if drums are used as outer packagings.<br><br><b>PP52</b> For UN Nos. 0160 and 0161, when metal drums (1A2 or 1B2) are used as outer packagings, metal packagings shall be so constructed that the risk of explosion, by reason of increased internal pressure from internal or external causes is prevented. |  |  |

| P115   | PACKING INSTRUCTION  | P115  |
|--|--|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:  |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Receptacles</b><br>plastics   | <b>Intermediate packagings and arrangements</b><br><br><b>Bags</b><br>plastics in metal receptacles<br><br><b>Drums</b><br>metal | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |
| <b>Special packing provisions:</b><br><br><b>PP45</b> For UN No. 0144, intermediate packagings are not required.<br><br><b>PP53</b> For UN Nos. 0075, 0143, 0495 and 0497, when boxes are used as outer packagings, inner packagings shall have taped screw cap closures and be not more than 5 litres capacity each. Inner packagings shall be surrounded with non-combustible absorbent cushioning materials. The amount of absorbent cushioning material shall be sufficient to absorb the liquid contents. Metal receptacles shall be cushioned from each other. Net mass of propellant is limited to 30 kg for each package when outer packagings are boxes.<br><br><b>PP54</b> For UN Nos. 0075, 0143, 0495 and 0497, when drums are used as outer packagings and when intermediate packagings are drums, they shall be surrounded with non-combustible cushioning material in a quantity sufficient to absorb the liquid contents. A composite packaging consisting of a plastics receptacle in a metal drum may be used instead of the inner and intermediate packagings. The net volume of propellant in each package shall not exceed 120 litres.<br><br><b>PP55</b> For UN No. 0144, absorbent cushioning material shall be inserted.<br><br><b>PP56</b> For UN No. 0144, metal receptacles may be used as inner packagings.<br><br><b>PP57</b> For UN Nos. 0075, 0143, 0495 and 0497, bags shall be used as intermediate packagings when boxes are used as outer packagings.<br><br><b>PP58</b> For UN Nos. 0075, 0143, 0495 and 0497, drums shall be used as intermediate packagings when drums are used as outer packagings.<br><br><b>PP59</b> For UN No. 0144, fibreboard boxes (4G) may be used as outer packagings.<br><br><b>PP60</b> For UN No. 0144, aluminium drums, removable head (1B2) shall not be used. |  |   |

| P116  | PACKING INSTRUCTION  | P116  |
|---|--|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:   |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>paper, water and oil resistant<br>plastics<br>textile, plastic coated or lined<br>woven plastics, sift-proof<br><br><b>Receptacles</b><br>fibreboard, water resistant<br>metal<br>plastics<br>wood, sift-proof<br><br><b>Sheets</b><br>paper, water resistant<br>paper, waxed<br>plastics  | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Bags</b><br>woven plastics (5H1)<br>paper, multiwall, water resistant (5M2)<br>plastics, film (5H4)<br>textile, sift-proof (5L2)<br>textile, water resistant (5L3)<br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2)<br><br><b>Jerricans</b><br>steel, removable head (3A2)<br>plastics, removable head (3H2) |
| <b>Special packing provisions:</b><br><br><b>PP61</b> For UN Nos. 0082, 0241, 0331 and 0332, inner packagings are not required if leakproof removable head drums are used as outer packagings.<br><br><b>PP62</b> For UN Nos. 0082, 0241, 0331 and 0332, inner packagings are not required when the explosive is contained in a material impervious to liquid.<br><br><b>PP63</b> For UN No. 0081, inner packagings are not required when contained in rigid plastic which is impervious to nitric esters.<br><br><b>PP64</b> For UN No. 0331, inner packagings are not required when bags (5H2), (5H3) or (5H4) are used as outer packagings.<br><br><b>PP65</b> For UN Nos. 0082, 0241, 0331 and 0332, bags (5H2 or 5H3) may be used as outer packagings.<br><br><b>PP66</b> For UN No. 0081, bags shall not be used as outer packagings. |  |   |



| P130  | PACKING INSTRUCTION                             | P130  |
|---|---|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:   |   |   |
| <b>Inner packagings and arrangements</b>  | <b>Intermediate packagings and arrangements</b> | <b>Outer packagings and arrangements</b>  |
| Not necessary   | Not necessary                                   | <b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, expanded (4H1)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |
| <b>Special packing provision:</b>   |   |   |
| <p><b>PP67</b> The following applies to UN Nos. 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0243, 0244, 0245, 0246, 0254, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0328, 0329, 0344, 0345, 0346, 0347, 0362, 0363, 0370, 0412, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0488 and 0502:</p> <p>Large and robust explosives articles, normally intended for military use, without their means of initiation or with their means of initiation containing at least two effective protective features, may be carried unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems shall be protected against stimuli encountered during normal conditions of carriage. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for carriage unpackaged. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling devices.</p> |   |   |

| P131  | PACKING INSTRUCTION  | P131   |
|---|--|--|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:   |  |  |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>paper<br>plastics<br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br>wood<br><br><b>Reels</b> | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |
| <b>Special packing provision:</b>   |  |  |
| <b>PP68</b> For UN Nos. 0029, 0267 and 0455, bags and reels shall not be used as inner packagings.  |  |  |

| P132(a)   | PACKING INSTRUCTION  | P132(a)   |
|---|--|---|
| (Articles consisting of closed metal, plastics or fibreboard casings that contain a detonating explosive, or consisting of plastics-bonded detonating explosives)       |  |   |
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met: |  |   |
| <b>Inner packagings and arrangements</b><br><br>Not necessary   | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>wood, natural, ordinary (4C1)<br>wood, natural, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2) |

| <b>P132(b)</b> <b>PACKING INSTRUCTION</b> <b>P132(b)</b>  |  |   |
|---|--|---|
| <b>(Articles without closed casings)</b>  |  |   |
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met: |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br><br><b>Sheets</b><br>paper<br>plastics                         | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2) |

| <b>P133</b> <b>PACKING INSTRUCTION</b> <b>P133</b>   |  |   |
|--|--|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:                              |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br>wood<br><br><b>Trays, fitted with dividing partitions</b><br>fibreboard<br>plastics<br>wood | <b>Intermediate packagings and arrangements</b><br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br>wood | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2) |
| <b>Additional requirement:</b><br><br>Receptacles are only required as intermediate packagings when the inner packagings are trays.  |  |   |
| <b>Special packing provision:</b><br><br><b>PP69</b> For UN Nos. 0043, 0212, 0225, 0268 and 0306, trays shall not be used as inner packagings.   |  |   |

| P134   | PACKING INSTRUCTION  | P134  |
|--|--|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:  |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>water resistant<br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br>wood<br><br><b>Sheets</b><br>fibreboard, corrugated<br><br><b>Tubes</b><br>fibreboard | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, expanded (4H1)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |

| P135  | PACKING INSTRUCTION  | P135  |
|---|--|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:                         |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>paper<br>plastics<br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br>wood<br><br><b>Sheets</b><br>paper<br>plastics | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, expanded (4H1)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |

| P136 PACKING INSTRUCTION P136   |  |   |
|---|--|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:                     |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>plastics<br>textile<br><br>Boxes<br>fibreboard<br>plastics<br>wood<br><br><b>Dividing partitions in the outer packagings</b> | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |

| P137 PACKING INSTRUCTION P137  |  |  |
|--|--|--|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:  |  |  |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>plastics<br><br><b>Boxes</b><br>fibreboard<br><br><b>Tubes</b><br>fibreboard<br>metal<br>plastics<br><br><b>Dividing partitions in the outer packagings</b>   | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |
| <b>Special packing provision:</b><br><br><b>PP70</b> For UN Nos. 0059, 0439, 0440 and 0441, when the shaped charges are packed singly, the conical cavity shall face downwards and the package marked "THIS SIDE UP". When the shaped charges are packed in pairs, the conical cavities shall face inwards to minimize the jetting effect in the event of accidental initiation. |  |  |

| P138  | PACKING INSTRUCTION  | P138  |
|---|--|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met: |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>plastics   | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |
| <b>Additional requirement:</b><br>If the ends of the articles are sealed, inner packagings are not necessary.   |  |   |

| P139  | PACKING INSTRUCTION  | P139  |
|---|--|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:   |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>plastics<br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br>wood<br><br><b>Reels</b><br><br><b>Sheets</b><br>paper<br>plastics  | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |
| <b>Special packing provisions:</b><br><br><b>PP71</b> For UN Nos. 0065, 0102, 0104, 0289 and 0290, the ends of the detonating cord shall be sealed, for example, by a plug firmly fixed so that the explosive cannot escape. The ends of flexible detonating cord shall be fastened securely.<br><br><b>PP72</b> For UN Nos. 0065 and 0289, inner packagings are not required when they are in coils. |  |   |

| P140 PACKING INSTRUCTION P140   |  |   |
|---|--|---|
| The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:   |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>plastics<br><br><b>Reels</b><br><br><b>Sheets</b><br>paper, kraft<br>plastics  | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |
| <b>Special packing provisions:</b><br><b>PP73</b> For UN No. 0105, no inner packagings are required if the ends are sealed.<br><b>PP74</b> For UN No. 0101, the packaging shall be sift-proof except when the fuse is covered by a paper tube and both ends of the tube are covered with removable caps.<br><b>PP75</b> For UN No. 0101, steel or aluminium boxes or drums shall not be used. |  |   |

| P141 PACKING INSTRUCTION P141  |  |   |
|--|--|---|
| The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:  |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br>wood<br><br><b>Trays, fitted with dividing partitions</b><br>plastics<br>wood<br><br><b>Dividing partitions in the outer packagings</b> | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |

| P142 PACKING INSTRUCTION P142  |  |   |
|--|--|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:  |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>paper<br>plastics<br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br>wood<br><br><b>Sheets</b><br>paper<br><br><b>Trays, fitted with dividing partitions</b><br>plastics | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |

| P143 PACKING INSTRUCTION P143  |  |   |
|--|--|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:  |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Bags</b><br>paper, kraft<br>plastics<br>textile<br>textile, rubberized<br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br><br><b>Trays, fitted with dividing partitions</b><br>plastics<br>wood                            | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary (4C1)<br>natural wood, sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plywood (1D)<br>fibre (1G)<br>plastics, removable head (1H2) |
| <b>Additional requirement:</b><br><br>Instead of the above inner and outer packagings, composite packagings (6HH2) (plastics receptacle with outer solid plastics box) may be used.  |  |   |
| <b>Special packing provision:</b><br><br><b>PP76</b> For UN Nos. 0271, 0272, 0415 and 0491, when metal packagings are used, metal packagings shall be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes is prevented. |  |   |



| P144   | PACKING INSTRUCTION  | P144  |
|--|--|---|
| The following packagings are authorized, provided the general packing provisions of <b>4.1.1</b> , <b>4.1.3</b> and special packing provisions of <b>4.1.5</b> are met:  |  |   |
| <b>Inner packagings and arrangements</b><br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br><br><b>Dividing partitions in the outer packagings</b>  | <b>Intermediate packagings and arrangements</b><br><br>Not necessary | <b>Outer packagings and arrangements</b><br><br><b>Boxes</b><br>steel (4A)<br>aluminium (4B)<br>natural wood, ordinary with metal liner (4C1)<br>plywood (4D) with metal liner<br>reconstituted wood (4F) with metal liner<br>plastics, expanded (4H1)<br>plastics, solid (4H2)<br><br><b>Drums</b><br>steel, removable head (1A2)<br>aluminium, removable head (1B2)<br>plastics, removable head (1H2) |
| <b>Special packing provision:</b><br><br><b>PP77</b> For UN Nos. 0248 and 0249, packagings shall be protected against the ingress of water. When water-activated contrivances are transported unpackaged, they shall be provided with at least two independent protective features which prevent the ingress of water. |  |   |

| P200   | PACKING INSTRUCTION | P200 |
|--|---------------------|------|
| <p><b>Type of packagings:</b> Cylinders, tubes, pressure drums and bundles of cylinders</p> <p>Cylinders, tubes, pressure drums and bundles of cylinders are authorised provided the special packing provisions of <b>4.1.6</b> and the provisions listed below under (1) to (11) are met.</p> <p><b>General</b></p> <p>(1) Pressure receptacles shall be so closed and leakproof as to prevent escape of the gases;</p> <p>(2) Pressure receptacles containing toxic substances with an LC<sub>50</sub> less than or equal to 200 ml/m<sup>3</sup> (ppm) as specified in the table shall not be equipped with any pressure relief device. Pressure relief devices shall be fitted on UN pressure receptacles used for the carriage of UN No. 1013 carbon dioxide and UN No. 1070 nitrous oxide;</p> <p>(3) The following three tables cover compressed gases (Table 1), liquefied and dissolved gases (Table 2) and substances not in Class 2 (Table 3). They provide:</p> <ul style="list-style-type: none"> <li>(a) the UN number, name and description, and the classification code of the substance;</li> <li>(b) the LC<sub>50</sub> for toxic substances;</li> <li>(c) the types of pressure receptacles authorised for the substance, shown by the letter "X";</li> <li>(d) the maximum test period for periodic inspection of the pressure receptacles;</li> </ul> <p><i>NOTE: For pressure receptacles which make use of composite materials, the periodic inspection frequencies shall be as determined by the competent authority which approved the receptacles.</i></p> <ul style="list-style-type: none"> <li>(e) the minimum test pressure of the pressure receptacles;</li> <li>(f) the maximum working pressure of the pressure receptacles for compressed gases or the maximum filling ratio(s) for liquefied and dissolved gases;</li> <li>(g) special packing provisions that are specific to a substance.</li> </ul> <p><b>Test pressure, filling ratios and filling requirements</b></p> <p>(4) The minimum test pressure required for is 1 MPa (10 bar);</p> <p>(5) In no case shall pressure receptacles be filled in excess of the limit permitted in the following requirements:</p> <ul style="list-style-type: none"> <li>(a) For compressed gases, the working pressure shall be not more than two thirds of the test pressure of the pressure receptacles. Restrictions to this upper limit on working pressure are imposed by special packing provision "o". In no case shall the internal pressure at 65 °C exceed the test pressure.</li> <li>(b) For high pressure liquefied gases, the filling ratio shall be such that the settled pressure at 65 °C does not exceed the test pressure of the pressure receptacles.</li> </ul> <p>The use of test pressures and filling ratios other than those in the table is permitted, except where special packing provision "o" applies, provided that:</p> <ul style="list-style-type: none"> <li>(i) the criterion of special packing provision "r" is met when applicable; or</li> <li>(ii) the above criterion is met in all other cases.</li> </ul> <p>For high pressure liquefied gases and gas mixtures for which relevant data are not available, the maximum filling ratio (FR) shall be determined as follows:</p> $FR = 8.5 \times 10^{-4} \times d_g \times P_h$ <p>where</p> <ul style="list-style-type: none"> <li>FR = maximum filling ratio</li> <li>d<sub>g</sub> = gas density (at 15 °C, 1 bar)(in kg/m<sup>3</sup>)</li> <li>P<sub>h</sub> = minimum test pressure (in bar).</li> </ul> |                     |      |

(Cont'd on next page)

| P200 | PACKING INSTRUCTION ( <i>cont'd</i> )  | P200 |
|------|--|------|
|      | <p>If the density of the gas is unknown, the maximum filling ratio shall be determined as follows:</p> $FR = \frac{P_h \times MM \times 10^{-3}}{R \times 338}$ <p>where</p> <p>FR = maximum filling ratio</p> <p>P<sub>h</sub> = minimum test pressure (in bar)</p> <p>MM = molecular mass (in g/mol)</p> <p>R = 8.31451 × 10<sup>-2</sup> bar.l.mol<sup>-1</sup>.K<sup>-1</sup> (gas constant).</p> <p>For gas mixtures, the average molecular mass is to be taken, taking into account the volumetric concentrations of the various components.</p> <p>(c) For low pressure liquefied gases, the maximum mass of contents per litre of water capacity shall equal 0.95 times the density of the liquid phase at 50 °C; in addition, the liquid phase shall not fill the pressure receptacle at any temperature up to 60 °C. The test pressure of the pressure receptacle shall be at least equal to the vapour pressure (absolute) of the liquid at 65 °C, minus 100 kPa (1 bar).</p> <p>For low pressure liquefied gases and gas mixtures for which relevant data are not available, the maximum filling ratio shall be determined as follows:</p> $FR = (0.0032 \times BP - 0.24) \times d_l$ <p>where</p> <p>FR = maximum filling ratio</p> <p>BP = boiling point (in Kelvin)</p> <p>d<sub>l</sub> = density of the liquid at boiling point (in kg/l).</p> <p>(d) For UN No. 1001 acetylene, dissolved, and UN No. 3374 acetylene, solvent free, see (10), special packing provision "p".</p> <p>(6) Other test pressure and filling ratio may be used provided they satisfy the general requirements outlined in paragraphs (4) and (5) above;</p> <p>(7) The filling of pressure receptacles may only be carried out by specially-equipped centres, with qualified staff using appropriate procedures.<br/>The procedures should include checks:</p> <ul style="list-style-type: none"> <li>– of the conformity to regulations of receptacles and accessories;</li> <li>– of their compatibility with the product to be carried;</li> <li>– of the absence of damage which might affect safety;</li> <li>– of compliance with the degree or pressure of filling, as appropriate;</li> <li>– of regulation markings and identification.</li> </ul> <p><b>Periodic inspections</b></p> <p>(8) Refillable pressure receptacles shall be subjected to periodic inspections in accordance with the requirements of 6.2.1.6 and 6.2.3.5 respectively.</p> <p>(9) If special provisions for certain substances do not appear in the tables below, periodic inspections shall be carried out:</p> <p>(a) Every 5 years in the case of pressure receptacles intended for the carriage of gases of classification codes 1T, 1TF, 1TO, 1TC, 1TFC, 1TOC, 2T, 2TO, 2TF, 2TC, 2TFC, 2TOC, 4A, 4F and 4TC;</p> <p>(b) Every 5 years in the case of pressure receptacles intended for the carriage of substances from other classes;</p> |      |

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| P200 | PACKING INSTRUCTION ( <i>cont'd</i> )   | P200 |
|------|---|------|
|      | <p>(c) Every 10 years in the case of pressure receptacles intended for the carriage of gases of classification codes 1A, 1O, 1F, 2A, 2O and 2F.</p> <p>By derogation from this paragraph, the periodic inspection of pressure receptacles which make use of composite materials (composite pressure receptacles) shall be carried out at intervals determined by the competent authority of the Contracting Party to ADR which has approved the technical code for the design and construction.</p> <p><b>Special packing provisions</b></p> <p>(10) Keys for the column "Special packing provisions":</p> <p><b>Material compatibility</b> (for gases see ISO 11114-1:1997 and ISO 11114-2:2000)</p> <p>a: Aluminium alloy pressure receptacles are not authorized.</p> <p>b: Copper valves shall not be used.</p> <p>c: Metal parts in contact with the contents shall not contain more than 65% copper.</p> <p>d: When steel pressure receptacles are used, only those resistant to hydrogen embrittlement shall be authorized.</p> <p><b>Requirements for toxic substances with an <math>LC_{50}</math> less than or equal to 200 ml/m<sup>3</sup> (ppm)</b></p> <p>k: Valve outlets shall be fitted with gas tight plugs or caps which shall be made of material not liable to attack by the contents of the pressure receptacle.</p> <p>Each cylinder within a bundle shall be fitted with an individual valve that shall be closed during carriage. After filling, the manifold shall be evacuated, purged and plugged.</p> <p>Bundles containing UN 1045 Fluorine, compressed, may be constructed with isolation valves on groups of cylinders not exceeding 150 litres total water capacity instead of isolation valves on every cylinder.</p> <p>Cylinders and individual cylinders within a bundle shall have a test pressure greater than or equal to 200 bar and a minimum wall thickness of 3.5 mm for aluminium alloy or 2 mm for steel. Individual cylinders not complying with this requirement shall be carried in a rigid outer packaging that will adequately protect the cylinder and its fittings and meeting the packing group I performance level. Pressure drums shall have a minimum wall thickness as specified by the competent authority.</p> <p>Pressure receptacles shall not be fitted with a pressure relief device.</p> <p>Cylinders and individual cylinders in a bundle shall be limited to a maximum water capacity of 85 litres.</p> <p>Each valve shall have a taper threaded connection directly to the pressure receptacle and be capable of withstanding the test pressure of the pressure receptacle.</p> <p>Each valve shall either be of the packless type with non-perforated diaphragm, or be of a type which prevents leakage through or past the packing.</p> <p>Carriage in capsules is not allowed.</p> <p>Each pressure receptacle shall be tested for leakage after filling.</p> |      |

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| P200 | PACKING INSTRUCTION (cont'd)   | P200 |
|------|--|------|
|      | <p><i>Gas specific provisions</i></p> <p>l: UN No. 1040 ethylene oxide may also be packed in hermetically sealed glass or metal inner packagings suitably cushioned in fibreboard, wooden or metal boxes meeting the packing group I performance level. The maximum quantity permitted in any glass inner packaging is 30 g, and the maximum quantity permitted in any metal inner packaging is 200 g. After filling, each inner packaging shall be determined to be leak-tight by placing the inner packaging in a hot water bath at a temperature, and for a period of time, sufficient to ensure that an internal pressure equal to the vapour pressure of ethylene oxide at 55 °C is achieved. The maximum net mass in any outer packaging shall not exceed 2.5 kg.</p> <p>m: Pressure receptacles shall be filled to a working pressure not exceeding 5 bar.</p> <p>n: Cylinders and individual cylinders in a bundle shall contain not more than 5 kg of the gas. When bundles containing UN 1045 Fluorine, compressed are divided into groups of cylinders in accordance with special packing provision "k" each group shall contain not more than 5 kg of the gas.</p> <p>o: In no case shall the working pressure or filling ratio shown in the tables be exceeded.</p> <p>p: For UN No. 1001 acetylene, dissolved, and UN No. 3374 acetylene, solvent free: cylinders shall be filled with a homogeneous monolithic porous material; the working pressure and the quantity of acetylene shall not exceed the values prescribed in the approval or in ISO 3807-1:2000 or ISO 3807-2:2000, as applicable.</p> <p>For UN No. 1001 acetylene, dissolved: cylinders shall contain a quantity of acetone or suitable solvent as specified in the approval (see ISO 3807-1:2000 or ISO 3807-2:2000, as applicable); cylinders fitted with pressure relief devices or manifolded together shall be carried vertically.</p> <p>Alternatively, for UN No. 1001 acetylene, dissolved: cylinders which are not UN pressure receptacles may be filled with a non monolithic porous material; the working pressure, the quantity of acetylene and the quantity of solvent shall not exceed the values prescribed in the approval. The maximum test period for periodic inspection of the cylinders shall not exceed five years.</p> <p>A test pressure of 52 bar shall be applied only to cylinders conforming to ISO 3807-2:2000.</p> <p>q: The valves of pressure receptacles for pyrophoric gases or flammable mixtures of gases containing more than 1% of pyrophoric compounds shall be fitted with gas-tight plugs or caps which shall be made of material not liable to attack by the contents of the pressure receptacle. When these pressure receptacles are manifolded in a bundle, each of the pressure receptacles shall be fitted with an individual valve that shall be closed during carriage, and the manifold outlet valve shall be fitted with a gas-tight plug or cap. Carriage in capsules is not allowed.</p> <p>r: The filling ratio of this gas shall be limited such that, if complete decomposition occurs, the pressure does not exceed two thirds of the test pressure of the pressure receptacle.</p> <p>ra: Allowed for carriage in capsules under the following conditions:</p> <ul style="list-style-type: none"> <li>(a) The mass of gas shall not exceed 150 g per capsule;</li> <li>(b) The capsules shall be free from faults liable to impair the strength;</li> <li>(c) The leakproofness of the closure shall be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any leakage of the closure during carriage;</li> <li>(d) The capsules shall be placed in an outer packaging of sufficient strength. A package shall not weigh more than 75 kg.</li> </ul> |      |

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| P200 | PACKING INSTRUCTION ( <i>cont'd</i> )   | P200 |
|------|---|------|
|      | <p>s: Aluminium alloy pressure receptacles shall be:</p> <ul style="list-style-type: none"> <li>- Equipped only with brass or stainless steel valves; and</li> <li>- Cleaned for hydrocarbons contamination and not contaminated with oil. UN pressure receptacles shall be cleaned in accordance with ISO 11621:1997.</li> </ul> <p>ta: Other criteria may be used for filling of welded steel cylinders intended for the carriage of substances of UN No. 1965:</p> <ul style="list-style-type: none"> <li>(a) with the agreement of the competent authorities of the countries where the carriage is carried out; and</li> <li>(b) in compliance with the provisions of a national code or standard recognised by the competent authorities.</li> </ul> <p>When the criteria for filling are different from those in P200(5), the transport document shall include the statement "Carriage in accordance with packing instruction P200, special packing provision ta" and the indication of the reference temperature used for the calculation of the filling ratio.</p> <p><b><i>Periodic inspection</i></b></p> <p>u: The interval between periodic tests may be extended to 10 years for aluminium alloy pressure receptacles. This derogation may only be applied to UN pressure receptacles when the alloy of the pressure receptacle has been subjected to stress corrosion testing as specified in ISO 7866:1999.</p> <p>v: The interval between inspections for steel cylinders may be extended to 15 years:</p> <ul style="list-style-type: none"> <li>(a) with the agreement of the competent authority (authorities) of the country (countries) where the periodic inspection and the carriage take place; and</li> <li>(b) in accordance with the requirements of a technical code or a standard recognised by the competent authority, or standard EN 1440:1996 "Transportable refillable welded cylinders for liquefied petroleum gas (LPG) – Periodic requalification".</li> </ul> <p><b><i>Requirements for N.O.S. entries and for mixtures</i></b></p> <p>z: The construction materials of the pressure receptacles and their accessories shall be compatible with the contents and shall not react to form harmful or dangerous compounds therewith.</p> <p>The test pressure and filling ratio shall be calculated in accordance with the relevant requirements of (5).</p> <p>Toxic substances with an LC<sub>50</sub> less than or equal to 200 ml/m<sup>3</sup> shall not be carried in tubes, pressure drums or MEGCs and shall meet the requirements of special packing provision "k". However, UN 1975 Nitric oxide and dinitrogen tetroxide mixture may be carried in pressure drums.</p> <p>For pressure receptacles containing pyrophoric gases or flammable mixtures of gases containing more than 1% pyrophoric compounds, the requirements of special packing provision "q" shall be met.</p> <p>The necessary steps shall be taken to prevent dangerous reactions (i.e. polymerisation or decomposition) during carriage. If necessary, stabilisation or addition of an inhibitor shall be required.</p> <p>Mixtures containing UN No. 1911 diborane, shall be filled to a pressure such that, if complete decomposition of the diborane occurs, two thirds of the test pressure of the pressure receptacle shall not be exceeded.</p> <p>Mixtures containing UN 2192 germane, other than mixtures of up to 35% germane in hydrogen or nitrogen or up to 28% germane in helium or argon, shall be filled to a pressure such that, if complete decomposition of the germane occurs, two thirds of the test pressure of the pressure receptacle shall not be exceeded.</p> |      |

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| P200  | PACKING INSTRUCTION (cont'd)          |  | P200 |
|---|---------------------------------------|--|------|
| <b>Requirements for substances not in Class 2</b>   |                                       |  |      |
| ab: Pressure receptacles shall satisfy the following conditions:  |                                       |  |      |
| (i) The pressure test shall include an inspection of the inside of the pressure receptacles and check of accessories;   |                                       |  |      |
| (ii) In addition resistance to corrosion shall be checked every two years by means of suitable instruments (e.g. ultrasound) and the condition of the accessories verified; |                                       |  |      |
| (iii) Wall thickness shall not be less than 3 mm.   |                                       |  |      |
| ac: Tests and inspections shall be carried out under the supervision of an expert approved by the competent authority.  |                                       |  |      |
| ad: Pressure receptacles shall satisfy the following conditions:  |                                       |  |      |
| (i) Pressure receptacles shall be designed for a design pressure of not less than 2.1 MPa (21 bar) (gauge pressure);  |                                       |  |      |
| (ii) In addition to the marks for refillable receptacles, the pressure receptacles shall bear the following particulars in clearly legible and durable characters:          |                                       |  |      |
| - The UN number and the proper shipping name of the substance according to 3.1.2;   |                                       |  |      |
| - The maximum permitted mass when filled and the tare of the pressure receptacle, including accessories fitted during filling, or the gross mass.                           |                                       |  |      |
| (11) The applicable requirements of this packing instruction are considered to have been complied with if the following standards, as relevant, are applied:                |                                       |  |      |
| Applicable requirements   | Reference                             | Title of document  |      |
| (7)   | EN 1919:2000                          | Transportable gas cylinders. Cylinders for gases (excluding acetylene and LPG). Inspection at time of filling  |      |
| (7)   | EN 1920:2000                          | Transportable gas cylinders. Cylinders for compressed gases (excluding acetylene). Inspection at time of filling   |      |
| (7)   | EN 12754:2001                         | Transportable gas cylinders. Cylinders for dissolved acetylene. Inspection at time of filling  |      |
| (7)   | EN 13365:2002 +A1:2005                | Transportable gas cylinders – Cylinder bundles for permanent and liquefied gases (excluding acetylene) – Inspection at the time of filling   |      |
| (7) and (10) ta (b)   | EN 1439:2008 (except 3.5 and Annex C) | LPG equipment and accessories -Transportable refillable welded and brazed steel Liquefied Petroleum Gas (LPG) cylinders - Procedures for checking before, during and after filling |      |
| (7) and (10) ta (b)   | EN 14794:2005                         | LPG equipment and accessories - Transportable refillable aluminium cylinders for liquefied petroleum gas (LPG) - Procedure for checking before, during and after filling           |      |
| (10) p  | EN 1801:1998                          | Transportable gas cylinders – Filling conditions for single acetylene cylinders (including list of permissible porous materials)   |      |
| (10) p  | EN 12755:2000                         | Transportable gas cylinders – Filling conditions for acetylene bundles   |      |

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| P200                      |  | PACKING INSTRUCTION (cont'd) |                                    |           |       |                |                      |                                 |                                 |  |                            | P200 |
|---------------------------|--|------------------------------|------------------------------------|-----------|-------|----------------|----------------------|---------------------------------|---------------------------------|--|----------------------------|------|
| Table 1: COMPRESSED GASES |  |                              |                                    |           |       |                |                      |                                 |                                 |  |                            |      |
| UN No.                    | Name and description   | Classification code          | LC <sub>50</sub> ml/m <sup>3</sup> | Cylinders | Tubes | Pressure drums | Bundles of cylinders | Test period, years <sup>a</sup> | Test pressure, bar <sup>b</sup> | Maximum working pressure, bar <sup>b</sup> | Special packing provisions |      |
| 1002                      | AIR, COMPRESSED  | 1A                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  |                            |      |
| 1006                      | ARGON, COMPRESSED  | 1A                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  |                            |      |
| 1016                      | CARBON MONOXIDE, COMPRESSED  | 1TF                          | 3760                               | X         | X     | X              | X                    | 5                               |                                 |  | u                          |      |
| 1023                      | COAL GAS, COMPRESSED   | 1TF                          |                                    | X         | X     | X              | X                    | 5                               |                                 |  |                            |      |
| 1045                      | FLUORINE, COMPRESSED   | 1TOC                         | 185                                | X         |       |                | X                    | 5                               | 200                             | 30   | a, k, n, o                 |      |
| 1046                      | HELIUM, COMPRESSED   | 1A                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  |                            |      |
| 1049                      | HYDROGEN, COMPRESSED   | 1F                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  | d                          |      |
| 1056                      | KRYPTON, COMPRESSED  | 1A                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  |                            |      |
| 1065                      | NEON, COMPRESSED   | 1A                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  |                            |      |
| 1066                      | NITROGEN, COMPRESSED   | 1A                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  |                            |      |
| 1071                      | OIL GAS, COMPRESSED  | 1TF                          |                                    | X         | X     | X              | X                    | 5                               |                                 |  |                            |      |
| 1072                      | OXYGEN, COMPRESSED   | 1O                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  | s                          |      |
| 1612                      | HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE                      | 1T                           |                                    | X         | X     | X              | X                    | 5                               |                                 |  | z                          |      |
| 1660                      | NITRIC OXIDE, COMPRESSED   | 1TOC                         | 115                                | X         |       |                | X                    | 5                               | 225                             | 33   | k, o                       |      |
| 1953                      | COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.                                 | 1TF                          | ≤ 5000                             | X         | X     | X              | X                    | 5                               |                                 |  | z                          |      |
| 1954                      | COMPRESSED GAS, FLAMMABLE, N.O.S   | 1F                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  | z                          |      |
| 1955                      | COMPRESSED GAS, TOXIC, N.O.S.  | 1T                           | ≤ 5000                             | X         | X     | X              | X                    | 5                               |                                 |  | z                          |      |
| 1956                      | COMPRESSED GAS, N.O.S.   | 1A                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  | z                          |      |
| 1957                      | DEUTERIUM, COMPRESSED  | 1F                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  | d                          |      |
| 1964                      | HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.                              | 1F                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  | z                          |      |
| 1971                      | METHANE, COMPRESSED or NATURAL GAS, COMPRESSED with high methane content | 1F                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  |                            |      |
| 2034                      | HYDROGEN AND METHANE MIXTURE, COMPRESSED                                 | 1F                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  | d                          |      |
| 2190                      | OXYGEN DIFLUORIDE, COMPRESSED  | 1TOC                         | 2.6                                | X         |       |                | X                    | 5                               | 200                             | 30   | a, k, n, o                 |      |
| 3156                      | COMPRESSED GAS, OXIDIZING, N.O.S.  | 1O                           |                                    | X         | X     | X              | X                    | 10                              |                                 |  | z                          |      |
| 3303                      | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S.                                 | 1TO                          | ≤ 5000                             | X         | X     | X              | X                    | 5                               |                                 |  | z                          |      |



| P200 PACKING INSTRUCTION (cont'd) P200 |   |                     |                                    |           |       |                |                      |                                 |                                 |  |                            |
|--|---|---------------------|------------------------------------|-----------|-------|----------------|----------------------|---------------------------------|---------------------------------|--|----------------------------|
| Table 1: COMPRESSED GASES              |   |                     |                                    |           |       |                |                      |                                 |                                 |  |                            |
| UN No.                                 | Name and description                                | Classification code | LC <sub>50</sub> ml/m <sup>3</sup> | Cylinders | Tubes | Pressure drums | Bundles of cylinders | Test period, years <sup>a</sup> | Test pressure, bar <sup>b</sup> | Maximum working pressure, bar <sup>b</sup> | Special packing provisions |
| 3304                                   | COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S.            | 1TC                 | ≤ 5000                             | X         | X     | X              | X                    | 5                               |                                 |  | z                          |
| 3305                                   | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | 1TFC                | ≤ 5000                             | X         | X     | X              | X                    | 5                               |                                 |  | z                          |
| 3306                                   | COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | 1TOC                | ≤ 5000                             | X         | X     | X              | X                    | 5                               |                                 |  | z                          |

<sup>a</sup> Not applicable for pressure receptacles made of composite materials.

<sup>b</sup> Where the entries are blank, the working pressure shall not exceed two thirds of the test pressure.

| <div>P200</div> <div>PACKING INSTRUCTION (cont'd)</div> <div>P200</div> |  |                     |                                    |           |       |                |                      |                                 |                          |                              |                            |
|---|--|---------------------|------------------------------------|-----------|-------|----------------|----------------------|---------------------------------|--------------------------|------------------------------|----------------------------|
| Table 2: LIQUEFIED GASES AND DISSOLVED GASES                            |  |                     |                                    |           |       |                |                      |                                 |                          |                              |                            |
| UN No.  | Name and description                                       | Classification code | LC <sub>50</sub> ml/m <sup>3</sup> | Cylinders | Tubes | Pressure drums | Bundles of cylinders | Test period, years <sup>a</sup> | Test pressure, bar       | Filling ratio                | Special packing provisions |
| 1001  | ACETYLENE, DISSOLVED                                       | 4F                  |                                    | X         |       |                | X                    | 10                              | 60                       |                              | c, p                       |
| 1005  | AMMONIA, ANHYDROUS   | 2TC                 | 4000                               | X         | X     | X              | X                    | 5                               | 29                       | 0.54                         | b, ra                      |
| 1008  | BORON TRIFLUORIDE  | 2TC                 | 387                                | X         | X     | X              | X                    | 5                               | 225<br>300               | 0.715<br>0.86                |                            |
| 1009  | BROMOTRIFLUOROMETHANE (REFRIGERANT GAS R 13B1)             | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 42<br>120<br>250         | 1.13<br>1.44<br>1.60         | ra<br>ra<br>ra             |
| 1010  | BUTADIENES, STABILIZED (1,2-butadiene) or                  | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                       | 0.59                         | ra                         |
| 1010  | BUTADIENES, STABILIZED (1,3-butadiene) or                  | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                       | 0.55                         | ra                         |
| 1010  | BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED             | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                       | 0.50                         | ra, v, z                   |
| 1011  | BUTANE   | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                       | 0.52                         | ra, v                      |
| 1012  | BUTYLENES MIXTURES or                                      | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                       | 0.50                         | ra, z                      |
| 1012  | 1-BUTYLENE or  | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                       | 0.53                         |                            |
| 1012  | CIS-2-BUTYLENE or  | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                       | 0.55                         |                            |
| 1012  | TRANS-2 BUTYLENE   | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                       | 0.54                         |                            |
| 1013  | CARBON DIOXIDE   | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 190<br>250               | 0.68<br>0.76                 | ra<br>ra                   |
| 1017  | CHLORINE   | 2TOC                | 293                                | X         | X     | X              | X                    | 5                               | 22                       | 1.25                         | a, ra                      |
| 1018  | CHLORODIFLUOROMETHANE (REFRIGERANT GAS R 22)               | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 27                       | 1.03                         | ra                         |
| 1020  | CHLOROPENTAFLUOROETHANE (REFRIGERANT GAS R 115)            | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 25                       | 1.05                         | ra                         |
| 1021  | 1-CHLORO-1,2,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 124) | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 11                       | 1.20                         | ra                         |
| 1022  | CHLOROTRIFLUOROMETHANE (REFRIGERANT GAS R 13)              | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 100<br>120<br>190<br>250 | 0.83<br>0.90<br>1.04<br>1.11 | ra<br>ra<br>ra<br>ra       |
| 1026  | CYANOGEN   | 2TF                 | 350                                | X         | X     | X              | X                    | 5                               | 100                      | 0.70                         | ra, u                      |
| 1027  | CYCLOPROPANE   | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 18                       | 0.55                         | ra                         |
| 1028  | DICHLORODIFLUOROMETHANE (REFRIGERANT GAS R 12)             | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 16                       | 1.15                         | ra                         |
| 1029  | DICHLOROFLUOROMETHANE (REFRIGERANT GAS R 21)               | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 10                       | 1.23                         | ra                         |

| P200   |  | PACKING INSTRUCTION (cont'd) |                                    |           |       |                |                      |                                 |  | P200                         |  |
|--|--|------------------------------|------------------------------------|-----------|-------|----------------|----------------------|---------------------------------|--|------------------------------|--|
| Table 2: LIQUEFIED GASES AND DISSOLVED GASES |  |                              |                                    |           |       |                |                      |                                 |  |                              |  |
| UN No.                                       | Name and description   | Classification code          | LC <sub>50</sub> ml/m <sup>3</sup> | Cylinders | Tubes | Pressure drums | Bundles of cylinders | Test period, years <sup>a</sup> | Test pressure, bar                     | Filling ratio                | Special packing provisions                   |
| 1030   | 1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152a)  | 2F                           |                                    | X         | X     | X              | X                    | 10                              | 16                                     | 0.79                         | ra   |
| 1032   | DIMETHYLAMINE, ANHYDROUS   | 2F                           |                                    | X         | X     | X              | X                    | 10                              | 10                                     | 0.59                         | b, ra  |
| 1033   | DIMETHYL ETHER   | 2F                           |                                    | X         | X     | X              | X                    | 10                              | 18                                     | 0.58                         | ra   |
| 1035   | ETHANE   | 2F                           |                                    | X         | X     | X              | X                    | 10                              | 95<br>120<br>300                       | 0.25<br>0.30<br>0.40         | ra<br>ra<br>ra                               |
| 1036   | ETHYLAMINE   | 2F                           |                                    | X         | X     | X              | X                    | 10                              | 10                                     | 0.61                         | b, ra  |
| 1037   | ETHYL CHLORIDE   | 2F                           |                                    | X         | X     | X              | X                    | 10                              | 10                                     | 0.80                         | a, ra  |
| 1039   | ETHYL METHYL ETHER   | 2F                           |                                    | X         | X     | X              | X                    | 10                              | 10                                     | 0.64                         | ra   |
| 1040   | ETHYLENE OXIDE, or ETHYLENE OXIDE WITH NITROGEN up to a total pressure of 1MPa (10 bar) at 50 °C | 2TF                          | 2900                               | X         | X     | X              | X                    | 5                               | 15                                     | 0.78                         | l, ra  |
| 1041   | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 9% but not more than 87% ethylene oxide | 2F                           |                                    | X         | X     | X              | X                    | 10                              | 190<br>250                             | 0.66<br>0.75                 | ra<br>ra                                     |
| 1043   | FERTILIZER AMMONIATING SOLUTION with free ammonia  | 4A                           |                                    | X         |       | X              | X                    | 5                               |  |                              | b, z   |
| 1048   | HYDROGEN BROMIDE, ANHYDROUS  | 2TC                          | 2860                               | X         | X     | X              | X                    | 5                               | 60                                     | 1.51                         | a, d, ra                                     |
| 1050   | HYDROGEN CHLORIDE, ANHYDROUS   | 2TC                          | 2810                               | X         | X     | X              | X                    | 5                               | 100<br>120<br>150<br>200               | 0.30<br>0.56<br>0.67<br>0.74 | a, d, ra<br>a, d, ra<br>a, d, ra<br>a, d, ra |
| 1053   | HYDROGEN SULPHIDE  | 2TF                          | 712                                | X         | X     | X              | X                    | 5                               | 48                                     | 0.67                         | d, ra, u                                     |
| 1055   | ISOBUTYLENE  | 2F                           |                                    | X         | X     | X              | X                    | 10                              | 10                                     | 0.52                         | ra   |
| 1058   | LIQUEFIED GASES, non-flammable, charged with nitrogen, carbon dioxide or air                     | 2A                           |                                    | X         | X     | X              | X                    | 10                              | Test pressure = 1.5 × working pressure |                              | ra   |

| <div>P200</div> <div>PACKING INSTRUCTION (cont'd)</div> <div>P200</div> |  |                     |                                    |           |       |                |                      |                                 |                    |               |                            |
|---|--|---------------------|------------------------------------|-----------|-------|----------------|----------------------|---------------------------------|--------------------|---------------|----------------------------|
| Table 2: LIQUEFIED GASES AND DISSOLVED GASES                            |  |                     |                                    |           |       |                |                      |                                 |                    |               |                            |
| UN No.  | Name and description                               | Classification code | LC <sub>50</sub> ml/m <sup>3</sup> | Cylinders | Tubes | Pressure drums | Bundles of cylinders | Test period, years <sup>a</sup> | Test pressure, bar | Filling ratio | Special packing provisions |
| 1060  | METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED | 2F                  |                                    | X         | X     | X              | X                    | 10                              |                    |               | c, ra, z                   |
|   | Propadiene with 1% to 4% methylacetylene           | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 22                 | 0.52          | c, ra                      |
|   | Mixture P1   | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 30                 | 0.49          | c, ra                      |
|   | Mixture P2   | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 24                 | 0.47          | c, ra                      |
| 1061  | METHYLAMINE, ANHYDROUS                             | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 13                 | 0.58          | b, ra                      |
| 1062  | METHYL BROMIDE with not more than 2% chloropicrin  | 2T                  | 850                                | X         | X     | X              | X                    | 5                               | 10                 | 1.51          | a                          |
| 1063  | METHYL CHLORIDE (REFRIGERANT GAS R 40)             | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 17                 | 0.81          | a, ra                      |
| 1064  | METHYL MERCAPTAN                                   | 2TF                 | 1350                               | X         | X     | X              | X                    | 5                               | 10                 | 0.78          | d, ra, u                   |
| 1067  | DINITROGEN TETROXIDE (NITROGEN DIOXIDE)            | 2TOC                | 115                                | X         |       | X              | X                    | 5                               | 10                 | 1.30          | k                          |
| 1069  | NITROSYL CHLORIDE                                  | 2TC                 | 35                                 | X         |       |                | X                    | 5                               | 13                 | 1.10          | k, ra                      |
| 1070  | NITROUS OXIDE                                      | 2O                  |                                    | X         | X     | X              | X                    | 10                              | 180                | 0.68          |                            |
|   |  |                     |                                    |           |       |                |                      |                                 | 225                | 0.74          |                            |
|   |  |                     |                                    |           |       |                |                      |                                 | 250                | 0.75          |                            |
| 1075  | PETROLEUM GASES, LIQUEFIED                         | 2F                  |                                    | X         | X     | X              | X                    | 10                              |                    |               | v, z                       |
| 1076  | PHOSGENE   | 2TC                 | 5                                  | X         |       | X              | X                    | 5                               | 20                 | 1.23          | k, ra                      |
| 1077  | PROPYLENE  | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 27                 | 0.43          | ra                         |
| 1078  | REFRIGERANT GAS, N.O.S.                            | 2A                  |                                    | X         | X     | X              | X                    | 10                              |                    |               | ra, z                      |
|   | Mixture F1   | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 12                 | 1.23          |                            |
|   | Mixture F2   | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 18                 | 1.15          |                            |
|   | Mixture F3   | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 29                 | 1.03          |                            |
| 1079  | SULPHUR DIOXIDE                                    | 2TC                 | 2520                               | X         | X     | X              | X                    | 5                               | 12                 | 1.23          | ra                         |
| 1080  | SULPHUR HEXAFLUORIDE                               | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 70                 | 1.06          | ra                         |
|   |  |                     |                                    |           |       |                |                      |                                 | 140                | 1.34          | ra                         |
|   |  |                     |                                    |           |       |                |                      |                                 | 160                | 1.38          | ra                         |
| 1081  | TETRAFLUOROETHYLENE, STABILIZED                    | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 200                |               | m, o, ra                   |
| 1082  | TRIFLUOROCHLOROETHYLENE, STABILIZED                | 2TF                 | 2000                               | X         | X     | X              | X                    | 5                               | 19                 | 1.13          | ra, u                      |
| 1083  | TRIMETHYLAMINE, ANHYDROUS                          | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 0.56          | b, ra                      |
| 1085  | VINYL BROMIDE, STABILIZED                          | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 1.37          | a, ra                      |
| 1086  | VINYL CHLORIDE, STABILIZED                         | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 12                 | 0.81          | a, ra                      |

| <div>P200</div> <div>PACKING INSTRUCTION (cont'd)</div> <div>P200</div> |  |                     |                                    |           |       |                |                      |                                 |                    |               |                            |
|---|--|---------------------|------------------------------------|-----------|-------|----------------|----------------------|---------------------------------|--------------------|---------------|----------------------------|
| Table 2: LIQUEFIED GASES AND DISSOLVED GASES                            |  |                     |                                    |           |       |                |                      |                                 |                    |               |                            |
| UN No.  | Name and description   | Classification code | LC <sub>50</sub> ml/m <sup>3</sup> | Cylinders | Tubes | Pressure drums | Bundles of cylinders | Test period, years <sup>a</sup> | Test pressure, bar | Filling ratio | Special packing provisions |
| 1087  | VINYL METHYL ETHER, STABILIZED   | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 0.67          | ra                         |
| 1581  | CHLOROPICRIN AND METHYL BROMIDE MIXTURE with more than 2% chloropicrin         | 2T                  | 850                                | X         | X     | X              | X                    | 5                               | 10                 | 1.51          | a                          |
| 1582  | CHLOROPICRIN AND METHYL CHLORIDE MIXTURE                                       | 2T                  | <sup>d</sup>                       | X         | X     | X              | X                    | 5                               | 17                 | 0.81          | a                          |
| 1589  | CYANOGEN CHLORIDE, STABILIZED  | 2TC                 | 80                                 | X         |       |                | X                    | 5                               | 20                 | 1.03          | k                          |
| 1741  | BORON TRICHLORIDE  | 2TC                 | 2541                               | X         | X     | X              | X                    | 5                               | 10                 | 1.19          | ra                         |
| 1749  | CHLORINE TRIFLUORIDE   | 2TOC                | 299                                | X         | X     | X              | X                    | 5                               | 30                 | 1.40          | a                          |
| 1858  | HEXAFLUOROPROPYLENE (REFRIGERANT GAS R 1216)                                   | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 22                 | 1.11          | ra                         |
| 1859  | SILICON TETRAFLUORIDE  | 2TC                 | 450                                | X         | X     | X              | X                    | 5                               | 200<br>300         | 0.74<br>1.10  |                            |
| 1860  | VINYL FLUORIDE, STABILIZED   | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 250                | 0.64          | a, ra                      |
| 1911  | DIBORANE   | 2TF                 | 80                                 | X         |       |                | X                    | 5                               | 250                | 0.07          | d, k, o                    |
| 1912  | METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE                                 | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 17                 | 0.81          | a, ra                      |
| 1952  | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with not more than 9% ethylene oxide | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 190<br>250         | 0.66<br>0.75  | ra<br>ra                   |
| 1958  | 1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 114)                 | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 1.30          | ra                         |
| 1959  | 1,1-DIFLUOROETHYLENE (REFRIGERANT GAS R 1132a)                                 | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 250                | 0.77          | ra                         |
| 1962  | ETHYLENE   | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 225<br>300         | 0.34<br>0.38  |                            |
| 1965  | HYDROCARBON GAS MIXTURE, LIQUEFIED,N.O.S                                       | 2F                  |                                    | X         | X     | X              | X                    | 10                              |                    | <sup>b</sup>  | ra, ta, v, z               |
|   | Mixture A  | 2F                  |                                    |           |       |                |                      | 10                              | 10                 | 0.50          |                            |
|   | Mixture A01  | 2F                  |                                    |           |       |                |                      | 10                              | 15                 | 0.49          |                            |
|   | Mixture A02  | 2F                  |                                    |           |       |                |                      | 10                              | 15                 | 0.48          |                            |
|   | Mixture A0   | 2F                  |                                    |           |       |                |                      | 10                              | 15                 | 0.47          |                            |
|   | Mixture A1   | 2F                  |                                    |           |       |                |                      | 10                              | 20                 | 0.46          |                            |
|   | Mixture B1   | 2F                  |                                    |           |       |                |                      | 10                              | 25                 | 0.45          |                            |
|   | Mixture B2   | 2F                  |                                    |           |       |                |                      | 10                              | 25                 | 0.44          |                            |
|   | Mixture B  | 2F                  |                                    |           |       |                |                      | 10                              | 25                 | 0.43          |                            |
|   | Mixture C  | 2F                  |                                    |           |       |                |                      | 10                              | 30                 | 0.42          |                            |

| <div>P200</div> <div>PACKING INSTRUCTION (cont'd)</div> <div>P200</div> |  |                     |                                    |           |       |                |                      |                                 |                    |               |                            |
|---|--|---------------------|------------------------------------|-----------|-------|----------------|----------------------|---------------------------------|--------------------|---------------|----------------------------|
| Table 2: LIQUEFIED GASES AND DISSOLVED GASES                            |  |                     |                                    |           |       |                |                      |                                 |                    |               |                            |
| UN No.  | Name and description   | Classification code | LC <sub>50</sub> ml/m <sup>3</sup> | Cylinders | Tubes | Pressure drums | Bundles of cylinders | Test period, years <sup>a</sup> | Test pressure, bar | Filling ratio | Special packing provisions |
| 1967  | INSECTICIDE GAS, TOXIC, N.O.S.   | 2T                  |                                    | X         | X     | X              | X                    | 5                               |                    |               | z                          |
| 1968  | INSECTICIDE GAS, N.O.S.  | 2A                  |                                    | X         | X     | X              | X                    | 10                              |                    |               | ra, z                      |
| 1969  | ISOBUTANE  | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 0.49          | ra, v                      |
| 1973  | CHLORODIFLUOROMETHANE AND CHLOROPENTAFLUOROETHANE MIXTURE with fixed boiling point, with approximately 49% chlorodifluoromethane (REFRIGERANT GAS R 502) | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 31                 | 1.01          | ra                         |
| 1974  | CHLORODIFLUOROBROMOMETHANE (REFRIGERANT GAS R 12B1)  | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 1.61          | ra                         |
| 1975  | NITRIC OXIDE AND DINITROGEN TETROXIDE MIXTURE (NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE)  | 2TOC                | 115                                | X         |       | X              | X                    | 5                               |                    |               | k, z                       |
| 1976  | OCTAFLUOROCYCLOBUTANE (REFRIGERANT GAS RC 318)   | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 11                 | 1.32          | ra                         |
| 1978  | PROPANE  | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 23                 | 0.43          | ra, v                      |
| 1982  | TETRAFLUOROMETHANE (REFRIGERANT GAS R 14)  | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 200<br>300         | 0.71<br>0.90  |                            |
| 1983  | 1-CHLORO-2,2,2-TRIFLUOROETHANE (REFRIGERANT GAS R 133a)  | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 1.18          | ra                         |
| 1984  | TRIFLUOROMETHANE (REFRIGERANT GAS R 23)  | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 190<br>250         | 0.88<br>0.96  | ra<br>ra                   |
| 2035  | 1,1,1-TRIFLUOROETHANE (REFRIGERANT GAS R 143a)   | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 35                 | 0.73          | ra                         |
| 2036  | XENON  | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 130                | 1.28          |                            |
| 2044  | 2,2-DIMETHYLPROPANE  | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 0.53          | ra                         |
| 2073  | AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water,  | 4A                  |                                    |           |       |                |                      |                                 |                    |               |                            |
|   | with more than 35% but not more than 40% ammonia   | 4A                  |                                    | X         | X     | X              | X                    | 5                               | 10                 | 0.80          | b                          |
|   | with more than 40% but not more than 50% ammonia   | 4A                  |                                    | X         | X     | X              | X                    | 5                               | 12                 | 0.77          | b                          |
| 2188  | ARSINE   | 2TF                 | 20                                 | X         |       |                | X                    | 5                               | 42                 | 1.10          | d, k                       |
| 2189  | DICHLOROSILANE   | 2TFC                | 314                                | X         | X     | X              | X                    | 5                               | 10<br>200          | 0.90<br>1.08  |                            |
| 2191  | SULPHURYL FLUORIDE   | 2T                  | 3020                               | X         | X     | X              | X                    | 5                               | 50                 | 1.10          | u                          |

| P200 PACKING INSTRUCTION (cont'd) P200       |  |                     |                                    |           |       |                |                      |                                 |                    |               |                            |
|--|--|---------------------|------------------------------------|-----------|-------|----------------|----------------------|---------------------------------|--------------------|---------------|----------------------------|
| Table 2: LIQUEFIED GASES AND DISSOLVED GASES |  |                     |                                    |           |       |                |                      |                                 |                    |               |                            |
| UN No.                                       | Name and description                                 | Classification code | LC <sub>50</sub> ml/m <sup>3</sup> | Cylinders | Tubes | Pressure drums | Bundles of cylinders | Test period, years <sup>a</sup> | Test pressure, bar | Filling ratio | Special packing provisions |
| 2192   | GERMANE <sup>c</sup>                                 | 2TF                 | 620                                | X         | X     | X              | X                    | 5                               | 250                | 0.064         | d, ra, r, q                |
| 2193   | HEXAFLUOROETHANE (REFRIGERANT GAS R 116)             | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 200                | 1.13          |                            |
| 2194   | SELENIUM HEXAFLUORIDE                                | 2TC                 | 50                                 | X         |       |                | X                    | 5                               | 36                 | 1.46          | k, ra                      |
| 2195   | TELLURIUM HEXAFLUORIDE                               | 2TC                 | 25                                 | X         |       |                | X                    | 5                               | 20                 | 1.00          | k, ra                      |
| 2196   | TUNGSTEN HEXAFLUORIDE                                | 2TC                 | 160                                | X         |       |                | X                    | 5                               | 10                 | 3.08          | a, k, ra                   |
| 2197   | HYDROGEN IODIDE, ANHYDROUS                           | 2TC                 | 2860                               | X         | X     | X              | X                    | 5                               | 23                 | 2.25          | a, d, ra                   |
| 2198   | PHOSPHORUS PENTAFLUORIDE                             | 2TC                 | 190                                | X         |       |                | X                    | 5                               | 200<br>300         | 0.90<br>1.25  | k<br>k                     |
| 2199   | PHOSPHINE <sup>c</sup>                               | 2TF                 | 20                                 | X         |       |                | X                    | 5                               | 225<br>250         | 0.30<br>0.45  | d, k, q, ra<br>d, k, q, ra |
| 2200   | PROPADIENE, STABILIZED                               | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 22                 | 0.50          | ra                         |
| 2202   | HYDROGEN SELENIDE, ANHYDROUS                         | 2TF                 | 2                                  | X         |       |                | X                    | 5                               | 31                 | 1.60          | k                          |
| 2203   | SILANE <sup>c</sup>                                  | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 225<br>250         | 0.32<br>0.36  | q<br>q                     |
| 2204   | CARBONYL SULPHIDE                                    | 2TF                 | 1700                               | X         | X     | X              | X                    | 5                               | 30                 | 0.87          | ra, u                      |
| 2417   | CARBONYL FLUORIDE                                    | 2TC                 | 360                                | X         | X     | X              | X                    | 5                               | 200<br>300         | 0.47<br>0.70  |                            |
| 2418   | SULPHUR TETRAFLUORIDE                                | 2TC                 | 40                                 | X         |       |                | X                    | 5                               | 30                 | 0.91          | k, ra                      |
| 2419   | BROMOTRIFLUORO-ETHYLENE                              | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 1.19          | ra                         |
| 2420   | HEXAFLUOROACETONE                                    | 2TC                 | 470                                | X         | X     | X              | X                    | 5                               | 22                 | 1.08          | ra                         |
| 2421   | NITROGEN TRIOXIDE                                    | 2TOC                | CARRIAGE PROHIBITED                |           |       |                |                      |                                 |                    |               |                            |
| 2422   | OCTAFLUOROBUT-2-ENE (REFRIGERANT GAS R 1318)         | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 12                 | 1.34          | ra                         |
| 2424   | OCTAFLUOROPROPANE (REFRIGERANT GAS R 218)            | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 25                 | 1.04          | ra                         |
| 2451   | NITROGEN TRIFLUORIDE                                 | 2O                  |                                    | X         | X     | X              | X                    | 10                              | 200                | 0.50          |                            |
| 2452   | ETHYLACETYLENE, STABILIZED                           | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 0.57          | c, ra                      |
| 2453   | ETHYL FLUORIDE (REFRIGERANT GAS R 161)               | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 30                 | 0.57          | ra                         |
| 2454   | METHYL FLUORIDE (REFRIGERANT GAS R 41)               | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 300                | 0.63          | ra                         |
| 2455   | METHYL NITRITE                                       | 2A                  | CARRIAGE PROHIBITED                |           |       |                |                      |                                 |                    |               |                            |
| 2517   | 1-CHLORO-1,1-DIFLUOROETHANE (REFRIGERANT GAS R 142b) | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 0.99          | ra                         |

| <div>P200</div> <div>PACKING INSTRUCTION (cont'd)</div> <div>P200</div> |  |                     |                                    |           |       |                |                      |                                 |                    |                      |                            |
|---|--|---------------------|------------------------------------|-----------|-------|----------------|----------------------|---------------------------------|--------------------|----------------------|----------------------------|
| Table 2: LIQUEFIED GASES AND DISSOLVED GASES                            |  |                     |                                    |           |       |                |                      |                                 |                    |                      |                            |
| UN No.  | Name and description   | Classification code | LC <sub>50</sub> ml/m <sup>3</sup> | Cylinders | Tubes | Pressure drums | Bundles of cylinders | Test period, years <sup>a</sup> | Test pressure, bar | Filling ratio        | Special packing provisions |
| 2534  | METHYLCHLOROSILANE   | 2TFC                | 600                                | X         | X     | X              | X                    | 5                               |                    |                      | ra, z                      |
| 2548  | CHLORINE<br>PENTAFLUORIDE  | 2TOC                | 122                                | X         |       |                | X                    | 5                               | 13                 | 1.49                 | a, k                       |
| 2599  | CHLOROTRIFLUORO-<br>METHANE AND<br>TRIFLUOROMETHANE<br>AZEOTROPIC MIXTURE<br>with approximately 60%<br>chlorotrifluoromethane<br>(REFRIGERANT GAS R 503) | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 31<br>42<br>100    | 0.12<br>0.17<br>0.64 | ra<br>ra<br>ra             |
| 2601  | CYCLOBUTANE  | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 0.63                 | ra                         |
| 2602  | DICHLORODIFLUORO-<br>METHANE AND<br>DIFLUOROETHANE<br>AZEOTROPIC MIXTURE<br>with approximately 74%<br>dichlorodifluoromethane<br>(REFRIGERANT GAS R 500) | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 22                 | 1.01                 | ra                         |
| 2676  | STIBINE  | 2TF                 | 20                                 | X         |       |                | X                    | 5                               | 200                | 0.49                 | k, ra,<br>r                |
| 2901  | BROMINE CHLORIDE   | 2TOC                | 290                                | X         | X     | X              | X                    | 5                               | 10                 | 1.50                 | a                          |
| 3057  | TRIFLUOROACETYL<br>CHLORIDE  | 2TC                 | 10                                 | X         |       | X              | X                    | 5                               | 17                 | 1.17                 | k, ra                      |
| 3070  | ETHYLENE OXIDE AND<br>DICHLORODIFLUORO-<br>METHANE MIXTURE with<br>not more than 12,5% ethylene<br>oxide   | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 18                 | 1.09                 | ra                         |
| 3083  | PERCHLORYL FLUORIDE  | 2TO                 | 770                                | X         | X     | X              | X                    | 5                               | 33                 | 1.21                 | u                          |
| 3153  | PERFLUORO(METHYL<br>VINYL ETHER)   | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 20                 | 0.75                 | ra                         |
| 3154  | PERFLUORO(ETHYL VINYL<br>ETHER)  | 2F                  |                                    | X         | X     | X              | X                    | 10                              | 10                 | 0.98                 | ra                         |
| 3157  | LIQUEFIED GAS,<br>OXIDIZING, N.O.S.  | 2O                  |                                    | X         | X     | X              | X                    | 10                              |                    |                      | z                          |
| 3159  | 1,1,1,2-<br>TETRAFLUOROETHANE<br>(REFRIGERANT GAS R 134a)  | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 18                 | 1.05                 | ra                         |
| 3160  | LIQUEFIED GAS, TOXIC,<br>FLAMMABLE, N.O.S.   | 2TF                 | ≤ 5000                             | X         | X     | X              | X                    | 5                               |                    |                      | ra, z                      |
| 3161  | LIQUEFIED GAS,<br>FLAMMABLE, N.O.S.  | 2F                  |                                    | X         | X     | X              | X                    | 10                              |                    |                      | ra, z                      |
| 3162  | LIQUEFIED GAS, TOXIC,<br>N.O.S.  | 2T                  | ≤ 5000                             | X         | X     | X              | X                    | 5                               |                    |                      | z                          |
| 3163  | LIQUEFIED GAS, N.O.S.  | 2A                  |                                    | X         | X     | X              | X                    | 10                              |                    |                      | ra, z                      |
| 3220  | PENTAFLUOROETHANE<br>(REFRIGERANT GAS R 125)   | 2A                  |                                    | X         | X     | X              | X                    | 10                              | 49<br>35           | 0.95<br>0.87         | ra<br>ra                   |

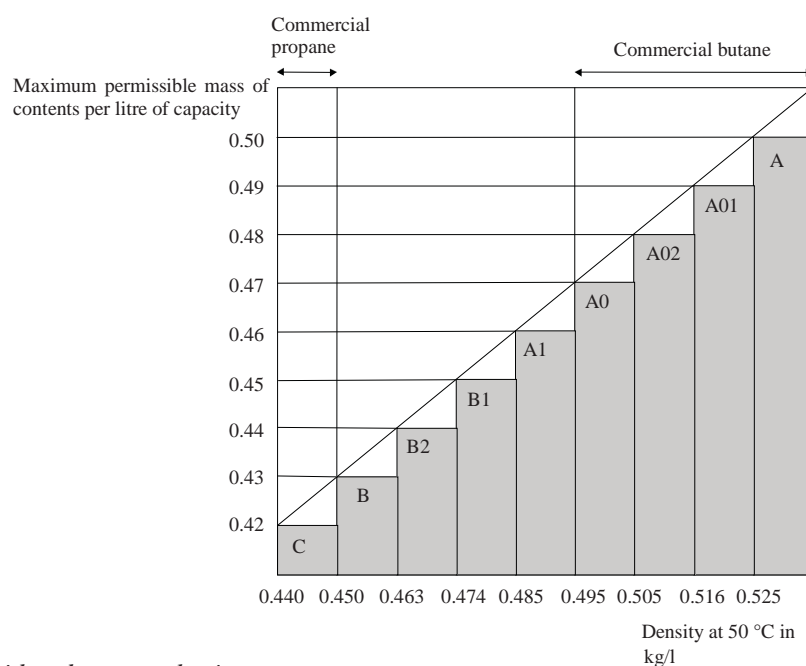


| P200   |   | PACKING INSTRUCTION (cont'd) |                                    |           |       |                |                      |                                 |                    | P200          |                            |
|--|---|------------------------------|------------------------------------|-----------|-------|----------------|----------------------|---------------------------------|--------------------|---------------|----------------------------|
| Table 2: LIQUEFIED GASES AND DISSOLVED GASES |   |                              |                                    |           |       |                |                      |                                 |                    |               |                            |
| UN No.                                       | Name and description  | Classification code          | LC <sub>50</sub> ml/m <sup>3</sup> | Cylinders | Tubes | Pressure drums | Bundles of cylinders | Test period, years <sup>a</sup> | Test pressure, bar | Filling ratio | Special packing provisions |
| 3252   | DIFLUOROMETHANE (REFRIGERANT GAS R 32)  | 2F                           |                                    | X         | X     | X              | X                    | 10                              | 48                 | 0.78          | ra                         |
| 3296   | HEPTAFLUOROPROPANE (REFRIGERANT GAS R 227)  | 2A                           |                                    | X         | X     | X              | X                    | 10                              | 13                 | 1.21          | ra                         |
| 3297   | ETHYLENE OXIDE AND CHLOROTETRAFLUOROETHANE MIXTURE with not more than 8.8% ethylene oxide   | 2A                           |                                    | X         | X     | X              | X                    | 10                              | 10                 | 1.16          | ra                         |
| 3298   | ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE with not more than 7.9% ethylene oxide   | 2A                           |                                    | X         | X     | X              | X                    | 10                              | 26                 | 1.02          | ra                         |
| 3299   | ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE with not more than 5.6% ethylene oxide   | 2A                           |                                    | X         | X     | X              | X                    | 10                              | 17                 | 1.03          | ra                         |
| 3300   | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 87% ethylene oxide   | 2TF                          | More than 2900                     | X         | X     | X              | X                    | 5                               | 28                 | 0.73          | ra                         |
| 3307   | LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S.   | 2TO                          | ≤ 5000                             | X         | X     | X              | X                    | 5                               |                    |               | z                          |
| 3308   | LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.   | 2TC                          | ≤ 5000                             | X         | X     | X              | X                    | 5                               |                    |               | ra, z                      |
| 3309   | LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.  | 2TFC                         | ≤ 5000                             | X         | X     | X              | X                    | 5                               |                    |               | ra, z                      |
| 3310   | LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.  | 2TO C                        | ≤ 5000                             | X         | X     | X              | X                    | 5                               |                    |               | z                          |
| 3318   | AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 50% ammonia  | 4TC                          |                                    | X         | X     | X              | X                    | 5                               |                    |               | b                          |
| 3337   | REFRIGERANT GAS R 404A (Pentafluoroethane, 1,1,1-trifluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 44% pentafluoroethane and 52% 1,1,1-trifluoroethane) | 2A                           |                                    | X         | X     | X              | X                    | 10                              | 36                 | 0.82          | ra                         |
| 3338   | REFRIGERANT GAS R 407A (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 20% difluoromethane and 40% pentafluoroethane)             | 2A                           |                                    | X         | X     | X              | X                    | 10                              | 32                 | 0.94          | ra                         |

| P200   |   | PACKING INSTRUCTION (cont'd) |                                    |           |       |                |                      |                                 |                    | P200          |                            |
|--|---|------------------------------|------------------------------------|-----------|-------|----------------|----------------------|---------------------------------|--------------------|---------------|----------------------------|
| Table 2: LIQUEFIED GASES AND DISSOLVED GASES |   |                              |                                    |           |       |                |                      |                                 |                    |               |                            |
| UN No.                                       | Name and description  | Classification code          | LC <sub>50</sub> ml/m <sup>3</sup> | Cylinders | Tubes | Pressure drums | Bundles of cylinders | Test period, years <sup>a</sup> | Test pressure, bar | Filling ratio | Special packing provisions |
| 3339   | REFRIGERANT GAS R 407B (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 10% difluoromethane and 70% pentafluoroethane  | 2A                           |                                    | X         | X     | X              | X                    | 10                              | 33                 | 0.93          | ra                         |
| 3340   | REFRIGERANT GAS R 407C (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 23% difluoromethane and 25% pentafluoroethane) | 2A                           |                                    | X         | X     | X              | X                    | 10                              | 30                 | 0.95          | ra                         |
| 3354   | INSECTICIDE GAS, FLAMMABLE, N.O.S   | 2F                           |                                    | X         | X     | X              | X                    | 10                              |                    |               | ra, z                      |
| 3355   | INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.   | 2TF                          |                                    | X         | X     | X              | X                    | 5                               |                    |               | ra, z                      |
| 3374   | ACETYLENE, SOLVENT FREE   | 2F                           |                                    | X         |       |                | X                    | 5                               | 60                 |               | c, p                       |

<sup>a</sup> Not applicable for pressure receptacles made of composite materials.

<sup>b</sup> For mixtures of UN No. 1965, the maximum permissible filling mass per litre of capacity is as follows:



<sup>c</sup> Considered as pyrophoric.

<sup>d</sup> Considered to be toxic. The LC<sub>50</sub> value still to be determined.

| P200 PACKING INSTRUCTION (cont'd) P200 |   |       |                     |                                    |           |       |                |                      |                                 |                    |               |                            |
|--|---|-------|---------------------|------------------------------------|-----------|-------|----------------|----------------------|---------------------------------|--------------------|---------------|----------------------------|
| Table 3: SUBSTANCES NOT IN CLASS 2     |   |       |                     |                                    |           |       |                |                      |                                 |                    |               |                            |
| UN No.                                 | Name and description  | Class | Classification Code | LC <sub>50</sub> ml/m <sup>3</sup> | Cylinders | Tubes | Pressure drums | Bundles of cylinders | Test period, years <sup>a</sup> | Test pressure, bar | Filling ratio | Special packing provisions |
| 1051                                   | HYDROGEN CYANIDE, STABILIZED containing less than 3% water        | 6.1   | TF1                 | 40                                 | X         |       |                | X                    | 5                               | 100                | 0.55          | k                          |
| 1052                                   | HYDROGEN FLUORIDE, ANHYDROUS                                      | 8     | CT1                 | 966                                | X         |       | X              | X                    | 5                               | 10                 | 0.84          | ab, ac                     |
| 1745                                   | BROMINE PENTAFLUORIDE   | 5.1   | OTC                 | 25                                 | X         |       | X              | X                    | 5                               | 10                 | <sup>b</sup>  | k, ab, ad                  |
| 1746                                   | BROMINE TRIFLUORIDE   | 5.1   | OTC                 | 50                                 | X         |       | X              | X                    | 5                               | 10                 | <sup>b</sup>  | k, ab, ad                  |
| 1790                                   | HYDROFLUORIC ACID, solution, with more than 85% hydrofluoric acid | 8     | CT1                 | 966                                | X         |       | X              | X                    | 5                               | 10                 | 0.84          | ab, ac                     |
| 2495                                   | IODINE PENTAFLUORIDE  | 5.1   | OTC                 | 120                                | X         |       | X              | X                    | 5                               | 10                 | <sup>b</sup>  | k, ab, ad                  |

<sup>a</sup> Not applicable for pressure receptacles made of composite materials.

<sup>b</sup> A minimum ullage of 8% by volume is required.

| <b>P201</b>  | <b>PACKING INSTRUCTION</b> | <b>P201</b> |
|--|----------------------------|-------------|
| This instruction applies to UN Nos. 3167, 3168 and 3169.   |                            |             |
| The following packagings are authorized:   |                            |             |
| <ul style="list-style-type: none"><li>(1) Cylinders tubes and pressure drums conforming to the construction, testing and filling requirements approved by the competent authority;</li><li>(2) In addition, the following packagings are authorized provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met.<ul style="list-style-type: none"><li>(a) For non-toxic gases, combination packagings with hermetically sealed inner packagings of glass or metal with a maximum capacity of 5 litres per package which meet the packing group III performance level;</li><li>(b) For toxic gases, combination packagings with hermetically sealed inner packagings of glass or metal with a maximum capacity of 1 litre per package which meet the packing group III performance level.</li></ul></li></ul> |                            |             |

| <b>P202</b>       | <b>PACKING INSTRUCTION</b> | <b>P202</b> |
|-------------------|----------------------------|-------------|
| <i>(Reserved)</i> |                            |             |

| P203   | PACKING INSTRUCTION | P203 |
|--|---------------------|------|
| <p><b>Type of packagings:</b> Cryogenic receptacles</p> <p><b>General instructions:</b></p> <ol style="list-style-type: none"> <li>(1) The special packing provisions of 4.1.6 shall be met.</li> <li>(2) The receptacles shall be so insulated that they cannot become coated with dew or hoar-frost.</li> <li>(3) In the case of receptacles intended for the carriage of gases of classification code 3O, the material used to ensure the leakproofness of the joints or for the maintenance of the closures shall be compatible with the contents.</li> </ol> <p><b>Particular instructions for closed cryogenic receptacles:</b></p> <ol style="list-style-type: none"> <li>(4) Closed cryogenic receptacles constructed as specified in Chapter 6.2 are authorized for the carriage of refrigerated liquefied gases.</li> <li>(5) Test pressure <p>Refrigerated liquids shall be filled in closed cryogenic receptacles with the following minimum test pressures:</p> <ol style="list-style-type: none"> <li>(a) For closed cryogenic receptacles with vacuum insulation, the test pressure shall not be less than 1.3 times the sum of the maximum internal pressure of the filled receptacle, including during filling and discharge, plus 100 kPa (1 bar);</li> <li>(b) For other closed cryogenic receptacles, the test pressure shall be not less than 1.3 times the maximum internal pressure of the filled receptacle, taking into account the pressure developed during filling and discharge.</li> </ol> </li> <li>(6) Degree of filling <p>For non-flammable, non-toxic refrigerated liquefied gases (classification codes 3A and 3O) the volume of liquid phase at the filling temperature and at a pressure of 100 kPa (1 bar) shall not exceed 98% of the water capacity of the pressure receptacle.</p> <p>For flammable refrigerated liquefied gases (classification code 3F) the degree of filling shall remain below the level at which, if the contents were raised to the temperature at which the vapour pressure equalled the opening pressure of the relief valve, the volume of the liquid phase would reach 98% of the water capacity at that temperature.</p> </li> <li>(7) Pressure-relief devices <p>Closed cryogenic receptacles shall be fitted with at least one pressure-relief device.</p> </li> <li>(8) Compatibility <p>Materials used to ensure the leakproofness of the joints or for the maintenance of the closures shall be compatible with the contents. For oxidizing gases (classification code 3O) see also (3) above.</p> </li> <li>(9) Periodic inspection <p>Receptacles shall be subjected to periodic inspections in accordance with the provisions of 6.2.1.6 and 6.2.3.5 respectively. Periodic inspections shall be carried out every 10 years.</p> <p>By derogation from this date, the periodic inspection of receptacles which make use of composite materials (composite receptacles) may be carried out at intervals determined by the competent authority of the Contracting Party to ADR which has approved the technical code for the design and construction.</p> </li> </ol> |                     |      |

(Cont'd on next page)

| P203   | PACKING INSTRUCTION ( <i>cont'd</i> ) | P203 |
|--|---------------------------------------|------|
| <b>Particular instructions for open cryogenic receptacles:</b>   |                                       |      |
| (10) Open cryogenic receptacles are not allowed for flammable refrigerated liquefied gases of classification code 3F, and UN No. 2187 carbon dioxide, refrigerated liquid and its mixtures.  |                                       |      |
| (11) The receptacles shall be equipped with devices which prevent the liquid from splashing out.   |                                       |      |
| (12) Glass receptacles shall be double-walled vacuum insulated and surrounded by an absorbent insulating material; they shall be protected by iron-wire baskets and placed in metal cases. The metal cases for the glass receptacles and the other receptacles shall be fitted with means of handling. |                                       |      |
| (13) The openings of the receptacles shall be fitted with devices allowing gases to escape, preventing any splashing out of the liquid, and so fixed that they cannot fall out.  |                                       |      |
| (14) In the case of UN No. 1073 oxygen refrigerated liquid and mixtures thereof, the devices referred to above and the absorbent insulating material surrounding the glass receptacles shall be made of incombustible materials.   |                                       |      |
| <b>Reference to standards</b>  |                                       |      |
| <i>(Reserved)</i>  |                                       |      |

| P204             | PACKING INSTRUCTION | P204 |
|------------------|---------------------|------|
| <i>(Deleted)</i> |                     |      |

| P205             | PACKING INSTRUCTION | P205 |
|------------------|---------------------|------|
| <i>(Deleted)</i> |                     |      |

| P206   | PACKING INSTRUCTION | P206 |
|--|---------------------|------|
| This packing instruction applies to UN No. 3150 devices, small, hydrocarbon gas powered or hydrocarbon gas refills for small devices                         |                     |      |
| (1) The special packing provisions of <b>4.1.6</b> when applicable shall be met.   |                     |      |
| (2) The articles shall comply with the provisions of the country in which they were filled.  |                     |      |
| (3) The devices and refills shall be packed in outer packagings conforming to 6.1.4 tested and approved in accordance with Chapter 6.1 for packing group II. |                     |      |

| P300  | PACKING INSTRUCTION | P300 |
|---|---------------------|------|
| This instruction applies to UN No. 3064.  |                     |      |
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:   |                     |      |
| Combination packagings consisting of inner metal cans of not more than 1 litre capacity each and outer wooden boxes (4C1, 4C2, 4D or 4F) containing not more than 5 litres of solution. |                     |      |
| <b>Additional requirements:</b>   |                     |      |
| 1. Metal cans shall be completely surrounded with absorbent cushioning material.  |                     |      |
| 2. Wooden boxes shall be completely lined with suitable material impervious to water and nitroglycerin.   |                     |      |

| P301  | PACKING INSTRUCTION   | P301 |
|---|---|------|
| This instruction applies to UN No. 3165.  |   |      |
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met: |   |      |
| (1)   | <p>Aluminium pressure vessel made from tubing and having welded heads.</p> <p>Primary containment of the fuel within this vessel shall consist of a welded aluminium bladder having a maximum internal volume of 46 litres.</p> <p>The outer vessel shall have a minimum design gauge pressure of 1 275 kPa and a minimum burst gauge pressure of 2 755 kPa.</p> <p>Each vessel shall be leak checked during manufacture and before dispatch and shall be found leakproof.</p> <p>The complete inner unit shall be securely packed in non-combustible cushioning material, such as vermiculite, in a strong outer tightly closed metal packaging which will adequately protect all fittings.</p> <p>Maximum quantity of fuel per unit and package is 42 litres.</p> |      |
| (2)   | <p>Aluminium pressure vessel.</p> <p>Primary containment of the fuel within this vessel shall consist of a welded vapour tight fuel compartment with an elastomeric bladder having a maximum internal volume of 46 litres.</p> <p>The pressure vessel shall have a minimum design gauge pressure of 2 860 kPa and a minimum burst gauge pressure of 5 170 kPa.</p> <p>Each vessel shall be leak-checked during manufacture and before dispatch and shall be securely packed in non-combustible cushioning material such as vermiculite, in a strong outer tightly closed metal packaging which will adequately protect all fittings.</p> <p>Maximum quantity of fuel per unit and package is 42 litres.</p>   |      |

| P302  | PACKING INSTRUCTION | P302 |
|---|---------------------|------|
| This instruction applies to UN No. 3269.  |                     |      |
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:  |                     |      |
| <p>Combination packagings which meet the packing group II or III performance level according to the criteria for Class 3, applied to the base material.</p> <p>The base material and the activator (organic peroxide) shall be each separately packed in inner packagings.</p> <p>The components may be placed in the same outer packaging provided they will not interact dangerously in the event of a leakage.</p> <p>The activator shall have a maximum quantity of 125 ml per inner packaging if liquid, and 500 g per inner packaging if solid.</p> |                     |      |

| P400  | PACKING INSTRUCTION   | P400 |
|---|---|------|
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met: |   |      |
| (1)   | Pressure receptacles, provided that the general provisions of 4.1.3.6 are met. They shall be made of steel and shall be subjected to an initial test and periodic tests every 10 years at a pressure of not less than 1 MPa (10 bar, gauge pressure). During carriage, the liquid shall be under a layer of inert gas with a gauge pressure of not less than 20 kPa (0.2 bar);  |      |
| (2)   | Boxes (4A, 4B, 4C1, 4C2, 4D, 4F or 4G), drums (1A2, 1B2, 1N2, 1D or 1G) or jerricans (3A2 or 3B2) enclosing hermetically sealed metal cans with inner packagings of glass or metal, with a capacity of not more than 1 litre each, having threaded closures with gaskets. Inner packagings shall be cushioned on all sides with dry, absorbent, non-combustible material in a quantity sufficient to absorb the entire contents. Inner packagings shall not be filled to more than 90% of their capacity. Outer packagings shall have a maximum net mass of 125 kg;   |      |
| (3)   | Steel, aluminium or metal drums (1A2, 1B2 or 1N2), jerricans (3A2 or 3B2) or boxes (4A or 4B) with a maximum net mass of 150 kg each with hermetically sealed inner metal cans not more than 4 litre capacity each, with threaded closures fitted with gaskets. Inner packagings shall be cushioned on all sides with dry, absorbent, non-combustible material in a quantity sufficient to absorb the entire contents. Each layer of inner packagings shall be separated by a dividing partition in addition to cushioning material. Inner packagings shall not be filled to more than 90% of their capacity. |      |
| <b>Special packing provision:</b>   |   |      |
| <b>PP86</b>   | For UN Nos. 3392 and 3394, air shall be eliminated from the vapour space by nitrogen or other means.  |      |

| P401   | PACKING INSTRUCTION  |     | P401   |                 |                 |  |       |
|--|--|-----|--|-----------------|-----------------|--|-------|
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:              |  |     |  |                 |                 |  |       |
| (1)  | Pressure receptacles, provided that the general provisions of 4.1.3.6 are met. They shall be made of steel and subjected to an initial test and periodic tests every 10 years at a pressure of not less than 0.6 MPa (6 bar, gauge pressure). During carriage, the liquid shall be under a layer of inert gas with a gauge pressure of not less than 20 kPa (0.2 bar); |     |  |                 |                 |  |       |
|  |  |     | <table><tr><th>Inner packaging</th><th>Outer packaging</th></tr><tr><td></td><td>30 kg</td></tr></table> | Inner packaging | Outer packaging |  | 30 kg |
| Inner packaging  | Outer packaging  |     |  |                 |                 |  |       |
|  | 30 kg  |     |  |                 |                 |  |       |
| (2)  | Combination packagings with inner packagings of glass metal or plastics which have threaded closures surrounded in inert cushioning and absorbent material in a quantity sufficient to absorb the entire contents.   | 1 l | (maximum net mass)   |                 |                 |  |       |
| <b>Special packing provision specific to RID and ADR:</b>  |  |     |  |                 |                 |  |       |
| <b>RR7</b> For UN Nos. 1183, 1242, 1295 and 2988, the pressure receptacles shall however be subjected to the tests every five years. |  |     |  |                 |                 |  |       |



| P402   | PACKING INSTRUCTION  |                           | P402            |
|--|--|---------------------------|-----------------|
| The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:  |  |                           |                 |
| (1)  | Pressure receptacles, provided that the general provisions of 4.1.3.6 are met. They shall be made of steel and subjected to an initial test and periodic tests every 10 years at a pressure of not less than 0.6 MPa (6 bar, gauge pressure). During carriage, the liquid shall be under a layer of inert gas with a gauge pressure of not less than 20 kPa (0.2 bar); |                           |                 |
|  |  | Maximum net mass          |                 |
|  |  | Inner packaging           | Outer packaging |
| (2)  | Combination packagings with inner packagings of glass, metal or plastics which have threaded closures surrounded in inert cushioning and absorbent material in a quantity sufficient to absorb the entire contents;  | 10 kg (glass)             | 125 kg          |
|  |  | 15 kg (metal or plastics) | 125 kg          |
| (3)  | Steel drums (1A1) with a maximum capacity of 250 litres;   |                           |                 |
| (4)  | Composite packagings consisting of a plastics receptacle with outer steel drum or aluminium (6HA1 or 6HB1) with a maximum capacity of 250 litres.  |                           |                 |
| Special packing provisions specific to RID and ADR:  |  |                           |                 |
| RR4 For UN No. 3130, the openings of receptacles shall be tightly closed by means of two devices in series, one of which shall be screwed or secured in an equivalent manner.                                  |  |                           |                 |
| RR7 For UN No. 3129, the pressure receptacles shall however be subjected to the tests every five years.  |  |                           |                 |
| RR8 For UN Nos. 1389, 1391, 1411, 1421, 1928, 3129, 3130 and 3148, the pressure receptacles shall however be subjected to an initial test and to periodic tests at a pressure of not less than 1 MPa (10 bar). |  |                           |                 |

| P403 PACKING INSTRUCTION P403  |  |
|--|--|
| The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:  |  |
| Combination packagings:  | Maximum net mass   |
| Inner packagings   | Outer packagings   |
| Glass 2 kg<br>Plastics 15 kg<br>Metal 20 kg<br><br>Inner packagings shall be hermetically sealed (e.g. by taping or by threaded closures).   | <b>Drums</b><br>steel (1A2) 400 kg<br>aluminium (1B2) 400 kg<br>metal, other than steel or aluminium (1N2) 400 kg<br>plastics (1H2) 400 kg<br>plywood (1D) 400 kg<br>fibre (1G) 400 kg<br><br><b>Boxes</b><br>steel (4A) 400 kg<br>aluminium (4B) 400 kg<br>natural wood (4C1) 250 kg<br>natural wood with sift proof walls (4C2) 250 kg<br>plywood (4D) 250 kg<br>reconstituted wood (4F) 125 kg<br>fibreboard (4G) 125 kg<br>expanded plastics (4H1) 60 kg<br>solid plastics (4H2) 250 kg<br><br><b>Jerricans</b><br>steel (3A2) 120 kg<br>aluminium (3B2) 120 kg<br>plastics (3H2) 120 kg |
| <b>Single packagings:</b>  |  |
| <b>Drums</b>   |  |
| steel (1A1, 1A2)   | 250 kg   |
| aluminium (1B1, 1B2)   | 250 kg   |
| metal other than steel or aluminium (1N1, 1N2)   | 250 kg   |
| plastics (1H1, 1H2)  | 250 kg   |
| <b>Jerricans</b>   |  |
| steel (3A1, 3A2)   | 120 kg   |
| aluminium (3B1, 3B2)   | 120 kg   |
| plastics (3H1, 3H2)  | 120 kg   |
| <b>Composite packagings</b>  |  |
| plastics receptacle with outer steel or aluminium drums (6HA1 or 6HB1)   | 250 kg   |
| plastics receptacle with outer fibre, plastics or plywood drums (6HG1, 6HH1 or 6HD1)   | 75 kg  |
| plastics receptacle with outer steel or aluminium crate or box or with outer wooden, plywood, fibreboard or solid plastics boxes (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2)   | 75 kg  |
| <b>Pressure receptacles</b> , provided that the general provisions of 4.1.3.6 are met.   |  |
| <b>Additional requirement:</b>   |  |
| Packagings shall be hermetically sealed.   |  |
| <b>Special packing provision:</b>  |  |
| <b>PP83</b> For UN No. 2813, waterproof bags containing not more than 20 g of substance for the purposes of heat formation may be packaged for carriage. Each waterproof bag shall be sealed in a plastics bag and placed within an intermediate packaging. No outer packaging shall contain more than 400 g of substance. Water or liquid which may react with the water reactive substance shall not be included in the packaging. |  |

| P404   | PACKING INSTRUCTION  | P404  |
|--|--|---|
| This instruction applies to pyrophoric solids: UN Nos.: 1383, 1854, 1855, 2008, 2441, 2545, 2546, 2846, 2881, 3200, 3391 and 3393. |  |   |
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:            |  |   |
| (1)  | Combination packagings   |   |
|  | Outer packagings:  | (1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4F or 4H2)   |
|  | Inner packagings:  | Metal packagings with a capacity of not more than 15 kg each. Inner packagings shall be hermetically sealed and have threaded closures; |
| (2)  | Metal packagings:  | (1A1, 1A2, 1B1, 1N1, 1N2, 3A1, 3A2, 3B1 and 3B2)<br>Maximum gross mass: 150 kg;   |
| (3)  | Composite packagings:  | Plastics receptacle with outer steel or aluminium drum (6HA1 or 6HB1)<br>Maximum gross mass: 150 kg.                                    |
| <b>Pressure receptacles</b> , provided that the general provisions of 4.1.3.6 are met.   |  |   |
| <b>Special packing provision:</b>  |  |   |
| <b>PP86</b>  | For UN Nos. 3391 and 3393, air shall be eliminated from the vapour space by nitrogen or other means. |   |

| P405  | PACKING INSTRUCTION               | P405   |
|---|-----------------------------------|--|
| This instruction applies to UN No. 1381.  |                                   |  |
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:             |                                   |  |
| (1)   | For UN No. 1381, phosphorus, wet: |  |
|   | (a) Combination packagings        |  |
|   | Outer packagings:                 | (4A, 4B, 4C1, 4C2, 4D or 4F) Maximum net mass: 75 kg   |
|   | Inner packagings:                 |  |
|   | (i)                               | hermetically sealed metal cans, with a maximum net mass of 15 kg; or   |
|   | (ii)                              | glass inner packagings cushioned on all sides with dry, absorbent, non-combustible material in a quantity sufficient to absorb the entire contents with a maximum net mass of 2 kg; or |
|   | (b)                               | Drums (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2); maximum net mass: 400 kg<br>Jerricans (3A1 or 3B1); maximum net mass: 120 kg.  |
| These packagings shall be capable of passing the leakproofness test specified in 6.1.5.4 at the packing group II performance level; |                                   |  |
| (2)   | For UN No. 1381, dry phosphorus:  |  |
|   | (a)                               | When fused, drums (1A2, 1B2 or 1N2) with a maximum net mass of 400 kg; or  |
|   | (b)                               | In projectiles or hard cased articles when carried without Class 1 components: as specified by the competent authority.  |

| P406  | PACKING INSTRUCTION | P406 |
|---|---------------------|------|
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:   |                     |      |
| (1) Combination packagings  |                     |      |
| outer packagings: (4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2, 1G, 1D, 1H2 or 3H2)  |                     |      |
| inner packagings: water-resistant packagings;   |                     |      |
| (2) Plastics, plywood or fibreboard drums (1H2, 1D or 1G) or boxes (4A, 4B, 4C1, 4D, 4F, 4C2, 4G and 4H2) with a water resistant inner bag, plastics film lining or water resistant coating;  |                     |      |
| (3) Metal drums (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2), plastics drums (1H1 or 1H2), metal jerricans (3A1, 3A2, 3B1 or 3B2), plastics jerricans (3H1 or 3H2), plastics receptacle with outer steel or aluminium drums (6HA1 or 6HB1), plastics receptacle with outer fibre, plastics or plywood drums (6HG1, 6HH1 or 6HD1), plastics receptacle with outer steel or aluminium crate or box or with outer wooden, plywood, fibreboard or solid plastics boxes (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2). |                     |      |
| <b>Additional requirements:</b>   |                     |      |
| 1. Packagings shall be designed and constructed to prevent the loss of water or alcohol content or the content of the phlegmatizer.   |                     |      |
| 2. Packagings shall be so constructed and closed so as to avoid an explosive overpressure or pressure build-up of more than 300 kPa (3 bar).  |                     |      |
| <b>Special packing provisions:</b>  |                     |      |
| <b>PP24</b> UN Nos. 2852, 3364, 3365, 3366, 3367, 3368 and 3369 shall not be carried in quantities of more than 500 g per package.  |                     |      |
| <b>PP25</b> For UN No. 1347, the quantity carried shall not exceed 15 kg per package.   |                     |      |
| <b>PP26</b> For UN Nos. 1310, 1320, 1321, 1322, 1344, 1347, 1348, 1349, 1517, 2907, 3317 and 3376 packagings shall be lead free.  |                     |      |
| <b>PP48</b> For UN No. 3474, metal packagings shall not be used.  |                     |      |
| <b>PP78</b> UN No. 3370 shall not be carried in quantities of more than 11.5 kg per package.  |                     |      |
| <b>PP80</b> For UN No. 2907, packagings shall meet the packing group II performance level. Packagings meeting the test criteria of packing group I shall not be used.   |                     |      |

| P407  | PACKING INSTRUCTION | P407 |
|---|---------------------|------|
| This instruction applies to UN Nos. 1331, 1944, 1945 and 2254.  |                     |      |
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:   |                     |      |
| Combination packagings comprising securely closed inner packagings to prevent accidental ignition under normal conditions of transport. The maximum gross mass of the package shall not exceed 45 kg except for fibreboard boxes which shall not exceed 30 kg.  |                     |      |
| <b>Additional requirement:</b>  |                     |      |
| Matches shall be tightly packed.  |                     |      |
| <b>Special packing provision:</b>   |                     |      |
| <b>PP27</b> UN No. 1331, Strike-anywhere matches shall not be packed in the same outer packaging with any other dangerous goods other than safety matches or wax Vesta matches, which shall be packed in separate inner packagings. Inner packagings shall not contain more than 700 strike-anywhere matches. |                     |      |

| P408  | PACKING INSTRUCTION   | P408 |
|---|---|------|
| This instruction applies to UN No. 3292.  |   |      |
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:                                       |   |      |
| (1)   | For cells:<br><br>Outer packagings with sufficient cushioning material to prevent contact between cells and between cells and the internal surfaces of the outer packaging and to ensure that no dangerous movement of the cells within the outer packaging occurs during carriage. Packagings shall conform to the packing group II performance level; |      |
| (2)   | For batteries:<br><br>Batteries may be carried unpacked or in protective enclosures (e.g. in fully enclosed or wooden slatted crates). The terminals shall not support the weight of other batteries or materials packed with the batteries.  |      |
| <b>Additional requirement:</b><br><br>Batteries shall be protected against short circuit and shall be isolated in such a manner as to prevent short circuits. |   |      |

| P409  | PACKING INSTRUCTION   | P409 |
|---|---|------|
| This instruction applies to UN Nos. 2956, 3242 and 3251.  |   |      |
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met: |   |      |
| (1)   | Fibre drum (1G) which may be fitted with a liner or coating; maximum net mass: 50 kg;   |      |
| (2)   | Combination packagings: Fibreboard box (4G) with a single inner plastic bag; maximum net mass: 50 kg;   |      |
| (3)   | Combination packagings: Fibreboard box (4G) or fibre drum (1G) with plastics inner packagings each containing a maximum of 5 kg; maximum net mass: 25 kg. |      |

| P410   |   | PACKING INSTRUCTION |                   | P410 |
|--|---|---------------------|-------------------|------|
| The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:                  |   |                     |                   |      |
| Combination packagings:  |   | Maximum net mass    |                   |      |
| Inner packagings   | Outer packagings                          | Packing group II    | Packing group III |      |
| Glass 10 kg  | Drums                                     |                     |                   |      |
| Plastics <sup>a</sup> 30 kg  | steel (1A2)                               | 400 kg              | 400 kg            |      |
| Metal 40 kg  | aluminium (1B2)                           | 400 kg              | 400 kg            |      |
| Paper <sup>a, b</sup> 10 kg  | metal other than steel or aluminium (1N2) | 400 kg              | 400 kg            |      |
| Fibre <sup>a, b</sup> 10 kg  | plastics (1H2)                            | 400 kg              | 400 kg            |      |
| <sup>a</sup> These packagings shall be sift-proof.   | plywood (1D)                              | 400 kg              | 400 kg            |      |
|  | fibre (1G) <sup>a</sup>                   | 400 kg              | 400 kg            |      |
| <sup>b</sup> These inner packagings shall not be used when the substances being carried may become liquid during carriage. | Boxes                                     |                     |                   |      |
|  | steel (4A)                                | 400 kg              | 400 kg            |      |
|  | aluminium (4B)                            | 400 kg              | 400 kg            |      |
|  | natural wood (4C1)                        | 400 kg              | 400 kg            |      |
|  | natural wood with sift-proof walls (4C2)  | 400 kg              | 400 kg            |      |
|  | plywood (4D)                              | 400 kg              | 400 kg            |      |
|  | reconstituted wood (4F)                   | 400 kg              | 400 kg            |      |
|  | fibreboard (4G) <sup>a</sup>              | 400 kg              | 400 kg            |      |
|  | expanded plastics (4H1)                   | 60 kg               | 60 kg             |      |
|  | solid plastics (4H2)                      | 400 kg              | 400 kg            |      |
|  | Jerricans                                 |                     |                   |      |
|  | steel (3A2)                               | 120 kg              | 120 kg            |      |
|  | aluminium (3B2)                           | 120 kg              | 120 kg            |      |
|  | plastics (3H2)                            | 120 kg              | 120 kg            |      |
| Single packagings:   |   |                     |                   |      |
| Drums  |   |                     |                   |      |
| steel (1A1 or 1A2)   |   | 400 kg              | 400 kg            |      |
| aluminium (1B1 or 1B2)   |   | 400 kg              | 400 kg            |      |
| metal other than steel or aluminium (1N1 or 1N2)   |   | 400 kg              | 400 kg            |      |
| plastics (1H1 or 1H2)  |   | 400 kg              | 400 kg            |      |
| Jerricans  |   |                     |                   |      |
| steel (3A1 or 3A2)   |   | 120 kg              | 120 kg            |      |
| aluminium (3B1 or 3B2)   |   | 120 kg              | 120 kg            |      |
| plastics (3H1 or 3H2)  |   | 120 kg              | 120 kg            |      |
| Boxes  |   |                     |                   |      |
| steel (4A) <sup>c</sup>  |   | 400 kg              | 400 kg            |      |
| aluminium (4B) <sup>c</sup>  |   | 400 kg              | 400 kg            |      |
| natural wood (4C1) <sup>c</sup>  |   | 400 kg              | 400 kg            |      |
| plywood (4D) <sup>c</sup>  |   | 400 kg              | 400 kg            |      |
| reconstituted wood (4F) <sup>c</sup>   |   | 400 kg              | 400 kg            |      |
| natural wood with sift-proof walls (4C2) <sup>c</sup>  |   | 400 kg              | 400 kg            |      |
| fibreboard (4G) <sup>c</sup>   |   | 400 kg              | 400 kg            |      |
| solid plastics (4H2) <sup>c</sup>  |   | 400 kg              | 400 kg            |      |
| Bags   |   |                     |                   |      |
| Bags (5H3, 5H4, 5L3, 5M2) <sup>c, d</sup>  |   | 50 kg               | 50 kg             |      |

<sup>c</sup> These packagings shall not be used when the substances being carried may become liquid during carriage.

<sup>d</sup> These packagings shall only be used for packing group II substances when carried in a closed vehicle or container.

(Cont'd on next page)

| P410   | PACKING INSTRUCTION ( <i>cont'd</i> ) |        | P410                 |
|--|---------------------------------------|--------|----------------------|
| Composite packagings   | Maximum net mass                      |        | Packing group<br>III |
|  | Packing group<br>II                   |        |                      |
| plastics receptacle with outer steel, aluminium, plywood, fibre or plastics drum (6HA1, 6HB1, 6HG1, 6HD1, or 6HH1)   | 400 kg                                | 400 kg |                      |
| plastics receptacle with outer steel or aluminium crate or box, or outer wooden, plywood, fibreboard or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2)   | 75 kg                                 | 75 kg  |                      |
| glass receptacle with outer steel, aluminium, plywood or fibre drum (6PA1, 6PB1, 6PD1 or 6PG1) or outer steel or aluminium crate or box or with outer wooden or fibreboard box or with outer wickerwork hamper (6PA2, 6PB2, 6PC, 6PD2, or 6PG2) or with outer solid or expanded plastics packaging (6PH1 or 6PH2)  | 75 kg                                 | 75 kg  |                      |
| <b>Pressure receptacles</b> , provided that the general provisions of 4.1.3.6 are met.   |                                       |        |                      |
| <b>Special packing provisions:</b>   |                                       |        |                      |
| <b>PP39</b> For UN No. 1378, for metal packagings a venting device is required.  |                                       |        |                      |
| <b>PP40</b> For UN Nos. 1326, 1352, 1358, 1395, 1396, 1436, 1437, 1871, 2805 and 3182, packing group II, bags are not allowed.   |                                       |        |                      |
| <b>PP83</b> For UN No. 2813, waterproof bags containing not more than 20 g of substance for the purposes of heat formation may be packaged for carriage. Each waterproof bag shall be sealed in a plastics bag and placed within an intermediate packaging. No outer packaging shall contain more than 400 g of substance. Water or liquid which may react with the water reactive substance shall not be included in the packaging. |                                       |        |                      |

| P411  | PACKING INSTRUCTION   | P411 |
|---|---|------|
| This instruction applies to UN No. 3270.  |   |      |
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met: |   |      |
| (1)   | Fibreboard box with a maximum gross mass of 30 kg;  |      |
| (2)   | Other packagings, provided that explosion is not possible by reason of increased internal pressure.<br>Maximum net mass shall not exceed 30 kg. |      |

| P500   | PACKING INSTRUCTION | P500 |
|--|---------------------|------|
| This instruction applies to UN No. 3356.   |                     |      |
| The general provisions of <b>4.1.1</b> and <b>4.1.3</b> shall be met.<br>Packagings shall conform to the packing group II performance level. |                     |      |
| The generator(s) shall be carried in a package which meets the following requirements when one generator in the package is actuated:         |                     |      |
| (a) Other generators in the package will not be actuated;  |                     |      |
| (b) Packaging material will not ignite; and  |                     |      |
| (c) The outside surface temperature of the completed package shall not exceed 100 °C.  |                     |      |

| P501   |  | PACKING INSTRUCTION |                                  | P501                             |  |
|--|--|---------------------|----------------------------------|----------------------------------|--|
| This instruction applies to UN No. 2015.   |  |                     |                                  |                                  |  |
| The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:  |  |                     |                                  |                                  |  |
| Combination packagings:  |  |                     | Inner packaging maximum capacity | Outer packaging maximum net mass |  |
| (1) Boxes (4A, 4B, 4C1, 4C2, 4D, 4H2) or drums (1A2, 1B2, 1N2, 1H2, 1D) or jerricans (3A2, 3B2, 3H2) with glass, plastics or metal inner packagings  |  |                     | 5 l                              | 125 kg                           |  |
| (2) Fibreboard box (4G) or fibre drum (1G), with plastics or metal inner packagings each in a plastics bag   |  |                     | 2 l                              | 50 kg                            |  |
| Single packagings:   |  |                     | Maximum capacity                 |                                  |  |
| Drums  |  |                     | 250 l                            |                                  |  |
| steel (1A1)  |  |                     |                                  |                                  |  |
| aluminium (1B1)  |  |                     |                                  |                                  |  |
| metal other than steel or aluminium (1N1)  |  |                     |                                  |                                  |  |
| plastics (1H1)   |  |                     |                                  |                                  |  |
| Jerricans  |  |                     | 60 l                             |                                  |  |
| steel (3A1)  |  |                     |                                  |                                  |  |
| aluminium (3B1)  |  |                     |                                  |                                  |  |
| plastics (3H1)   |  |                     |                                  |                                  |  |
| Composite packagings   |  |                     | 250 l<br>250 l<br>60 l<br>60 l   |                                  |  |
| plastics receptacle with outer steel or aluminium drum (6HA1, 6HB1)  |  |                     |                                  |                                  |  |
| plastics receptacle with outer fibre, plastics or plywood drum (6HG1, 6HH1, 6HD1)  |  |                     |                                  |                                  |  |
| plastics receptacle with outer steel or aluminium crate or box or plastics receptacle with outer wooden, plywood, fibreboard or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2)   |  |                     |                                  |                                  |  |
| glass receptacle with outer steel, aluminium, fibre, plywood, solid plastics or expanded plastics drum (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 or 6PH2) or with outer steel or aluminium crate or box or with outer wooden or fibreboard box or with outer wickerwork hamper (6PA2, 6PB2, 6PC, 6PG2 or 6PD2) |  |                     |                                  |                                  |  |
| Additional requirements:   |  |                     |                                  |                                  |  |
| 1. Packagings shall have a maximum filling degree of 90%.  |  |                     |                                  |                                  |  |
| 2. Packagings shall be vented.   |  |                     |                                  |                                  |  |



| P502   |     | PACKING INSTRUCTION                       |                  | P502   |
|--|-----|---|------------------|--------|
| The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:  |     |   |                  |        |
| Combination packagings:  |     |   | Maximum net mass |        |
| Inner packagings   |     | Outer packagings                          |                  |        |
| Glass  | 5 l | <b>Drums</b>                              |                  |        |
| Metal  | 5 l | steel (1A2)                               |                  | 125 kg |
| Plastics   | 5 l | aluminium (1B2)                           |                  | 125 kg |
|  |     | metal other than steel or aluminium (1N2) |                  | 125 kg |
|  |     | plastics (1H2)                            |                  | 125 kg |
|  |     | plywood (1D)                              |                  | 125 kg |
|  |     | fibre (1G)                                |                  | 125 kg |
|  |     | <b>Boxes</b>                              |                  |        |
|  |     | steel (4A)                                |                  | 125 kg |
|  |     | aluminium (4B)                            |                  | 125 kg |
|  |     | natural wood (4C1)                        |                  | 125 kg |
|  |     | natural wood with sift-proof walls (4C2)  |                  | 125 kg |
|  |     | plywood (4D)                              |                  | 125 kg |
|  |     | reconstituted wood (4F)                   |                  | 125 kg |
|  |     | fibreboard (4G)                           |                  | 125 kg |
|  |     | expanded plastics (4H1)                   |                  | 60 kg  |
|  |     | solid plastics (4H2)                      |                  | 125 kg |
| Single packagings:   |     |   | Maximum capacity |        |
| <b>Drums</b>   |     |   |                  |        |
| steel (1A1)  |     |   | 250 l            |        |
| aluminium (1B1)  |     |   |                  |        |
| plastics (1H1)   |     |   |                  |        |
| <b>Jerricans</b>   |     |   |                  |        |
| steel (3A1)  |     |   | 60 l             |        |
| aluminium (3B1)  |     |   |                  |        |
| plastics (3H1)   |     |   |                  |        |
| <b>Composite packagings:</b>   |     |   |                  |        |
| plastics receptacle with outer steel or aluminium drum (6HA1, 6HB1)  |     |   | 250 l            |        |
| plastics receptacle with outer fibre, plastics or plywood drum (6HG1, 6HH1, 6HD1)  |     |   | 250 l            |        |
| plastics receptacle with outer steel or aluminium crate or box or plastics receptacle with outer wooden, plywood, fibreboard or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2)   |     |   | 60 l             |        |
| glass receptacle with outer steel, aluminium, fibre, plywood, solid plastics or expanded plastics drum (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 or 6PH2) or with outer steel or aluminium crate or box or with outer wooden or fibreboard box or with outer wickerwork hamper (6PA2, 6PB2, 6PC, 6PG2 or 6PD2) |     |   | 60 l             |        |
| <b>Special packing provision:</b>  |     |   |                  |        |
| <b>PP28</b> For UN No. 1873, only glass inner packagings and glass inner receptacles are authorized respectively for combination packagings and composite packagings.  |     |   |                  |        |

|  |   |                         |
|--|---|-------------------------|
| <b>P503</b>  | <b>PACKING INSTRUCTION</b>  | <b>P503</b>             |
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:  |   |                         |
| <b>Combination packagings:</b>   |   |                         |
| <b>Inner packagings</b>  | <b>Outer packagings</b>   | <b>Maximum net mass</b> |
| Glass 5 kg<br>Metal 5 kg<br>Plastics 5 kg  | <b>Drums</b><br>steel (1A2) 125 kg<br>aluminium (1B2) 125 kg<br>metal other than steel or aluminium (1N2) 125 kg<br>plastics (1H2) 125 kg<br>plywood (1D) 125 kg<br>fibre (1G) 125 kg<br><br><b>Boxes</b><br>steel (4A) 125 kg<br>aluminium (4B) 125 kg<br>natural wood (4C1) 125 kg<br>natural wood with sift-proof walls (4C2) 125 kg<br>plywood (4D) 125 kg<br>reconstituted wood (4F) 125 kg<br>fibreboard (4G) 40 kg<br>expanded plastics (4H1) 60 kg<br>solid plastics (4H2) 125 kg |                         |
| <b>Single packagings:</b>  |   |                         |
| Metal drums (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2) with a maximum net mass of 250 kg.<br>Fibreboard (1G) or plywood drums (1D) fitted with inner liners with a maximum net mass of 200 kg. |   |                         |

| P504  | PACKING INSTRUCTION | P504             |
|---|---------------------|------------------|
| The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:   |                     |                  |
| Combination packagings:   |                     | Maximum net mass |
| (1) Glass receptacles with a maximum capacity of 5 litres in 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2 outer packagings   |                     | 75 kg            |
| (2) Plastics receptacles with a maximum capacity of 30 litres in 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2 outer packagings   |                     | 75 kg            |
| (3) Metal receptacles with a maximum capacity of 40 litres in 1G, 4F or 4G outer packagings   |                     | 125 kg           |
| (4) Metal receptacles with a maximum capacity of 40 litres in 1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4H2 outer packagings  |                     | 225 kg           |
| Single packagings:  |                     | Maximum capacity |
| <b>Drums</b>  |                     |                  |
| steel, non-removable head (1A1)   |                     | 250 l            |
| steel, removable head (1A2)   |                     | 250 l            |
| aluminium, non-removable head (1B1)   |                     | 250 l            |
| aluminium, removable head (1B2)   |                     | 250 l            |
| metal other than steel or aluminium, non-removable head (1N1)   |                     | 250 l            |
| metal other than steel or aluminium, removable head (1N2)   |                     | 250 l            |
| plastics, non-removable head (1H1)  |                     | 250 l            |
| plastics, removable head (1H2)  |                     | 250 l            |
| <b>Jerricans</b>  |                     |                  |
| steel, non-removable head (3A1)   |                     | 60 l             |
| steel, removable head (3A2)   |                     | 60 l             |
| aluminium, non-removable head (3B1)   |                     | 60 l             |
| aluminium, removable head (3B2)   |                     | 60 l             |
| plastics, non-removable head (3H1)  |                     | 60 l             |
| plastics, removable head (3H2)  |                     | 60 l             |
| <b>Composite packagings</b>   |                     |                  |
| plastics receptacle with outer steel or aluminium drum (6HA1, 6HB1)   |                     | 250 l            |
| plastics receptacle with outer fibre, plastics or plywood drum (6HG1, 6HH1, 6HD1)   |                     | 120 l            |
| plastics receptacle with outer steel or aluminium crate or box or plastics receptacle with outer wooden, plywood, fibreboard or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2)  |                     | 60 l             |
| glass receptacle with outer steel, aluminium, fibre, plywood, solid plastics or expanded plastics drum (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 or 6PH2) or with outer steel or aluminium crate or box or with outer wooden fibreboard box or with outer wickerwork hamper (6PA2, 6PB2, 6PC, 6PG2 or 6PD2) |                     | 60 l             |
| <b>Special packing provisions:</b>  |                     |                  |
| <b>PP10</b> For UN No. 2014, 2984 and 3149, the packaging shall be vented.  |                     |                  |

| P520  | PACKING INSTRUCTION | P520             |
|---|---------------------|------------------|
| This instruction applies to organic peroxides of Class 5.2 and self-reactive substances of Class 4.1  |                     |                  |
| The packagings listed below are authorized provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> and special provisions of <b>4.1.7.1</b> are met.   |                     |                  |
| The packing methods are designated OP1 to OP8. The packing methods appropriate for the individual currently assigned organic peroxides and self-reactive substances are listed in 4.1.7.1.3, 2.2.41.4 and 2.2.52.4. The quantities specified for each packing method are the maximum quantities authorized per package. The following packagings are authorized:  |                     |                  |
| <p>(1) Combination packagings with outer packagings comprising boxes (4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H1 and 4H2), drums (1A2, 1B2, 1G, 1H2 and 1D), jerricans (3A2, 3B2 and 3H2);</p> <p>(2) Single packagings consisting of drums (1A1, 1A2, 1B1, 1B2, 1G, 1H1, 1H2 and 1D) and jerricans (3A1, 3A2, 3B1, 3B2, 3H1 and 3H2);</p> <p>(3) Composite packagings with plastics inner receptacles (6HA1, 6HA2, 6HB1, 6HB2, 6HC, 6HD1, 6HD2, 6HG1, 6HG2, 6HH1 and 6HH2).</p> |                     |                  |
| <b>Maximum quantity per packaging/package <sup>a</sup> for packing methods OP1 to OP8</b>   |                     |                  |
| <div>Maximum Quantity</div> <div>Packing Method</div>   | OP1                 | OP2 <sup>a</sup> |
| OP3   | OP4 <sup>a</sup>    | OP5              |
| OP6   | OP7                 | OP8              |
| Maximum mass (kg) for solids and for combination packagings (liquid and solid)  | 0.5                 | 0.5/10           |
| 5   | 5/25                | 25               |
| 50  | 50                  | 400 <sup>b</sup> |
| Maximum contents in litres for liquids <sup>c</sup>   | 0.5                 | -                |
| 5   | -                   | 30               |
| 60  | 60                  | 225 <sup>d</sup> |
| <sup>a</sup> If two values are given, the first applies to the maximum net mass per inner packaging and the second to the maximum net mass of the complete package.   |                     |                  |
| <sup>b</sup> 60 kg for jerricans / 200 kg for boxes and, for solids, 400 kg in combination packagings with outer packagings comprising boxes (4C1, 4C2, 4D, 4F, 4G, 4H1 and 4H2) and with inner packagings of plastics or fibre with a maximum net mass of 25 kg.   |                     |                  |
| <sup>c</sup> Viscous substances shall be treated as solids when they do not meet the criteria provided in the definition for "liquids" presented in 1.2.1.  |                     |                  |
| <sup>d</sup> 60 litres for jerricans.   |                     |                  |
| <b>Additional requirements:</b>   |                     |                  |
| 1. Metal packagings, including inner packagings of combination packagings and outer packagings of combination or composite packagings may only be used for packing methods OP7 and OP8.   |                     |                  |
| 2. In combination packagings, glass receptacles may only be used as inner packagings with maximum contents of 0.5 kg for solids or 0.5 litre for liquids.   |                     |                  |
| 3. In combination packagings, cushioning materials shall not be readily combustible.  |                     |                  |
| 4. The packaging of an organic peroxide or self-reactive substance required to bear an "EXPLOSIVE" subsidiary risk label (model No.1, see 5.2.2.2.2) shall also comply with the provisions given in 4.1.5.10 and 4.1.5.11.  |                     |                  |
| <b>Special packing provisions:</b>  |                     |                  |
| <b>PP21</b> For certain self-reactive substances of types B or C, UN Nos. 3221, 3222, 3223, 3224, 3231, 3232, 3233 and 3234, a smaller packaging than that allowed by packing methods OP5 or OP6 respectively shall be used (see 4.1.7 and 2.2.41.4).   |                     |                  |
| <b>PP22</b> UN No. 3241, 2-Bromo-2-nitropropane-1, 3-diol, shall be packed in accordance with packing method OP6.   |                     |                  |

| <b>P600</b>   | <b>PACKING INSTRUCTION</b> | <b>P600</b> |
|---|----------------------------|-------------|
| This instruction applies to UN Nos. 1700, 2016 and 2017.  |                            |             |
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:  |                            |             |
| Outer packagings (1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2) meeting the packing group II performance level. The articles shall be individually packaged and separated from each other using partitions, dividers, inner packagings or cushioning material to prevent inadvertent discharge during normal conditions of carriage. |                            |             |
| Maximum net mass: 75 kg   |                            |             |

| <b>P601</b>   | <b>PACKING INSTRUCTION</b> | <b>P601</b> |
|---|----------------------------|-------------|
| The following packagings are authorized provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met and the packagings are hermetically sealed:  |                            |             |
| <p>(1) Combination packagings with a maximum gross mass of 15 kg, consisting of</p> <ul style="list-style-type: none"> <li>– one or more glass inner packaging(s) with a maximum capacity of 1 litre each and filled to not more than 90% of their capacity; the closure(s) of which shall be physically held in place by any means capable of preventing back-off or loosening by impact or vibration during carriage, individually placed in</li> <li>– metal receptacles together with cushioning and absorbent material sufficient to absorb the entire contents of the glass inner packaging(s), further packed in</li> <li>– 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings;</li> </ul> <p>(2) Combination packagings consisting of metal inner packagings not exceeding 5 litres in capacity individually packed with absorbent material sufficient to absorb the contents and inert cushioning material in 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings with a maximum gross mass of 75 kg. Inner packagings shall not be filled to more than 90% of their capacity. The closure of each inner packaging shall be physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage;</p> <p>(3) Packagings consisting of:</p> <p>Outer packagings: Steel or plastic drums, removable head (1A2 or 1H2) tested in accordance with the test requirements in 6.1.5 at a mass corresponding to the mass of the assembled package either as a packaging intended to contain inner packagings, or as a single packaging intended to contain solids or liquids, and marked accordingly;</p> <p>Inner packagings:</p> <p>Drums and composite packagings (1A1, 1B1, 1N1, 1H1 or 6HA1) meeting the requirements of Chapter 6.1 for single packagings, subject to the following conditions:</p> <ul style="list-style-type: none"> <li>(a) The hydraulic pressure test shall be conducted at a pressure of at least 0.3 MPa (gauge pressure);</li> <li>(b) The design and production leakproofness tests shall be conducted at a test pressure of 30 kPa;</li> <li>(c) They shall be isolated from the outer drum by the use of inert shock-mitigating cushioning material which surrounds the inner packaging on all sides;</li> <li>(d) Their capacity shall not exceed 125 litres;</li> </ul> |                            |             |

(Cont'd on next page)

| P601   | PACKING INSTRUCTION ( <i>cont'd</i> )   | P601 |
|--|---|------|
| (3)  | <p><i>Packagings consisting of: (cont'd)</i></p> <ul style="list-style-type: none"> <li>(e) Closures shall be of a screw cap type that are: <ul style="list-style-type: none"> <li>(i) physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage; and</li> <li>(ii) provided with a cap seal;</li> </ul> </li> <li>(f) The outer and inner packagings shall be subjected periodically to a leakproofness test according to (b) at intervals of not more than two and a half years;</li> <li>(g) The complete packaging shall be visually inspected to the satisfaction of the competent authority at least every 3 years; and</li> <li>(h) The outer and inner packaging shall bear in clearly legible and durable characters: <ul style="list-style-type: none"> <li>(i) the date (month, year) of the initial test and the latest periodic test and inspection;</li> <li>(ii) the stamp of the expert who carried out the test and inspection;</li> </ul> </li> </ul> <p>(4) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met. They shall be subjected to an initial test and periodic tests every 10 years at a pressure of not less than 1 MPa (10 bar) (gauge pressure). Pressure receptacles may not be equipped with any pressure relief device. Each pressure receptacle containing a toxic by inhalation liquid with an LC<sub>50</sub> less than or equal to 200 ml/m<sup>3</sup> (ppm) shall be closed with a plug or valve conforming to the following:</p> <ul style="list-style-type: none"> <li>(a) Each plug or valve shall have a taper-threaded connection directly to the pressure receptacle and be capable of withstanding the test pressure of the pressure receptacle without damage or leakage;</li> <li>(b) Each valve shall be of the packless type with non-perforated diaphragm, except that, for corrosive substances, a valve may be of the packed type with an assembly made gas-tight by means of a seal cap with gasket joint attached to the valve body or the pressure receptacle to prevent loss of substance through or past the packing;</li> <li>(c) Each valve outlet shall be sealed by a threaded cap or threaded solid plug and inert gasket material;</li> <li>(d) The materials of construction for the pressure receptacle, valves, plugs, outlet caps, luting and gaskets shall be compatible with each other and with the contents.</li> </ul> <p>Each pressure receptacle with a wall thickness at any point of less than 2.0 mm and each pressure receptacle which does not have fitted valve protection shall be carried in an outer packaging. Pressure receptacles shall not be manifolded or interconnected.</p> |      |
| <b>Special packing provision:</b>  |   |      |
| <b>PP82</b> ( <i>Deleted</i> )   |   |      |
| <b>Special packing provisions specific to RID and ADR:</b>   |   |      |
| <b>RR3</b> ( <i>Deleted</i> )  |   |      |
| <b>RR7</b> For UN No. 1251, the pressure receptacles shall however be subjected to the tests every five years.   |   |      |
| <b>RR10</b> UN No. 1614, when completely absorbed by an inert porous material, shall be packed in metal receptacles of a capacity of not more than 7.5 litres, placed in wooden cases in such a manner that they cannot come into contact with one another. The receptacles shall be entirely filled with the porous material which shall not shake down or form dangerous spaces even after prolonged use or under impact, even at temperatures of up to 50 °C. |   |      |

| P602  | PACKING INSTRUCTION   | P602 |
|---|---|------|
| <p>The following packagings are authorised provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met and the packagings are hermetically sealed:</p>   |   |      |
| (1)   | <p>Combination packagings with a maximum gross mass of 15 kg, consisting of</p> <ul style="list-style-type: none"> <li>– one or more glass inner packaging(s) with a maximum capacity of 1 litre each and filled to not more than 90% of their capacity; the closure(s) of which shall be physically held in place by any means capable of preventing back-off or loosening by impact or vibration during carriage, individually placed in</li> <li>– metal receptacles together with cushioning and absorbent material sufficient to absorb the entire contents of the glass inner packaging(s), further packed in</li> <li>– 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings;</li> </ul>   |      |
| (2)   | <p>Combination packagings consisting of metal inner packagings individually packed with absorbent material sufficient to absorb the entire contents and inert cushioning material in 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings with a maximum gross mass of 75 kg. Inner packagings shall not be filled to more than 90% of their capacity. The closure of each inner packaging shall be physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage. Inner packagings shall not exceed 5 litres in capacity;</p>  |      |
| (3)   | <p>Drums and composite packagings (1A1, 1B1, 1N1, 1H1, 6HA1 or 6HH1), subject to the following conditions:</p> <ul style="list-style-type: none"> <li>(a) The hydraulic pressure test shall be conducted at a pressure of at least 0.3 MPa (gauge pressure);</li> <li>(b) The design and production leakproofness tests shall be conducted at a test pressure of 30 kPa; and</li> <li>(c) Closures shall be of a screw cap type that are: <ul style="list-style-type: none"> <li>(i) physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage; and</li> <li>(ii) provided with a cap seal;</li> </ul> </li> </ul>  |      |
| (4)   | <p>Pressure receptacles, provided that the general provisions of 4.1.3.6 are met. They shall be subjected to an initial test and periodic tests every 10 years at a pressure of not less than 1 MPa (10 bar) (gauge pressure). Pressure receptacles may not be equipped with any pressure relief device. Each pressure receptacle containing a toxic by inhalation liquid with an LC<sub>50</sub> less than or equal to 200 ml/m<sup>3</sup> (ppm) shall be closed with a plug or valve conforming to the following:</p> <ul style="list-style-type: none"> <li>(a) Each plug or valve shall have a taper-threaded connection directly to the pressure receptacle and be capable of withstanding the test pressure of the pressure receptacle without damage or leakage;</li> <li>(b) Each valve shall be of the packless type with non-perforated diaphragm, except that, for corrosive substances, a valve may be of the packed type with an assembly made gas-tight by means of a seal cap with gasket joint attached to the valve body or the pressure receptacle to prevent loss of substance through or past the packing;</li> <li>(c) Each valve outlet shall be sealed by a threaded cap or threaded solid plug and inert gasket material;</li> <li>(d) The materials of construction for the pressure receptacle, valves, plugs, outlet caps, luting and gaskets shall be compatible with each other and with the contents.</li> </ul> |      |
| <p>Each pressure receptacle with a wall thickness at any point of less than 2.0 mm and each pressure receptacle which does not have fitted valve protection shall be carried in an outer packaging. Pressure receptacles shall not be manifolded or interconnected.</p> |   |      |




| P620   | PACKING INSTRUCTION | P620 |
|--|---------------------|------|
| This instruction applies to UN Nos. 2814 and 2900.   |                     |      |
| The following packagings are authorized provided the special packing provisions of <b>4.1.8</b> are met:   |                     |      |
| Packagings meeting the requirements of Chapter 6.3 and approved accordingly consisting of:   |                     |      |
| <p>(a) Inner packagings comprising:</p> <ul style="list-style-type: none"> <li>(i) leakproof primary receptacle(s);</li> <li>(ii) a leakproof secondary packaging;</li> <li>(iii) other than for solid infectious substances, an absorbent material in sufficient quantity to absorb the entire contents placed between the primary receptacle(s) and the secondary packaging; if multiple primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated so as to prevent contact between them;</li> </ul> <p>(b) A rigid outer packaging. The smallest external dimension shall be not less than 100 mm.</p>   |                     |      |
| <b>Additional requirements:</b>  |                     |      |
| <ol style="list-style-type: none"> <li>1. Inner packagings containing infectious substances shall not be consolidated with inner packagings containing unrelated types of goods. Complete packages may be overpacked in accordance with the provisions of 1.2.1 and 5.1.2; such an overpack may contain dry ice.</li> <li>2. Other than for exceptional consignments, e.g. whole organs which require special packaging, the following additional requirements shall apply: <ul style="list-style-type: none"> <li>(a) Substances consigned at ambient temperatures or at a higher temperature: Primary receptacles shall be of glass, metal or plastics. Positive means of ensuring a leakproof seal shall be provided, e.g. a heat seal, a skirted stopper or a metal crimp seal. If screw caps are used, they shall be secured by positive means, e.g., tape, paraffin sealing tape or manufactured locking closure;</li> <li>(b) Substances consigned refrigerated or frozen: Ice, dry ice or other refrigerant shall be placed around the secondary packaging(s) or alternatively in an overpack with one or more complete packages marked in accordance with 6.3.3. Interior supports shall be provided to secure secondary packaging(s) or packages in position after the ice or dry ice has dissipated. If ice is used, the outer packaging or overpack shall be leakproof. If dry ice is used, the outer packaging or overpack shall permit the release of carbon dioxide gas. The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the refrigerant used;</li> <li>(c) Substances consigned in liquid nitrogen: Plastics primary receptacles capable of withstanding very low temperature shall be used. The secondary packaging shall also be capable of withstanding very low temperatures, and in most cases will need to be fitted over the primary receptacle individually. Provisions for the consignment of liquid nitrogen shall also be fulfilled. The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the liquid nitrogen;</li> <li>(d) Lyophilised substances may also be carried in primary receptacles that are flame-sealed glass ampoules or rubber-stoppered glass vials fitted with metal seals.</li> </ul> </li> <li>3. Whatever the intended temperature of the consignment, the primary receptacle or the secondary packaging shall be capable of withstanding without leakage an internal pressure producing a pressure differential of not less than 95 kPa and temperatures in the range -40 °C to +55 °C.</li> <li>4. Alternative packagings for the carriage of animal material may be authorized by the competent authority of the country of origin <sup>a</sup> in accordance with the provisions of 4.1.8.7.</li> </ol> |                     |      |

<sup>a</sup> If the country of origin is not a Contracting Party to ADR, the competent authority of the first Contracting Party to the ADR reached by the consignment.



| P621  | PACKING INSTRUCTION | P621 |
|---|---------------------|------|
| This instruction applies to UN No. 3291.  |                     |      |
| The following packagings are authorized provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:   |                     |      |
| <ol style="list-style-type: none"> <li>(1) Rigid, leakproof packagings meeting the requirements of Chapter 6.1 for solids, at the packing group II performance level, provided there is sufficient absorbent material to absorb the entire amount of liquid present and the packaging is capable of retaining liquids;</li> <li>(2) For packages containing larger quantities of liquid, rigid packagings meeting the requirements of Chapter 6.1 at the packing group II performance level for liquids.</li> </ol> |                     |      |
| <b>Additional requirement:</b>  |                     |      |
| Packagings intended to contain sharp objects such as broken glass and needles shall be resistant to puncture and retain liquids under the performance test conditions in Chapter 6.1.   |                     |      |

| P650  | PACKING INSTRUCTION | P650 |
|---|---------------------|------|
| This packing instruction applies to UN No. 3373.  |                     |      |
| <ol style="list-style-type: none"> <li>(1) The packaging shall be of good quality, strong enough to withstand the shocks and loadings normally encountered during carriage, including transshipment between vehicles or containers and between vehicles or containers and warehouses as well as any removal from a pallet or overpack for subsequent manual or mechanical handling. Packagings shall be constructed and closed to prevent any loss of contents that might be caused under normal conditions of carriage by vibration or by changes in temperature, humidity or pressure.</li> <li>(2) The packaging shall consist of at least three components: <ol style="list-style-type: none"> <li>(a) a primary receptacle;</li> <li>(b) a secondary packaging; and</li> <li>(c) an outer packaging</li> </ol> of which either the secondary or the outer packaging shall be rigid.</li> <li>(3) Primary receptacles shall be packed in secondary packagings in such a way that, under normal conditions of carriage, they cannot break, be punctured or leak their contents into the secondary packaging. Secondary packagings shall be secured in outer packagings with suitable cushioning material. Any leakage of the contents shall not compromise the integrity of the cushioning material or of the outer packaging.</li> <li>(4) For carriage, the mark illustrated below shall be displayed on the external surface of the outer packaging on a background of a contrasting colour and shall be clearly visible and legible. The mark shall be in the form of a square set at an angle of 45° (diamond-shaped) with minimum dimensions of 50 mm by 50 mm; the width of the line shall be at least 2 mm and the letters and numbers shall be at least 6 mm high. The proper shipping name "BIOLOGICAL SUBSTANCE, CATEGORY B" in letters at least 6 mm high shall be marked on the outer packaging adjacent to the diamond-shaped mark.</li> </ol> |                     |      |
|    |                     |      |
| <ol style="list-style-type: none"> <li>(5) At least one surface of the outer packaging shall have a minimum dimension of 100 mm × 100 mm.</li> <li>(6) The completed package shall be capable of successfully passing the drop test in 6.3.5.3 as specified in 6.3.5.2 at a height of 1.2 m. Following the appropriate drop sequence, there shall be no leakage from the primary receptacle(s) which shall remain protected by absorbent material, when required, in the secondary packaging.</li> </ol>  |                     |      |

(Cont'd on next page)

| P650 | PACKING INSTRUCTION ( <i>cont'd</i> )  | P650 |
|------|--|------|
| (7)  | For liquid substances: <ul style="list-style-type: none"> <li>(a) The primary receptacle(s) shall be leakproof;</li> <li>(b) The secondary packaging shall be leakproof;</li> <li>(c) If multiple fragile primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated to prevent contact between them;</li> <li>(d) Absorbent material shall be placed between the primary receptacle(s) and the secondary packaging. The absorbent material shall be in quantity sufficient to absorb the entire contents of the primary receptacle(s) so that any release of the liquid substance will not compromise the integrity of the cushioning material or of the outer packaging;</li> <li>(e) The primary receptacle or the secondary packaging shall be capable of withstanding, without leakage, an internal pressure of 95 kPa (0.95 bar).</li> </ul>   |      |
| (8)  | For solid substances: <ul style="list-style-type: none"> <li>(a) The primary receptacle(s) shall be siftproof;</li> <li>(b) The secondary packaging shall be siftproof;</li> <li>(c) If multiple fragile primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated to prevent contact between them;</li> <li>(d) If there is any doubt as to whether or not residual liquid may be present in the primary receptacle during carriage then a packaging suitable for liquids, including absorbent materials, shall be used.</li> </ul>  |      |
| (9)  | Refrigerated or frozen specimens: Ice, dry ice and liquid nitrogen: <ul style="list-style-type: none"> <li>(a) When dry ice or liquid nitrogen is used to keep specimens cold, all applicable requirements of ADR shall be met. When used, ice or dry ice shall be placed outside the secondary packagings or in the outer packaging or an overpack. Interior supports shall be provided to secure the secondary packagings in the original position after the ice or dry ice has dissipated. If ice is used, the outside packaging or overpack shall be leakproof. If carbon dioxide, solid (dry ice) is used, the packaging shall be designed and constructed to permit the release of carbon dioxide gas to prevent a build-up of pressure that could rupture the packagings and the package (the outer packaging or the overpack) shall be marked "Carbon dioxide, solid" or "Dry ice". <p><i>NOTE: If dry ice is used, there are no requirements to be met (see 2.2.9.1.14). If liquid nitrogen is used, it is sufficient to comply with Chapter 3.3, special provision 593.</i></p> </li> <li>(b) The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the refrigerant used as well as the temperatures and the pressures which could result if refrigeration were lost.</li> </ul> |      |
| (10) | When packages are placed in an overpack, the package markings required by this packing instruction shall either be clearly visible or be reproduced on the outside of the overpack.  |      |
| (11) | Infectious substances assigned to UN No. 3373 which are packed and packages which are marked in accordance with this packing instruction are not subject to any other requirement in ADR.  |      |
| (12) | Clear instructions on filling and closing such packages shall be provided by packaging manufacturers and subsequent distributors to the consignor or to the person who prepares the package (e.g. patient) to enable the package to be correctly prepared for carriage.  |      |

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| P650 | PACKING INSTRUCTION ( <i>cont'd</i> )  | P650 |
|------|--|------|
| (13) | Other dangerous goods shall not be packed in the same packaging as Class 6.2 infectious substances unless they are necessary for maintaining the viability, stabilizing or preventing degradation or neutralizing the hazards of the infectious substances. A quantity of 30 ml or less of dangerous goods included in Classes 3, 8 or 9 may be packed in each primary receptacle containing infectious substances. When these small quantities of dangerous goods are packed with infectious substances in accordance with this packing instruction no other requirements of ADR need be met. |      |
| (14) | If any substance has leaked and has been spilled in a vehicle or container, it may not be reused until after it has been thoroughly cleaned and, if necessary, disinfected or decontaminated. Any other goods and articles carried in the same vehicle or container shall be examined for possible contamination.  |      |
|      | <b>Additional requirement:</b><br>Alternative packagings for the carriage of animal material may be authorized by the competent authority of the country of origin <sup>a</sup> in accordance with the provisions of 4.1.8.7.  |      |

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<sup>a</sup> *If the country of origin is not a Contracting Party to ADR, the competent authority of the first Contracting Party to the ADR reached by the consignment.*

| P800  | PACKING INSTRUCTION   | P800 |
|---|---|------|
| This instruction applies to UN Nos. 2803 and 2809.  |   |      |
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:  |   |      |
| <p>(1) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met.</p> <p>(2) Steel flasks or bottles with threaded closures with a capacity not exceeding 3 l; or</p> <p>(3) Combination packagings which conform to the following requirements:</p> <p style="padding-left: 40px;">(a) Inner packagings shall comprise glass, metal or rigid plastics intended to contain liquids with a maximum net mass of 15 kg each;</p> <p style="padding-left: 40px;">(b) The inner packagings shall be packed with sufficient cushioning material to prevent breakage;</p> <p style="padding-left: 40px;">(c) Either the inner packagings or the outer packagings shall have inner liners or bags of strong leakproof and puncture-resistant material impervious to the contents and completely surrounding the contents to prevent it from escaping from the package irrespective of its position or orientation;</p> <p style="padding-left: 40px;">(d) The following outer packagings and maximum net masses are authorized:</p> |   |      |
| Outer packaging:  | Maximum net mass  |      |
| <b>Drums</b><br>steel (1A2)<br>metal other than steel or aluminium (1N2)<br>plastics (1H2)<br>plywood (1D)<br>fibre (1G)<br><br><b>Boxes</b><br>steel (4A)<br>natural wood (4C1)<br>natural wood with sift-proof walls (4C2)<br>plywood (4D)<br>reconstituted wood (4F)<br>fibreboard (4G)<br>expanded plastics (4H1)<br>solid plastics (4H2)   | 400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br><br>400 kg<br>250 kg<br>250 kg<br>250 kg<br>125 kg<br>125 kg<br>60 kg<br>125 kg |      |
| <b>Special packing provision:</b>   |   |      |
| <b>PP41</b> For UN No. 2803, when it is necessary to carry gallium at low temperatures in order to maintain it in a completely solid state, the above packagings may be overpack ed in a strong, water-resistant outer packaging which contains dry ice or other means of refrigeration. If a refrigerant is used, all of the above materials used in the packaging of gallium shall be chemically and physically resistant to the refrigerant and shall have impact resistance at the low temperatures of the refrigerant employed. If dry ice is used, the outer packaging shall permit the release of carbon dioxide gas.  |   |      |

| P801   | PACKING INSTRUCTION | P801 |
|--|---------------------|------|
| This instruction applies to new and used batteries assigned to UN Nos. 2794, 2795 or 3028.   |                     |      |
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> , except 4.1.1.3, and <b>4.1.3</b> are met: |                     |      |
| (1) Rigid outer packagings;  |                     |      |
| (2) Wooden slatted crates;   |                     |      |
| (3) Pallets.   |                     |      |
| <b>Additional requirements:</b>  |                     |      |
| 1. Batteries shall be protected against short circuits.  |                     |      |
| 2. Batteries stacked shall be adequately secured in tiers separated by a layer of non conductive material.                           |                     |      |
| 3. Battery terminals shall not support the weight of other superimposed elements.  |                     |      |
| 4. Batteries shall be packaged or secured to prevent inadvertent movement. Any cushioning material used shall be inert.              |                     |      |

| P801a   | PACKING INSTRUCTION | P801a |
|---|---------------------|-------|
| This instruction applies to used batteries of UN Nos. 2794, 2795, 2800 and 3028.  |                     |       |
| Stainless steel or solid plastics battery boxes of a capacity of up to 1 m <sup>3</sup> are authorized provided the following provisions are met:   |                     |       |
| (1) The battery boxes shall be resistant to the corrosive substances contained in the storage batteries;  |                     |       |
| (2) Under normal conditions of carriage, no corrosive substance shall leak from the battery boxes and no other substance (e.g. water) shall enter the battery boxes. No dangerous residues of corrosive substances contained in the storage batteries shall adhere to the outside of the battery boxes; |                     |       |
| (3) The battery boxes shall not be loaded with storage batteries to a height greater than the height of their sides;  |                     |       |
| (4) No storage battery containing substances or other dangerous goods which may react dangerously with one another shall be placed in a battery box;  |                     |       |
| (5) The battery boxes shall be either:  |                     |       |
| (a) covered; or   |                     |       |
| (b) carried in closed or sheeted vehicles or containers.  |                     |       |

| P802   | PACKING INSTRUCTION   | P802 |
|--|---|------|
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met: |   |      |
| (1)  | Combination packagings:<br>Outer packagings: 1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4F, or 4H2;<br>maximum net mass: 75 kg.<br>Inner packagings: glass or plastics; maximum capacity: 10 litres;   |      |
| (2)  | Combination packagings:<br>Outer packagings: 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2;<br>maximum net mass: 125 kg.<br>Inner packagings: metal; maximum capacity: 40 litres;   |      |
| (3)  | Composite packagings: Glass receptacle with outer steel, aluminium, plywood or solid plastics drum (6PA1, 6PB1, 6PD1, or 6PH2) or with outer steel or aluminium crate or box or with outer wooden box or with outer wickerwork hamper (6PA2, 6PB2, 6PC or 6PD2); maximum capacity: 60 litres; |      |
| (4)  | Steel drums (1A1) with a maximum capacity of 250 litres;  |      |
| (5)  | Pressure receptacles, provided that the general provisions of 4.1.3.6 are met.  |      |

| P803   | PACKING INSTRUCTION                         | P803 |
|--|---|------|
| This instruction applies to UN No. 2028.   |   |      |
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:   |   |      |
| (1)  | Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G);         |      |
| (2)  | Boxes ( 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2). |      |
| Maximum net mass: 75 kg.   |   |      |
| The articles shall be individually packaged and separated from each other using partitions, dividers, inner packagings or cushioning material to prevent inadvertent discharge during normal conditions of carriage. |   |      |

| P804   | PACKING INSTRUCTION | P804 |
|--|---------------------|------|
| This instruction applies to UN No. 1744.   |                     |      |
|  |                     |      |
| The following packagings are authorized provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met and the packagings are hermetically sealed:   |                     |      |
| <p>(1) Combination packagings with a maximum gross mass of 25 kg, consisting of</p> <ul style="list-style-type: none"> <li>- one or more glass inner packaging(s) with a maximum capacity of 1.3 litres each and filled to not more than 90% of their capacity; the closure(s) of which shall be physically held in place by any means capable of preventing back-off or loosening by impact or vibration during carriage, individually placed in</li> <li>- metal or rigid plastics receptacles together with cushioning and absorbent material sufficient to absorb the entire contents of the glass inner packaging(s), further packed in</li> <li>- 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings.</li> </ul> <p>(2) Combination packagings consisting of metal or polyvinylidene fluoride (PVDF) inner packagings, not exceeding 5 litres in capacity individually packed with absorbent material sufficient to absorb the contents and inert cushioning material in 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings with a maximum gross mass of 75 kg. Inner packagings shall not be filled to more than 90% of their capacity. The closure of each inner packaging shall be physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage;</p> <p>(3) Packagings consisting of:</p> <p>Outer packagings:</p> <p>Steel or plastic drums, removable head (1A2 or 1H2) tested in accordance with the test requirements in 6.1.5 at a mass corresponding to the mass of the assembled package either as a packaging intended to contain inner packagings, or as a single packaging intended to contain solids or liquids, and marked accordingly;</p> <p>Inner packagings:</p> <p>Drums and composite packagings (1A1, 1B1, 1N1, 1H1 or 6HA1) meeting the requirements of Chapter 6.1 for single packagings, subject to the following conditions:</p> <ul style="list-style-type: none"> <li>(a) The hydraulic pressure test shall be conducted at a pressure of at least 300 kPa (3 bar) (gauge pressure);</li> <li>(b) The design and production leakproofness tests shall be conducted at a test pressure of 30 kPa (0.3 bar);</li> <li>(c) They shall be isolated from the outer drum by the use of inert shock-mitigating cushioning material which surrounds the inner packaging on all sides;</li> <li>(d) Their capacity shall not exceed 125 litres;</li> <li>(e) Closures shall be of a screw type that are: <ul style="list-style-type: none"> <li>(i) Physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage;</li> <li>(ii) Provided with a cap seal;</li> </ul> </li> <li>(f) The outer and inner packagings shall be subjected periodically to an internal inspection and leakproofness test according to (b) at intervals of not more than two and a half years; and</li> <li>(g) The outer and inner packagings shall bear in clearly legible and durable characters: <ul style="list-style-type: none"> <li>(i) the date (month, year) of the initial test and the latest periodic test and inspection of the inner packaging; and</li> <li>(ii) the name or authorized symbol of the expert who carried out the tests and inspections;</li> </ul> </li> </ul> |                     |      |

(Cont'd on next page)

| <b>P804</b> | <b>PACKING INSTRUCTION (<i>cont'd</i>)</b>   | <b>P804</b> |
|-------------|--|-------------|
| (4)         | Pressure receptacles, provided that the general provisions of 4.1.3.6 are met.   |             |
| (a)         | They shall be subjected to an initial test and periodic tests every 10 years at a pressure of not less than 1 MPa (10 bar) (gauge pressure);                         |             |
| (b)         | They shall be subjected periodically to an internal inspection and leakproofness test at intervals of not more than two and a half years;                            |             |
| (c)         | They may not be equipped with any pressure relief device;  |             |
| (d)         | Each pressure receptacle shall be closed with a plug or valve(s) fitted with a secondary closure device; and   |             |
| (e)         | The materials of construction for the pressure receptacle, valves, plugs, outlet caps, luting and gaskets shall be compatible with each other and with the contents. |             |

| <b>P900</b> | <b>PACKING INSTRUCTION</b> | <b>P900</b> |
|-------------|----------------------------|-------------|
|             | <i>(Reserved)</i>          |             |

| <b>P901</b> | <b>PACKING INSTRUCTION</b>  | <b>P901</b> |
|-------------|---|-------------|
|             | This instruction applies to UN No. 3316.  |             |
|             | The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:  |             |
|             | Packagings conforming to the performance level consistent with the packing group assigned to the kit as a whole (see 3.3.1, special provision 251).               |             |
|             | Maximum quantity of dangerous goods per outer packaging: 10 kg.   |             |
|             | <b>Additional requirement:</b>  |             |
|             | Dangerous goods in kits shall be packed in inner packagings which shall not exceed either 250 ml or 250 g and shall be protected from other materials in the kit. |             |

| <b>P902</b> | <b>PACKING INSTRUCTION</b>   | <b>P902</b> |
|-------------|--|-------------|
|             | This instruction applies to UN No. 3268.   |             |
|             | The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:   |             |
|             | Packagings conforming to the packing group III performance level. The packagings shall be designed and constructed to prevent movement of the articles and inadvertent operation during normal conditions of carriage. |             |
|             | The articles may also be carried unpackaged in dedicated handling devices, vehicles or containers when moved from where they are manufactured to an assembly plant.  |             |
|             | <b>Additional requirement:</b>   |             |
|             | Any pressure vessel shall be in accordance with the requirements of the competent authority for the substance(s) contained in the pressure vessel(s).  |             |



| P903   | PACKING INSTRUCTION | P903 |
|--|---------------------|------|
| This instruction applies to UN Nos. 3090 , 3091, 3480 and 3481.  |                     |      |
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:   |                     |      |
| Packagings conforming to the packing group II performance level.   |                     |      |
| When cells and batteries are packed with equipment, they shall be packed in inner fibreboard packagings that meet the requirements for packing group II. When cells and batteries included in Class 9 are contained in equipment, the equipment shall be packed in strong outer packagings in such a manner as to prevent accidental operation during carriage.  |                     |      |
| In addition, batteries with a strong, impact resistant outer casing of a gross mass of 12 kg or more, and assemblies of such batteries, may be packed in strong outer packagings, in protective enclosures (e.g., in fully enclosed or wooden slatted crates) unpackaged or on pallets. Batteries shall be secured to prevent inadvertent movement, and the terminals shall not support the weight of other superimposed elements. |                     |      |
| <b>Additional requirement:</b>   |                     |      |
| Batteries shall be protected against short circuit.  |                     |      |

| P903a   | PACKING INSTRUCTION | P903a |
|---|---------------------|-------|
| This instruction applies to used cells and batteries of UN Nos. 3090 , 3091, 3480 and 3481.   |                     |       |
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> , except 4.1.1.3, and <b>4.1.3</b> are met:  |                     |       |
| Packagings conforming to the packing group II performance level.  |                     |       |
| Non-approved packagings shall, however, be permitted provided that:   |                     |       |
| <ul style="list-style-type: none"><li>- they meet the general provisions of 4.1.1 and 4.1.3;</li><li>- the cells and batteries are packed and stowed so as to prevent any risk of short circuits;</li><li>- the packages weigh not more than 30 kg.</li></ul> |                     |       |
| <b>Additional requirement:</b>  |                     |       |
| Batteries shall be protected against short circuit.   |                     |       |

| P903b   | PACKING INSTRUCTION | P903b |
|---|---------------------|-------|
| <p>This instruction applies to used cells and batteries of UN Nos. 3090, 3091, 3480 and 3481.</p> <p>Used lithium cells and batteries with a gross mass of not more than 500 g each, collected for disposal, may be carried together with other used non-lithium batteries or alone without being individually protected, under the following conditions:</p> <p>(1) In 1H2 drums or 4H2 boxes conforming to the packing group II performance level for solids;</p> <p>(2) In 1A2 drums or 4A boxes fitted with a polyethylene bag and conforming to the packing group II performance level for solids. The polyethylene bag</p> <ul style="list-style-type: none"><li>- shall have an impact resistance of at least 480 grams in both parallel and perpendicular planes with respect to the length of the bag;</li><li>- shall have a minimum of 500 microns of thickness with an electrical resistivity of more than 10 Mohms and a water absorption rate over 24 hours at 25 °C lower than 0.01%;</li><li>- shall be closed; and</li><li>- may only be used once;</li></ul> <p>(3) In collecting trays with a gross mass of less than 30 kg made from non-conducting material meeting the general conditions of 4.1.1.1, 4.1.1.2 and 4.1.1.5 to 4.1.1.8.</p> |                     |       |
| <p><b>Additional requirements:</b></p> <p>The empty space in the packaging shall be filled with cushioning material. The cushioning material may be dispensed with when the packaging is entirely fitted with a polyethylene bag and the bag is closed.</p> <p>Hermetically sealed packagings shall be fitted with a venting device according to 4.1.1.8. The venting device shall be so designed that an overpressure caused by gases does not exceed 10 kPa.</p>  |                     |       |

| P904   | PACKING INSTRUCTION | P904 |
|--|---------------------|------|
| This instruction applies to UN No. 3245.   |                     |      |
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:   |                     |      |
| <ul style="list-style-type: none"><li>(1) Packagings according to packing instruction P001 or P002 conforming to the packing group III performance level;</li><li>(2) Packagings, which need not conform to the packaging test requirements of Part 6, but conforming to the following:<ul style="list-style-type: none"><li>(a) An inner packaging comprising:<ul style="list-style-type: none"><li>(i) a watertight primary receptacle(s);</li><li>(ii) a watertight secondary packaging which is leakproof;</li><li>(iii) absorbent material placed between the primary receptacle(s) and the secondary packaging. The absorbent material shall be in a quantity sufficient to absorb the entire contents of the primary receptacle(s) so that any release of the liquid substance will not compromise the integrity of the cushioning material or of the outer packaging;</li><li>(iv) if multiple fragile primary receptacles are placed in a single secondary packaging they shall be individually wrapped or separated to prevent contact between them;</li></ul></li><li>(b) An outer packaging shall be strong enough for its capacity, mass and intended use, and with a smallest external dimension of at least 100 mm;</li></ul></li></ul> |                     |      |
| <b>Additional requirements:</b>  |                     |      |
| <u>Dry ice and liquid nitrogen</u> <p>When carbon dioxide, solid, (dry ice) is used as a refrigerant, the packaging shall be designed and constructed to permit the release of the gaseous carbon dioxide to prevent the build up of pressure that could rupture the packaging.</p> <p>Substances consigned in liquid nitrogen or dry ice shall be packed in primary receptacles that are capable of withstanding very low temperatures. The secondary packaging shall also be capable of withstanding very low temperatures and, in most cases, will need to be fitted over the primary receptacle individually.</p>  |                     |      |

| P905  | PACKING INSTRUCTION | P905 |
|---|---------------------|------|
| This instruction applies to UN Nos. 2990 and 3072.  |                     |      |
| Any suitable packaging is authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met, except that packagings need not conform to the requirements of Part 6.  |                     |      |
| When the life saving appliances are constructed to incorporate or are contained in rigid outer weatherproof casings (such as for lifeboats), they may be carried unpackaged.  |                     |      |
| <b>Additional requirements:</b>   |                     |      |
| <ol style="list-style-type: none"> <li>1. All dangerous substances and articles contained as equipment within the appliances shall be secured to prevent inadvertent movement and in addition: <ol style="list-style-type: none"> <li>(a) Signal devices of Class 1 shall be packed in plastics or fibreboard inner packagings;</li> <li>(b) Non-flammable, non-toxic gases shall be contained in cylinders as specified by the competent authority, which may be connected to the appliance;</li> <li>(c) Electric storage batteries (Class 8) and lithium batteries (Class 9) shall be disconnected or electrically isolated and secured to prevent any spillage of liquid; and</li> <li>(d) Small quantities of other dangerous substances (for example in Classes 3, 4.1 and 5.2) shall be packed in strong inner packagings.</li> </ol> </li> <li>2. Preparation for transport and packaging shall include provisions to prevent any accidental inflation of the appliance.</li> </ol> |                     |      |

| P906   | PACKING INSTRUCTION | P906 |
|--|---------------------|------|
| This instruction applies to UN Nos. 2315, 3151, 3152 and 3432.   |                     |      |
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:   |                     |      |
| <ol style="list-style-type: none"> <li>(1) For liquids and solids containing or contaminated with PCBs or polyhalogenated biphenyls or terphenyls: Packagings in accordance with P001 or P002, as appropriate;</li> <li>(2) For transformers and condensers and other devices: Leakproof packagings which are capable of containing, in addition to the devices, at least 1.25 times the volume of the liquid PCBs or polyhalogenated biphenyls or terphenyls present in them. There shall be sufficient absorbent material in the packagings to absorb at least 1.1 times the volume of liquid which is contained in the devices. In general, transformers and condensers shall be carried in leakproof metal packagings which are capable of holding, in addition to the transformers and condensers, at least 1.25 times the volume of the liquid present in them.</li> </ol> |                     |      |
| Notwithstanding the above, liquids and solids not packaged in accordance with P001 and P002 and unpackaged transformers and condensers may be carried in cargo transport units fitted with a leakproof metal tray to a height of at least 800 mm, containing sufficient inert absorbent material to absorb at least 1.1 times the volume of any free liquid.   |                     |      |
| <b>Additional requirement:</b>   |                     |      |
| Adequate provisions shall be taken to seal the transformers and condensers to prevent leakage during normal conditions of carriage.  |                     |      |

|  |  |                         |                          |             |
|--|--|-------------------------|--------------------------|-------------|
| <b>R001</b>  | <b>PACKING INSTRUCTION</b>               |                         |                          | <b>R001</b> |
| The following packagings are authorized provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:  |  |                         |                          |             |
| <b>Light gauge metal packagings</b>  | <b>Maximum capacity/maximum net mass</b> |                         |                          |             |
|  | <b>Packing group I</b>                   | <b>Packing group II</b> | <b>Packing group III</b> |             |
| steel, non-removable head (0A1)  | Not allowed                              | 40 l / 50 kg            | 40 l / 50 kg             |             |
| steel, removable head (0A2) <sup>a</sup>   | Not allowed                              | 40 l / 50 kg            | 40 l / 50 kg             |             |
| <sup>a</sup> <i>Not allowed for UN No. 1261 NITROMETHANE.</i>  |  |                         |                          |             |
| <b>NOTE 1:</b> <i>This instruction applies to solids and liquids (provided the design type is tested and marked appropriately).</i>  |  |                         |                          |             |
| <b>NOTE 2:</b> <i>For Class 3, packing group II, these packagings may be used only for substances with no subsidiary risk and a vapour pressure of not more than 110 kPa at 50 °C and for slightly toxic pesticides.</i> |  |                         |                          |             |

#### 4.1.4.2 *Packing instructions concerning the use of IBCs*

| IBC01  | PACKING INSTRUCTION  | IBC01 |
|--|--|-------|
| The following IBCs are authorized, provided the general provisions of <b>4.1.1</b> , <b>4.1.2</b> and <b>4.1.3</b> are met:<br>Metal (31A, 31B and 31N). |  |       |
| <b>Special packing provision specific to RID and ADR:</b>  |  |       |
| <b>BB1</b>   | For UN No. 3130, the openings of receptacles for this substance shall be tightly closed by means of two devices in series, one of which shall be screwed or secured in an equivalent manner. |       |

| IBC02   | PACKING INSTRUCTION   | IBC02 |
|---|---|-------|
| The following IBCs are authorized, provided the general provisions of <b>4.1.1</b> , <b>4.1.2</b> and <b>4.1.3</b> are met: |   |       |
| (1)   | Metal (31A, 31B and 31N);   |       |
| (2)   | Rigid plastics (31H1 and 31H2);   |       |
| (3)   | Composite (31HZ1).  |       |
| <b>Special packing provisions:</b>  |   |       |
| <b>B5</b>   | For UN Nos. 1791, 2014, 2984 and 3149, IBCs shall be provided with a device to allow venting during carriage. The inlet to the venting device shall be sited in the vapour space of the IBC under maximum filling conditions during carriage. |       |
| <b>B7</b>   | For UN Nos. 1222 and 1865, IBCs with a capacity greater than 450 litres are not permitted due to the substance's potential for explosion when carried in large volumes.   |       |
| <b>B8</b>   | The pure form of this substance shall not be transported in IBCs since it is known to have a vapour pressure of more than 110 kPa at 50 °C or 130 kPa at 55 °C.   |       |
| <b>B15</b>  | For UN No. 2031 with more than 55% nitric acid, the permitted use of rigid plastics IBCs and of composite IBCs with a rigid plastics inner receptacle shall be two years from their date of manufacture.                                      |       |
| <b>Special packing provision specific to RID and ADR:</b>   |   |       |
| <b>BB2</b>  | For UN No.1203, notwithstanding special provision 534 (see 3.3.1), IBCs shall only be used when the actual vapour pressure is not more than 110 kPa at 50 °C, or 130 kPa at 55 °C.  |       |

| IBC03   | PACKING INSTRUCTION   | IBC03 |
|---|---|-------|
| The following IBCs are authorized, provided the general provisions of <b>4.1.1</b> , <b>4.1.2</b> and <b>4.1.3</b> are met: |   |       |
| (1) Metal (31A, 31B and 31N);   |   |       |
| (2) Rigid plastics (31H1 and 31H2);   |   |       |
| (3) Composite (31HZ1, 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2).  |   |       |
| <b>Special packing provision:</b>   |   |       |
| <b>B8</b>   | The pure form of this substance shall not be carried in IBCs since it is known to have a vapour pressure of more than 110 kPa at 50 °C or 130 kPa at 55 °C. |       |

| IBC04   | PACKING INSTRUCTION | IBC04 |
|---|---------------------|-------|
| The following IBCs are authorized, provided the general provisions of <b>4.1.1</b> , <b>4.1.2</b> and <b>4.1.3</b> are met: |                     |       |
| Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N).   |                     |       |

| IBC05   | PACKING INSTRUCTION | IBC05 |
|---|---------------------|-------|
| The following IBCs are authorized, provided the general provisions of <b>4.1.1</b> , <b>4.1.2</b> and <b>4.1.3</b> are met: |                     |       |
| (1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N);   |                     |       |
| (2) Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2);   |                     |       |
| (3) Composite (11HZ1, 21HZ1 and 31HZ1).   |                     |       |

| IBC06   | PACKING INSTRUCTION   | IBC06 |
|---|---|-------|
| The following IBCs are authorized, provided the general provisions of <b>4.1.1</b> , <b>4.1.2</b> and <b>4.1.3</b> are met: |   |       |
| (1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N);   |   |       |
| (2) Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2);   |   |       |
| (3) Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2).  |   |       |
| <b>Additional requirement:</b>  |   |       |
| Composite IBCs 11HZ2 and 21HZ2 shall not be used when the substances being carried may become liquid during carriage.       |   |       |
| <b>Special packing provisions:</b>  |   |       |
| <b>B12</b>  | For UN No. 2907, IBCs shall meet the packing group II performance level. IBCs meeting the test criteria of packing group I shall not be used. |       |

| IBC07   | PACKING INSTRUCTION | IBC07 |
|---|---------------------|-------|
| The following IBCs are authorized, provided the general provisions of <b>4.1.1</b> , <b>4.1.2</b> and <b>4.1.3</b> are met: |                     |       |
| (1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N);   |                     |       |
| (2) Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2);   |                     |       |
| (3) Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2);  |                     |       |
| (4) Wooden (11C, 11D and 11F).  |                     |       |
| <b>Additional requirement:</b>  |                     |       |
| Liners of wooden IBCs shall be sift-proof.  |                     |       |

| IBC08   | PACKING INSTRUCTION   | IBC08 |
|---|---|-------|
| The following IBCs are authorized, provided the general provisions of <b>4.1.1</b> , <b>4.1.2</b> and <b>4.1.3</b> are met: |   |       |
| (1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N);   |   |       |
| (2) Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2);   |   |       |
| (3) Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2);  |   |       |
| (4) Fibreboard (11G);   |   |       |
| (5) Wooden (11C, 11D and 11F);  |   |       |
| (6) Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 and 13M2).   |   |       |
| <b>Special packing provisions:</b>  |   |       |
| <b>B3</b>   | Flexible IBCs shall be sift-proof and water-resistant or shall be fitted with a sift-proof and water-resistant liner.                                 |       |
| <b>B4</b>   | Flexible, fibreboard or wooden IBCs shall be sift-proof and water-resistant or shall be fitted with a sift-proof and water-resistant liner.           |       |
| <b>B6</b>   | For UN Nos. 1363, 1364, 1365, 1386, 1408, 1841, 2211, 2217, 2793 and 3314, IBCs are not required to meet the IBC testing requirements of Chapter 6.5. |       |
| <b>B13</b>  | <i><b>Note:</b> For UN Nos. 1748, 2208 and 2880, carriage by sea in IBCs is prohibited according to the IMDG Code.</i>                                |       |

| IBC99  | PACKING INSTRUCTION | IBC99 |
|--|---------------------|-------|
| Only IBCs which are approved for these goods by the competent authority may be used. A copy of the competent authority approval shall accompany each consignment or the transport document shall include an indication that the packaging was approved by the competent authority. |                     |       |



| IBC100   | PACKING INSTRUCTION   | IBC100 |
|--|---|--------|
| This instruction applies to UN Nos. 0082, 0241, 0331 and 0332.   |   |        |
| The following IBCs are authorized, provided the general provisions of <b>4.1.1</b> , <b>4.1.2</b> and <b>4.1.3</b> and special provisions of <b>4.1.5</b> are met: |   |        |
| (1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N);  |   |        |
| (2) Flexible (13H2, 13H3, 13H4, 13L2, 13L3, 13L4 and 13M2);  |   |        |
| (3) Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2);  |   |        |
| (4) Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2).   |   |        |
| <b>Additional requirements:</b>  |   |        |
| 1. IBCs shall only be used for free flowing substances.  |   |        |
| 2. Flexible IBCs shall only be used for solids.  |   |        |
| <b>Special packing provisions:</b>   |   |        |
| <b>B9</b>  | For UN No. 0082, this packing instruction may only be used when the substances are mixtures of ammonium nitrate or other inorganic nitrates with other combustible substances which are not explosive ingredients. Such explosives shall not contain nitroglycerin, similar liquid organic nitrates, or chlorates. Metal IBCs are not authorized.   |        |
| <b>B10</b>   | For UN No. 0241, this packing instruction may only be used for substances which consist of water as an essential ingredient and high proportions of ammonium nitrate or other oxidizing substances some or all of which are in solution. The other constituents may include hydrocarbons or aluminium powder, but shall not include nitro-derivatives such as trinitrotoluene. Metal IBCs are not authorized. |        |

| IBC520   |   | PACKING INSTRUCTION  |                              |                     | IBC520                |  |
|--|---|----------------------|------------------------------|---------------------|-----------------------|--|
| This instruction applies to organic peroxides and self-reactive substances of type F.  |   |                      |                              |                     |                       |  |
| The IBCs listed below are authorized for the formulations listed, provided the general provisions of 4.1.1, 4.1.2 and 4.1.3 and special provisions of 4.1.7.2 are met. |   |                      |                              |                     |                       |  |
| For formulations not listed below, only IBCs which are approved by the competent authority may be used (see 4.1.7.2.2).  |   |                      |                              |                     |                       |  |
| UN No.   | Organic peroxide  | Type of IBC          | Maximum quantity (litres/kg) | Control Temperature | Emergency Temperature |  |
| 3109   | ORGANIC PEROXIDE, TYPE F, LIQUID  |                      |                              |                     |                       |  |
|  | tert-Butyl hydroperoxide, not more than 72% with water                          | 31A                  | 1 250                        |                     |                       |  |
|  | tert-Butyl peroxyacetate, not more than 32% in diluent type A                   | 31A<br>31HA1         | 1 250<br>1 000               |                     |                       |  |
|  | tert-Butyl peroxybenzoate, not more than 32% in diluent type A                  | 31A                  | 1 250                        |                     |                       |  |
|  | tert-Butyl peroxy-3,5,5-trimethylhexanoate, not more than 37% in diluent type A | 31A<br>31HA1         | 1 250<br>1 000               |                     |                       |  |
|  | Cumyl hydroperoxide, not more than 90% in diluent type A                        | 31HA1                | 1 250                        |                     |                       |  |
|  | Dibenzoyl peroxide, not more than 42% as a stable dispersion in water           | 31H1                 | 1 000                        |                     |                       |  |
|  | Di-tert-butyl peroxide, not more than 52% in diluent type A                     | 31A<br>31HA1         | 1 250<br>1 000               |                     |                       |  |
|  | 1,1-Di-(tert-butylperoxy) cyclohexane, not more than 42% in diluent type A      | 31H1                 | 1 000                        |                     |                       |  |
|  | 1,1-Di-(tert-butylperoxy) cyclohexane, not more than 37% in diluent type A      | 31A                  | 1 250                        |                     |                       |  |
|  | Dilauroyl peroxide, not more than 42%, stable dispersion, in water              | 31HA1                | 1 000                        |                     |                       |  |
|  | Isopropyl cumyl hydroperoxide, not more than 72% in diluent type A              | 31HA1                | 1 250                        |                     |                       |  |
|  | p-Menthyl hydroperoxide, not more than 72% in diluent type A                    | 31HA1                | 1 250                        |                     |                       |  |
|  | Peroxyacetic acid, stabilized, not more than 17%                                | 31A<br>31H1<br>31HA1 | 1 500<br>1 500<br>1 500      |                     |                       |  |
| 3110   | ORGANIC PEROXIDE, TYPE F, SOLID   |                      |                              |                     |                       |  |
|  | Dicumyl peroxide  | 31A<br>31H1<br>31HA1 | 2 000                        |                     |                       |  |
| 3119   | ORGANIC PEROXIDE, TYPE F, LIQUID, TEMPERATURE CONTROLLED                        |                      |                              |                     |                       |  |
|  | tert-Amyl peroxy-pivalate, not more than 32% in diluent type A                  | 31A                  | 1 250                        | +10 °C              | +15 °C                |  |
|  | tert-Butyl peroxy-2-ethylhexanoate, not more than 32% in diluent type B         | 31HA1<br>31A         | 1 000<br>1 250               | +30 °C<br>+30 °C    | +35 °C<br>+35 °C      |  |
|  | tert-Butyl peroxyneodecanoate, not more than 32% in diluent type A              | 31A                  | 1 250                        | 0 °C                | +10 °C                |  |
|  | tert-Butyl peroxyneodecanoate, not more than 52%, stable dispersion, in water   | 31A                  | 1 250                        | -5 °C               | +5 °C                 |  |

(Cont'd on next page)

| IBC520   | PACKING INSTRUCTION (cont'd)   |              |                           |                     | IBC520                |
|--|--|--------------|---------------------------|---------------------|-----------------------|
| UN No.   | Organic peroxide   | Type of IBC  | Maximum quantity (litres) | Control Temperature | Emergency Temperature |
| 3119<br>(cont'd)   | tert-Butyl peroxyneodecanoate, not more than 42% stable dispersion, in water                     | 31A          | 1 250                     | - 5 °C              | + 5 °C                |
|  | tert-Butyl peroxy-pivalate, not more than 27% in diluent type B                                  | 31HA1<br>31A | 1 000<br>1 250            | +10 °C<br>+10 °C    | +15 °C<br>+15 °C      |
|  | Cumyl peroxyneodecanoate, not more than 52%, stable dispersion, in water                         | 31A          | 1 250                     | -15 °C              | - 5 °C                |
|  | Di-(4-tert-butylcyclohexyl) peroxydicarbonate, not more than 42%, stable dispersion, in water    | 31HA1        | 1 000                     | +30 °C              | +35 °C                |
|  | Dicetyl peroxydicarbonate, not more than 42%, stable dispersion, in water                        | 31HA1        | 1 000                     | +30 °C              | +35 °C                |
|  | Di-(2-neodecanoylperoxyisopropyl)benzene, not more than 42%, stable dispersion, in water         | 31A          | 1 250                     | -15 °C              | -5 °C                 |
|  | 3-Hydroxy-1,3,1-dimethylbutyl peroxyneodecanoate, not more than 52%, stable dispersion, in water | 31A          | 1 250                     | -15 °C              | -5 °C                 |
|  | Di-(2-ethylhexyl) peroxydicarbonate, not more than 62%, stable dispersion, in water              | 31A          | 1 250                     | -20 °C              | -10 °C                |
|  | Dimyristyl peroxydicarbonate, not more than 42%, stable dispersion, in water                     | 31HA1        | 1 000                     | +15 °C              | +20 °C                |
|  | Di-(3,5,5-trimethylhexanoyl) peroxide, not more than 38% in diluent type A                       | 31HA1<br>31A | 1 000<br>1 250            | +10 °C<br>+10 °C    | +15 °C<br>+15 °C      |
|  | Di-(3,5,5-trimethylhexanoyl) peroxide, not more than 52%, stable dispersion, in water            | 31A          | 1 250                     | +10 °C              | +15 °C                |
|  | 1,1,3,3-Tetramethylbutyl peroxyneodecanoate, not more than 52%, stable dispersion, in water      | 31A          | 1 250                     | - 5 °C              | + 5 °C                |
|  | Dicyclohexylperoxydicarbonate, not more than 42% as a stable dispersion, in water                | 31A          | 1 250                     | +10 °C              | +15 °C                |
| 3120   | <b>ORGANIC PEROXIDE, TYPE F, SOLID, TEMPERATURE CONTROLLED</b><br>No formulation listed          |              |                           |                     |                       |
| <b>Additional requirements:</b>  |  |              |                           |                     |                       |
| <p>1. IBCs shall be provided with a device to allow venting during carriage. The inlet to the pressure-relief device shall be sited in the vapour space of the IBC under maximum filling conditions during carriage.</p> <p>2. To prevent explosive rupture of metal IBCs or composite IBCs with complete metal casing, the emergency-relief devices shall be designed to vent all the decomposition products and vapours evolved during self-accelerating decomposition or during a period of not less than one hour of fire-engulfment as calculated by the formula in 4.2.1.13.8. The control and emergency temperatures specified in this packing instruction are based on a non-insulated IBC. When consigning an organic peroxide in an IBC in accordance with this instruction, it is the responsibility of the consignor to ensure that:</p> <p>(a) the pressure and emergency relief devices installed on the IBC are designed to take appropriate account of the self-accelerating decomposition of the organic peroxide and of fire-engulfment; and</p> <p>(b) when applicable, the control and emergency temperatures indicated are appropriate, taking into account the design (e.g. insulation) of the IBC to be used.</p> |  |              |                           |                     |                       |

| IBC620   | PACKING INSTRUCTION | IBC620 |
|--|---------------------|--------|
| This instruction applies to UN No. 3291.   |                     |        |
| The following IBCs are authorized, provided the general provisions of <b>4.1.1</b> , <b>4.1.2</b> and <b>4.1.3</b> are met:<br>Rigid, leakproof IBCs conforming to the packing group II performance level.   |                     |        |
| <b>Additional requirements:</b><br><br><ol style="list-style-type: none"><li>1. There shall be sufficient absorbent material to absorb the entire amount of liquid present in the IBC.</li><li>2. IBCs shall be capable of retaining liquids.</li><li>3. IBCs intended to contain sharp objects such as broken glass and needles shall be resistant to puncture.</li></ol> |                     |        |

#### 4.1.4.3 *Packing instructions concerning the use of large packagings*

| LP01   |           | PACKING INSTRUCTION (LIQUIDS)             |                 |                  | LP01                               |
|--|-----------|---|-----------------|------------------|------------------------------------|
| The following large packagings are authorized provided the general provision of 4.1.1 and 4.1.3 are met: |           |   |                 |                  |                                    |
| Inner packagings   |           | Large outer packagings                    | Packing group I | Packing group II | Packing group III                  |
| Glass  | 10 litres | Steel (50A)                               | Not allowed     | Not allowed      | Maximum capacity: 3 m <sup>3</sup> |
| Plastics   | 30 litres | Aluminium (50B)                           |                 |                  |                                    |
| Metal  | 40 litres | Metal other than steel or aluminium (50N) |                 |                  |                                    |
|  |           | Rigid plastics (50H)                      |                 |                  |                                    |
|  |           | Natural wood (50C)                        |                 |                  |                                    |
|  |           | Plywood (50D)                             |                 |                  |                                    |
|  |           | Reconstituted wood (50F)                  |                 |                  |                                    |
|  |           | Fibreboard (50G)                          |                 |                  |                                    |

| LP02   |   | PACKING INSTRUCTION (SOLIDS)              |                 |                  | LP02                               |
|--|---|---|-----------------|------------------|------------------------------------|
| The following large packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met:                  |   |   |                 |                  |                                    |
| Inner packagings   |   | Large outer packagings                    | Packing group I | Packing group II | Packing group III                  |
| Glass  | 10 kg   | Steel (50A)                               | Not allowed     | Not allowed      | Maximum capacity: 3 m <sup>3</sup> |
| Plastics <sup>b</sup>  | 50 kg   | Aluminium (50B)                           |                 |                  |                                    |
| Metal  | 50 kg   | Metal other than steel or aluminium (50N) |                 |                  |                                    |
| Paper <sup>a, b</sup>  | 50 kg   |   |                 |                  |                                    |
| Fibre <sup>a, b</sup>  | 50 kg   | Rigid plastics (50H)                      |                 |                  |                                    |
|  |   | Natural wood (50C)                        |                 |                  |                                    |
|  |   | Plywood (50D)                             |                 |                  |                                    |
|  |   | Reconstituted wood (50F)                  |                 |                  |                                    |
|  |   | Fibreboard (50G)                          |                 |                  |                                    |
|  |   | Flexible plastics (51H) <sup>c</sup>      |                 |                  |                                    |
| <sup>a</sup> These inner packagings shall not be used when the substances being carried may become liquid during carriage. |   |   |                 |                  |                                    |
| <sup>b</sup> These inner packagings shall be sift-proof.   |   |   |                 |                  |                                    |
| <sup>c</sup> To be used with flexible inner packagings only.   |   |   |                 |                  |                                    |
| <b>Special packing provision:</b>  |   |   |                 |                  |                                    |
| L2   | For UN 1950 aerosols, the large packaging shall meet the packing group III performance level. Large packagings for waste aerosols carried in accordance with special provision 327 shall have in addition a means of retaining any free liquid that might escape during carriage e.g. absorbent material. |   |                 |                  |                                    |

| LP99   | PACKING INSTRUCTION | LP99 |
|--|---------------------|------|
| Only large packagings which are approved for these goods by the competent authority may be used. A copy of the competent authority approval shall accompany each consignment or the transport document shall include an indication that the packaging was approved by the competent authority. |                     |      |

| LP101 PACKING INSTRUCTION LP101  |                         |  |
|--|-------------------------|--|
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> and special provisions of <b>4.1.5</b> are met:  |                         |  |
| Inner packagings   | Intermediate packagings | Large packagings   |
| Not necessary  | Not necessary           | Steel (50A)<br>Aluminium (50B)<br>Metal other than steel or aluminium (50N)<br>Rigid plastics (50H)<br>Natural wood (50C)<br>Plywood (50D)<br>Reconstituted wood (50F)<br>Fibreboard (50G) |
| <b>Special packing provision:</b><br><br><b>L1</b> For UN Nos. 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0243, 0244, 0245, 0246, 0254, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0328, 0329, 0344, 0345, 0346, 0347, 0362, 0363, 0370, 0412, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0488 and 0502:<br>Large and robust explosives articles, normally intended for military use, without their means of initiation or with their means of initiation containing at least two effective protective features, may be carried unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems shall be protected against stimuli encountered during normal conditions of carriage. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for carriage unpackaged. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling devices. |                         |  |

| LP102 PACKING INSTRUCTION LP102  |                         |  |
|--|-------------------------|--|
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> and special provisions of <b>4.1.5</b> are met:                            |                         |  |
| Inner packagings   | Intermediate packagings | Outer packagings   |
| <b>Bags</b><br>water resistant<br><br><b>Receptacles</b><br>fibreboard<br>metal<br>plastics<br>wood<br><br><b>Sheets</b><br>fibreboard, corrugated<br><br><b>Tubes</b><br>fibreboard | Not necessary           | Steel (50A)<br>Aluminium (50B)<br>Metal other than steel or aluminium (50N)<br>Rigid plastics (50H)<br>Natural wood (50C)<br>Plywood (50D)<br>Reconstituted wood (50F)<br>Fibreboard (50G) |

| LP621  | PACKING INSTRUCTION | LP621 |
|--|---------------------|-------|
| This instruction applies to UN No. 3291.   |                     |       |
| The following large packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:   |                     |       |
| (1) For clinical waste placed in inner packagings: Rigid, leakproof large packagings conforming to the requirements of Chapter 6.6 for solids, at the packing group II performance level, provided there is sufficient absorbent material to absorb the entire amount of liquid present and the large packaging is capable of retaining liquids; |                     |       |
| (2) For packages containing larger quantities of liquid: Large rigid packagings conforming to the requirements of Chapter 6.6, at the packing group II performance level, for liquids.   |                     |       |
| <b>Additional requirement:</b>   |                     |       |
| Large packagings intended to contain sharp objects such as broken glass and needles shall be resistant to puncture and retain liquids under the performance test conditions in Chapter 6.6.  |                     |       |

| LP902  | PACKING INSTRUCTION | LP902 |
|--|---------------------|-------|
| This instruction applies to UN No. 3268.   |                     |       |
| The following packagings are authorized, provided the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:   |                     |       |
| Packagings conforming to the packing group III performance level. The packagings shall be designed and constructed to prevent movement of the articles and inadvertent operation during normal conditions of carriage. |                     |       |
| The articles may also be carried unpackaged in dedicated handling devices, vehicles, or containers when moved from where they are manufactured to an assembly plant.   |                     |       |
| <b>Additional requirement:</b>   |                     |       |
| Any pressure vessel shall be in accordance with the requirements of the competent authority for the substance(s) contained in the pressure vessel(s).  |                     |       |

4.1.4.4 (Deleted)

**4.1.5 Special packing provisions for goods of Class 1**

- 4.1.5.1 The general provisions of Section 4.1.1 shall be met.
- 4.1.5.2 All packagings for Class 1 goods shall be so designed and constructed that:
- (a) They will protect the explosives, prevent them escaping and cause no increase in the risk of unintended ignition or initiation when subjected to normal conditions of carriage including foreseeable changes in temperature, humidity and pressure;
  - (b) The complete package can be handled safely in normal conditions of carriage; and
  - (c) The packages will withstand any loading imposed on them by foreseeable stacking to which they will be subject during carriage so that they do not add to the risk presented by the explosives, the containment function of the packagings is not harmed, and they are not distorted in a way or to an extent which will reduce their strength or cause instability of a stack.
- 4.1.5.3 All explosive substances and articles, as prepared for carriage, shall have been classified in accordance with the procedures detailed in 2.2.1.
- 4.1.5.4 Class 1 goods shall be packed in accordance with the appropriate packing instruction shown in Column (8) of Table A of Chapter 3.2, as detailed in 4.1.4.
- 4.1.5.5 Packagings, including IBCs and large packagings shall conform to the requirements of Chapter 6.1, 6.5 or 6.6, respectively, and shall meet the test requirements of 6.1.5, 6.5.6 or 6.6.5, respectively, for packing group II, subject to 4.1.1.13, 6.1.2.4 and 6.5.1.4.4. Packagings other than metal packagings meeting the test criteria of packing group I may be used. To avoid unnecessary confinement, metal packagings of packing group I shall not be used.
- 4.1.5.6 The closure device of packagings containing liquid explosives shall ensure a double protection against leakage.
- 4.1.5.7 The closure device of metal drums shall include a suitable gasket; if a closure device includes a screw-thread, the ingress of explosive substances into the screw-thread shall be prevented.
- 4.1.5.8 Packagings for water soluble substances shall be water resistant. Packagings for desensitized or phlegmatized substances shall be closed to prevent changes in concentration during carriage.
- 4.1.5.9 When the packaging includes a double envelope filled with water which may freeze during transport, a sufficient quantity of an anti-freeze agent shall be added to the water to prevent freezing. Anti-freeze that could create a fire hazard because of its inherent flammability shall not be used.
- 4.1.5.10 Nails, staples and other closure devices made of metal without protective covering shall not penetrate to the inside of the outer packaging unless the inner packaging adequately protects the explosives against contact with the metal.
- 4.1.5.11 Inner packagings, fittings and cushioning materials and the placing of explosive substances or articles in packages shall be accomplished in a manner which prevents the explosive substances or articles from becoming loose in the outer packaging under normal conditions of carriage. Metallic components of articles shall be prevented from making contact with metal packagings. Articles containing explosive substances not enclosed in an outer casing shall be separated from each other in order to prevent friction and impact. Padding, trays, partitioning in the inner or outer packaging, mouldings or receptacles may be used for this purpose.



- 4.1.5.12 Packagings shall be made of materials compatible with, and impermeable to, the explosives contained in the package, so that neither interaction between the explosives and the packaging materials, nor leakage, causes the explosive to become unsafe to carriage, or the hazard division or compatibility group to change.
- 4.1.5.13 The ingress of explosive substances into the recesses of seamed metal packagings shall be prevented.
- 4.1.5.14 Plastics packagings shall not be liable to generate or accumulate sufficient static electricity so that a discharge could cause the packaged explosive substances or articles to initiate, ignite or function.
- 4.1.5.15 Large and robust explosives articles, normally intended for military use, without their means of initiation or with their means of initiation containing at least two effective protective features, may be carried unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems shall be protected against stimuli encountered during normal conditions of carriage. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for carriage unpackaged. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling, storage or launching devices in such a way that they will not become loose during normal conditions of carriage.

Where such large explosive articles are as part of their operational safety and suitability tests subjected to test regimes that meet the intentions of ADR and such tests have been successfully undertaken, the competent authority may approve such articles to be carried in accordance with ADR.

- 4.1.5.16 Explosive substances shall not be packed in inner or outer packagings where the differences in internal and external pressures, due to thermal or other effects, could cause an explosion or rupture of the package.
- 4.1.5.17 Whenever loose explosive substances or the explosive substance of an uncased or partly cased article may come into contact with the inner surface of metal packagings (1A2, 1B2, 4A, 4B and metal receptacles), the metal packaging shall be provided with an inner liner or coating (see 4.1.1.2).
- 4.1.5.18 Packing instruction P101 may be used for any explosive provided the packaging has been approved by a competent authority regardless of whether the packaging complies with the packing instruction assignment in Column (8) of Table A of Chapter 3.2.

#### **4.1.6 Special packing provisions for goods of Class 2 and goods of other classes assigned to packing instruction P200**

- 4.1.6.1 This section provides general requirements applicable to the use of pressure receptacles and open cryogenic receptacles for the carriage of Class 2 substances and goods of other classes assigned to packing instruction P200 (e.g. UN 1051 hydrogen cyanide, stabilized). Pressure receptacles shall be constructed and closed so as to prevent any loss of contents which might be caused under normal conditions of carriage, including by vibration, or by changes in temperature, humidity or pressure (resulting from change in altitude, for example).
- 4.1.6.2 Parts of pressure receptacles and open cryogenic receptacles which are in direct contact with dangerous goods shall not be affected or weakened by those dangerous goods and shall not cause a dangerous effect (e.g. catalysing a reaction or reacting with the dangerous goods) (see also table of standards at the end of this section).

- 4.1.6.3 Pressure receptacles, including their closures and open cryogenic receptacles, shall be selected to contain a gas or a mixture of gases according to the requirements of 6.2.1.2 and the requirements of the relevant packing instructions of 4.1.4.1. This sub-section also applies to pressure receptacles which are elements of MEGCs and battery-vehicles.
- 4.1.6.4 A change of use of a refillable pressure receptacle shall include emptying, purging and evacuation operations to the extent necessary for safe operation (see also table of standards at the end of this section). In addition, a pressure receptacle that previously contained a Class 8 corrosive substance or a substance of another class with a corrosive subsidiary risk shall not be authorized for the carriage of a Class 2 substance unless the necessary inspection and testing as specified in 6.2.1.6 and 6.2.3.5 respectively have been performed.
- 4.1.6.5 Prior to filling, the packer shall perform an inspection of the pressure receptacle or open cryogenic receptacle and ensure that the pressure receptacle or open cryogenic receptacle is authorized for the substance to be carried and that the requirements have been met. Shut-off valves shall be closed after filling and remain closed during carriage. The consignor shall verify that the closures and equipment are not leaking.

*NOTE: Shut-off valves fitted to individual cylinders in bundles may be open during carriage, unless the substance carried is subject to special packing provision 'k' or 'q' in packing provision P200.*

- 4.1.6.6 Pressure receptacles and open cryogenic receptacles shall be filled according to the working pressures, filling ratios and provisions specified in the appropriate packing instruction for the specific substance being filled. Reactive gases and gas mixtures shall be filled to a pressure such that if complete decomposition of the gas occurs, the working pressure of the pressure receptacle shall not be exceeded. Bundles of cylinders shall not be filled in excess of the lowest working pressure of any given cylinder in the bundle.
- 4.1.6.7 Pressure receptacles, including their closures, shall conform to the design, construction, inspection and testing requirements detailed in Chapter 6.2. When outer packagings are prescribed, the pressure receptacles and open cryogenic receptacles shall be firmly secured therein. Unless otherwise specified in the detailed packing instructions, one or more inner packagings may be enclosed in one outer packaging.
- 4.1.6.8 Valves shall be designed and constructed in such a way that they are inherently able to withstand damage without release of the contents or shall be protected from damage which could cause inadvertent release of the contents of the pressure receptacle, by one of the following methods (see also table of standards at the end of this section):
- (a) Valves are placed inside the neck of the pressure receptacle and protected by a threaded plug or cap;
  - (b) Valves are protected by caps. Caps shall possess vent-holes of sufficient cross-sectional area to evacuate the gas if leakage occurs at the valves;
  - (c) Valves are protected by shrouds or guards;
  - (d) Pressure receptacles are carried in frames, (e.g. cylinders in bundles); or
  - (e) Pressure receptacles are carried in protective boxes. For UN pressure receptacles the packaging as prepared for carriage shall be capable of meeting the drop test specified in 6.1.5.3 at the packing group I performance level.

- 4.1.6.9 Non-refillable pressure receptacles shall:
- (a) be carried in an outer packaging, such as a box or crate, or in shrink-wrapped or stretch-wrapped trays;
  - (b) be of a water capacity less than or equal to 1.25 litres when filled with flammable or toxic gas;
  - (c) not be used for toxic gases with an  $LC_{50}$  less than or equal to 200 ml/m<sup>3</sup>; and
  - (d) not be repaired after being put into service.
- 4.1.6.10 Refillable pressure receptacles shall be periodically inspected according to the provisions of 6.2.1.6 and 6.2.3.5 respectively and packing instruction P200 or P203 as applicable. Pressure receptacles shall not be filled after they become due for periodic inspection but may be carried after the expiry of the time-limit for purposes of performing inspection or disposal, including the intermediate carriage operations.
- 4.1.6.11 Repairs shall be consistent with the fabrication and testing requirements of the applicable design and construction standards and are only permitted as indicated in the relevant periodic inspection standards specified in chapter 6.2. Pressure receptacles, other than the jacket of closed cryogenic receptacles, shall not be subjected to repairs of any of the following:
- (a) weld cracks or other weld defects;
  - (b) cracks in walls;
  - (c) leaks or defects in the material of the wall, head or bottom.
- 4.1.6.12 Receptacles shall not be offered for filling:
- (a) when damaged to such an extent that the integrity of the receptacle or its service equipment may be affected;
  - (b) unless the receptacle and its service equipment has been examined and found to be in good working order; and
  - (c) unless the required certification, retest, and filling markings are legible.
- 4.1.6.13 Filled receptacles shall not be offered for carriage:
- (a) when leaking;
  - (b) when damaged to such an extent that the integrity of the receptacle or its service equipment may be affected;
  - (c) unless the receptacle and its service equipment has been examined and found to be in good working order; and
  - (d) unless the required certification, retest, and filling markings are legible.
- 4.1.6.14 For UN pressure receptacles, the ISO standards listed below shall be applied. For other pressure receptacles, the requirements of section 4.1.6 are considered to have been complied with if the following standards, as relevant, are applied:

| Applicable paragraphs                      | Reference                    | Title of document   |
|--|------------------------------|---|
| 4.1.6.2                                    | ISO 11114-1:1997             | Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 1: Metallic Materials      |
|  | ISO 11114-2:2000             | Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 2: Non-metallic Materials  |
| 4.1.6.4                                    | ISO 11621:2005               | Gas cylinders – Procedures for change of gas service  |
| 4.1.6.8<br>Valves with inherent protection | Annex A of EN ISO 10297:2006 | Gas cylinder – Refillable gas cylinder valves – Specification and type testing  |
|  | EN 13152:2001 + A1:2003      | Testing and specifications of LPG cylinder valves – self closing  |
|  | EN 13153:2001 + A1:2003      | Testing and specifications of LPG cylinder valves – manually operated   |
| 4.1.6.8 (b) and (c)                        | ISO 11117:1998               | Gas Cylinders – Valve Protection caps and valve guards for industrial and medical gas cylinders – Design construction and tests |
|  | EN 962:1996 + A2:2000        | Valve protection caps and valve guards for industrial and medical gas cylinders – Design, construction and tests                |

#### 4.1.7 Special packing provisions for organic peroxides (Class 5.2) and self-reactive substances of Class 4.1

4.1.7.0.1 For organic peroxides, all receptacles shall be "effectively closed". Where significant internal pressure may develop in a package by the evolution of a gas, a vent may be fitted, provided the gas emitted will not cause danger, otherwise the degree of filling shall be limited. Any venting device shall be so constructed that liquid will not escape when the package is in an upright position and it shall be able to prevent ingress of impurities. The outer packaging, if any, shall be so designed as not to interfere with the operation of the venting device.

##### 4.1.7.1 Use of packagings

4.1.7.1.1 Packagings for organic peroxides and self-reactive substances shall meet the requirements of Chapter 6.1 or of Chapter 6.6 at the packing group II performance level. To avoid unnecessary confinement, metal packagings meeting the test criteria of packing group I shall not be used.

4.1.7.1.2 The packing methods for organic peroxides and self-reactive substances are listed in packing instruction 520 and are designated OP1 to OP8. The quantities specified for each packing method are the maximum quantities authorized per package.

4.1.7.1.3 The packing methods appropriate for the individual currently assigned organic peroxides and self-reactive substances are listed in 2.2.41.4 and 2.2.52.4.

4.1.7.1.4 For new organic peroxides, new self-reactive substances or new formulations of currently assigned organic peroxides or self-reactive substances, the following procedure shall be used to assign the appropriate packing method:

(a) ORGANIC PEROXIDE, TYPE B or SELF-REACTIVE SUBSTANCE, TYPE B:

Packing method OP5 shall be assigned, provided that the organic peroxide (or self-reactive substance) satisfies the criteria of 20.4.3 (b) (resp. 20.4.2 (b)) of the Manual of Tests and Criteria in a packaging authorized by the packing method. If the organic

peroxide (or self-reactive substance) can only satisfy these criteria in a smaller packaging than those authorized by packing method OP5 (viz. one of the packagings listed for OP1 to OP4), then the corresponding packing method with the lower OP number is assigned;

(b) ORGANIC PEROXIDE, TYPE C or SELF-REACTIVE SUBSTANCE, TYPE C:

Packing method OP6 shall be assigned, provided that the organic peroxide (or self-reactive substance) satisfies the criteria of 20.4.3 (c) (resp. 20.4.2 (c)) of the Manual of Tests and Criteria in a packaging authorized by the packing method. If the organic peroxide (or self-reactive substance) can only satisfy these criteria in a smaller packaging than those authorized by packing method OP6 then the corresponding packing method with the lower OP number is assigned;

(c) ORGANIC PEROXIDE, TYPE D or SELF-REACTIVE SUBSTANCE, TYPE D:

Packing method OP7 shall be assigned to this type of organic peroxide or self-reactive substance;

(d) ORGANIC PEROXIDE, TYPE E or SELF-REACTIVE SUBSTANCE, TYPE E:

Packing method OP8 shall be assigned to this type of organic peroxide or self-reactive substance;

(e) ORGANIC PEROXIDE, TYPE F or SELF-REACTIVE SUBSTANCE, TYPE F:

Packing method OP8 shall be assigned to this type of organic peroxide or self-reactive substance.

#### **4.1.7.2      *Use of intermediate bulk containers***

4.1.7.2.1      The currently assigned organic peroxides specifically listed in packing instruction IBC520 may be carried in IBCs in accordance with this packing instruction.

4.1.7.2.2      Other organic peroxides and self-reactive substances of type F may be carried in IBCs under conditions established by the competent authority of the country of origin when, on the basis of the appropriate tests, that competent authority is satisfied that such carriage may be safely conducted. The tests undertaken shall include those necessary:

- (a) To prove that the organic peroxide (or self-reactive substance) complies with the principles for classification given in 20.4.3 (f) [resp. 20.4.2 (f)] of the Manual of Tests and Criteria, exit box F of Figure 20.1 (b) of the Manual;
- (b) To prove the compatibility of all materials normally in contact with the substance during carriage;
- (c) To determine, when applicable, the control and emergency temperatures associated with the carriage of the product in the IBC concerned as derived from the SADT;
- (d) To design, when applicable, pressure and emergency relief devices; and
- (e) To determine if any special provisions are necessary for safe carriage of the substance.

If the country of origin is not a Contracting Party to ADR, the classification and transport conditions shall be recognized by the competent authority of the first country Contracting Party to ADR reached by the consignment.

- 4.1.7.2.3 Emergencies to be taken into account are self-accelerating decomposition and fire engulfment. To prevent explosive rupture of metal or composite IBCs with a complete metal casing, the emergency-relief devices shall be designed to vent all the decomposition products and vapours evolved during self-accelerating decomposition or during a period of not less than one hour of complete fire engulfment calculated by the equations given in 4.2.1.13.8.

#### **4.1.8 Special packing provisions for infectious substances (Class 6.2)**

- 4.1.8.1 Consignors of infectious substances shall ensure that packages are prepared in such a manner that they arrive at their destination in good condition and present no hazard to persons or animals during carriage.
- 4.1.8.2 The definitions in 1.2.1 and the general packing provisions of 4.1.1.1 to 4.1.1.16, except 4.1.1.3, 4.1.1.9 to 4.1.1.12 and 4.1.1.15 apply to infectious substances packages. However, liquids shall only be filled into packagings which have an appropriate resistance to the internal pressure that may develop under normal conditions of carriage.
- 4.1.8.3 An itemized list of contents shall be enclosed between the secondary packaging and the outer packaging. When the infectious substances to be carried are unknown, but suspected of meeting the criteria for inclusion in Category A, the words "suspected Category A infectious substance" shall be shown, in parenthesis, following the proper shipping name on the document inside the outer packaging.
- 4.1.8.4 Before an empty packaging is returned to the consignor, or sent elsewhere, it shall be disinfected or sterilized to nullify any hazard and any label or marking indicating that it had contained an infectious substance shall be removed or obliterated.
- 4.1.8.5 Provided an equivalent level of performance is maintained, the following variations in the primary receptacles placed within a secondary packaging are allowed without the need for further testing of the completed packaging:
- (a) Primary receptacles of equivalent or smaller size as compared to the tested primary receptacles may be used provided:
    - (i) the primary receptacles are of similar design to the primary receptacle tested (e.g. shape: round, rectangular, etc.);
    - (ii) the material of construction of the primary receptacles (e.g. glass, plastics, metal) offers resistance to impact and stacking forces equivalent to or better than that of the primary receptacles originally tested;
    - (iii) the primary receptacles have the same or smaller openings and the closure is of equivalent design (e.g. screw cap, friction lid, etc.);
    - (iv) sufficient additional cushioning material is used to take up empty spaces and to prevent significant movement of the primary receptacles; and
    - (v) primary receptacles are oriented within the secondary packagings in the same manner as in the tested package;
  - (b) A lesser number of the tested primary receptacles, or of the alternative types of primary receptacles identified in (a) above, may be used provided sufficient cushioning is added to fill the void space(s) and to prevent significant movement of the primary receptacles.

- 4.1.8.6 Paragraphs 4.1.8.1 to 4.1.8.5 only apply to infectious substances of Category A (UN Nos. 2814 and 2900). They do not apply to UN No. 3373 BIOLOGICAL SUBSTANCE, CATEGORY B (see packing instruction P650 of 4.1.4.1), nor to UN No. 3291 CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S.
- 4.1.8.7 For the carriage of animal material, packagings or IBCs not specifically authorized in the applicable packing instruction shall not be used for the carriage of a substance or article unless specifically approved by the competent authority of the country of origin<sup>2</sup> and provided:
- (a) The alternative packaging complies with the general requirements of this Part;
  - (b) When the packing instruction indicated in Column (8) of Table A of Chapter 3.2 so specifies, the alternative packaging meets the requirements of Part 6;
  - (c) The competent authority of the country of origin<sup>2</sup> determines that the alternative packaging provides at least the same level of safety as if the substance were packed in accordance with a method specified in the particular packing instruction indicated in Column (8) of Table A of Chapter 3.2; and
  - (d) A copy of the competent authority approval accompanies each consignment or the transport document includes an indication that alternative packaging was approved by the competent authority.

#### **4.1.9 Special packing provisions for Class 7**

##### **4.1.9.1 General**

- 4.1.9.1.1 Radioactive material, packagings and packages shall meet the requirements of Chapter 6.4. The quantity of radioactive material in a package shall not exceed the limits specified in 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6, special provision 336 of Chapter 3.3 and 4.1.9.3.

The types of packages for radioactive materials covered by ADR, are:

- (a) Excepted package (see 1.7.1.5);
- (b) Industrial package Type 1 (Type IP-1 package);
- (c) Industrial package Type 2 (Type IP-2 package);
- (d) Industrial package Type 3 (Type IP-3 package);
- (e) Type A package;
- (f) Type B(U) package;
- (g) Type B(M) package;
- (h) Type C package.

Packages containing fissile material or uranium hexafluoride are subject to additional requirements.

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<sup>2</sup> If the country of origin is not a Contracting Party to ADR, the competent authority of the first Contracting Party to the ADR reached by the consignment.



4.1.9.1.2 The non-fixed contamination on the external surfaces of any package shall be kept as low as practicable and, under routine conditions of transport, shall not exceed the following limits:

- (a) 4 Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters; and
- (b) 0.4 Bq/cm<sup>2</sup> for all other alpha emitters.

These limits are applicable when averaged over any area of 300 cm<sup>2</sup> of any part of the surface.

4.1.9.1.3 A package, other than an excepted package, shall not contain any items other than those that are necessary for the use of the radioactive material. The interaction between these items and the package under the conditions of carriage applicable to the design, shall not reduce the safety of the package.

4.1.9.1.4 Except as provided in 7.5.11, CV33, the level of non-fixed contamination on the external and internal surfaces of overpacks, containers, tanks, IBCs and vehicles shall not exceed the limits specified in 4.1.9.1.2.

4.1.9.1.5 Radioactive material with a subsidiary risk shall be carried in packagings, IBCs or tanks fully complying with the requirements of the relevant chapters of Part 6 as appropriate, as well as applicable requirements of Chapters 4.1, 4.2 or 4.3 for that subsidiary risk.

4.1.9.1.6 Before the first shipment of any package, the following requirements shall be fulfilled:

- (a) If the design pressure of the containment system exceeds 35 kPa (gauge), it shall be ensured that the containment system of each package conforms to the approved design requirements relating to the capability of that system to maintain its integrity under that pressure;
- (b) For each Type B(U), Type B(M) and Type C package and for each package containing fissile material, it shall be ensured that the effectiveness of its shielding and containment and, where necessary, the heat transfer characteristics and the effectiveness of the confinement system, are within the limits applicable to or specified for the approved design;
- (c) For packages containing fissile material, where, in order to comply with the requirements of 6.4.11.1, neutron poisons are specifically included as components of the package, checks shall be performed to confirm the presence and distribution of those neutron poisons.

4.1.9.1.7 Before each shipment of any package, the following requirements shall be fulfilled:

- (a) For any package it shall be ensured that all the requirements specified in the relevant provisions of ADR have been satisfied;
- (b) It shall be ensured that lifting attachments which do not meet the requirements of 6.4.2.2 have been removed or otherwise rendered incapable of being used for lifting the package, in accordance with 6.4.2.3;
- (c) For each package requiring competent authority approval, it shall be ensured that all the requirements specified in the approval certificates have been satisfied;
- (d) Each Type B(U), Type B(M) and Type C package shall be held until equilibrium conditions have been approached closely enough to demonstrate compliance with the



requirements for temperature and pressure unless an exemption from these requirements has received unilateral approval;

- (e) For each Type B(U), Type B(M) and Type C package, it shall be ensured by inspection and/or appropriate tests that all closures, valves, and other openings of the containment system through which the radioactive contents might escape are properly closed and, where appropriate, sealed in the manner for which the demonstrations of compliance with the requirements of 6.4.8.8 and 6.4.10.3 were made;
- (f) For each special form radioactive material, it shall be ensured that all the requirements specified in the approval certificate and the relevant provisions of ADR have been satisfied;
- (g) For packages containing fissile material the measurement specified in 6.4.11.4 (b) and the tests to demonstrate closure of each package as specified in 6.4.11.7 shall be performed where applicable;
- (h) For each low dispersible radioactive material, it shall be ensured that all the requirements specified in the approval certificate and the relevant provisions of ADR have been satisfied.

4.1.9.1.8 The consignor shall also have a copy of any instructions with regard to the proper closing of the package and any preparation for shipment before making any shipment under the terms of the certificates.

4.1.9.1.9 Except for consignments under exclusive use, the transport index of any package or overpack shall not exceed 10, nor shall the criticality safety index of any package or overpack exceed 50.

4.1.9.1.10 Except for packages or overpacks carried under exclusive use under the conditions specified in 7.5.11, CV33 (3.5)(a), the maximum radiation level at any point on any external surface of a package or overpack shall not exceed 2 mSv/h.

4.1.9.1.11 The maximum radiation level at any point on any external surface of a package or overpack under exclusive use shall not exceed 10 mSv/h.

#### **4.1.9.2      *Requirements and controls for carriage of LSA material and SCO***

4.1.9.2.1 The quantity of LSA material or SCO in a single Type IP-1 package, Type IP-2 package, Type IP-3 package, or object or collection of objects, whichever is appropriate, shall be so restricted that the external radiation level at 3 m from the unshielded material or object or collection of objects does not exceed 10 mSv/h.

4.1.9.2.2 For LSA material and SCO which is or contains fissile material the applicable requirements of 6.4.11.1 and 7.5.11 CV33 (4.1) and (4.2) shall be met.

4.1.9.2.3 LSA material and SCO in groups LSA-I and SCO-I may be carried unpackaged under the following conditions:

- (a) All unpackaged material other than ores containing only naturally occurring radionuclides shall be carried in such a manner that under routine conditions of carriage there will be no escape of the radioactive contents from the vehicle nor will there be any loss of shielding;
- (b) Each vehicle shall be under exclusive use, except when only carrying SCO-I on which the contamination on the accessible and the inaccessible surfaces is not greater than

ten times the corresponding level according to the definition of "contamination" in 2.2.7.1.2; and

- (c) For SCO-I where it is suspected that non-fixed contamination exists on inaccessible surfaces in excess of the values specified in 2.2.7.2.3.2 (a)(i), measures shall be taken to ensure that the radioactive material is not released into the vehicle.

4.1.9.2.4 LSA material and SCO, except as otherwise specified in 4.1.9.2.3, shall be packaged in accordance with the table below:

**Industrial package requirements for LSA material and SCO**

| Radioactive contents | Industrial package type |                         |
|----------------------|-------------------------|-------------------------|
|                      | Exclusive use           | Not under exclusive use |
| LSA-I                |                         |                         |
| Solid <sup>a</sup>   | Type IP-1               | Type IP-1               |
| Liquid               | Type IP-1               | Type IP-2               |
| LSA-II               |                         |                         |
| Solid                | Type IP-2               | Type IP-2               |
| Liquid and gas       | Type IP-2               | Type IP-3               |
| LSA-III              | Type IP-2               | Type IP-3               |
| SCO-I <sup>a</sup>   | Type IP-1               | Type IP-1               |
| SCO-II               | Type IP-2               | Type IP-2               |

<sup>a</sup> Under the conditions specified in 4.1.9.2.3, LSA-I material and SCO-I may be carried unpackaged.

#### 4.1.9.3 Packages containing fissile material

Unless not classified as fissile in accordance with 2.2.7.2.3.5, packages containing fissile material shall not contain:

- (a) A mass of fissile material different from that authorized for the package design;
- (b) Any radionuclide or fissile material different from those authorized for the package design; or
- (c) Contents in a form or physical or chemical state, or in a spatial arrangement, different from those authorized for the package design;

as specified in their certificates of approval where appropriate.

#### 4.1.10 Special provisions for mixed packing

4.1.10.1 When mixed packing is permitted in accordance with the provisions of this section, different dangerous goods or dangerous goods and other goods may be packed together in combination packagings conforming to 6.1.4.21, provided that they do not react dangerously with one another and that all other relevant provisions of this Chapter are complied with.

**NOTE 1:** See also 4.1.1.5 and 4.1.1.6.

**NOTE 2:** For goods of Class 7, see 4.1.9.

- 4.1.10.2 Except for packages containing Class 1 goods only or Class 7 goods only, if wooden or fibreboard boxes are used as outer packagings, a package containing different goods packed together shall not weigh more than 100 kg.
- 4.1.10.3 Unless otherwise prescribed by a special provision applicable according to 4.1.10.4, dangerous goods of the same class and the same classification code may be packed together.
- 4.1.10.4 When indicated for a given entry in Column (9b) of Table A of Chapter 3.2, the following special provisions shall apply to the mixed packing of the goods assigned to that entry with other goods in the same package.
- MP 1 May only be packed together with goods of the same type within the same compatibility group.
- MP 2 Shall not be packed together with other goods.
- MP 3 Mixed packing of UN No. 1873 with UN No. 1802 is permitted.
- MP 4 Shall not be packed together with goods of other classes or with goods which are not subject to the requirements of ADR. However, if this organic peroxide is a hardener or compound system for Class 3 substances, mixed packing is permitted with these substances of Class 3.
- MP 5 UN No. 2814 and UN No. 2900 may be packed together in a combination packaging in conformity with P620. They shall not be packed together with other goods; this does not apply to UN No. 3373 Biological substance, Category B packed in accordance with P650 or to substances added as coolants, e.g. ice, dry ice or refrigerated liquid nitrogen.
- MP 6 Shall not be packed together with other goods. This does not apply to substances added as coolants, e.g. ice, dry ice or refrigerated liquid nitrogen.
- MP 7 May - in quantities not exceeding 5 litres per inner packaging - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods of the same class covered by other classification codes when mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR,
- provided they do not react dangerously with one another.
- MP 8 May - in quantities not exceeding 3 litres per inner packaging - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods of the same class covered by other classification codes when mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR,
- provided they do not react dangerously with one another.

- MP 9 May be packed together in an outer packaging for combination packagings in accordance with 6.1.4.21:
- with other goods of Class 2;
  - with goods of other classes, when the mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR,
- provided they do not react dangerously with one another.
- MP 10 May - in quantities not exceeding 5 kg per inner packaging - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR,
- provided they do not react dangerously with one another.
- MP 11 May - in quantities not exceeding 5 kg per inner packaging - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods of the same class covered by other classification codes or with goods of other classes (except substances of packing group I or II of Class 5.1) when mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR,
- provided they do not react dangerously with one another.
- MP 12 May - in quantities not exceeding 5 kg per inner packaging - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods of the same class covered by other classification codes or with goods of other classes (except substances of packing group I or II of Class 5.1) when mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR,
- provided they do not react dangerously with one another.
- Packagings shall not weigh more than 45 kg. If fibreboard boxes are used as outer packagings however, a package shall not weigh more than 27 kg.
- MP 13 May - in quantities not exceeding 3 kg per inner packaging and per package - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR,
- provided they do not react dangerously with one another.

- MP 14      May - in quantities not exceeding 6 kg per inner packaging - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR,
- provided they do not react dangerously with one another.
- MP 15      May - in quantities not exceeding 3 litres per inner packaging - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR,
- provided they do not react dangerously with one another.
- MP 16      May - in quantities not exceeding 3 litres per inner packaging and per package - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR,
- provided they do not react dangerously with one another.
- MP 17      May - in quantities not exceeding 0.5 litre per inner packaging and 1 litre per package - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods of other classes, except Class 7, when mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR,
- provided they do not react dangerously with one another.
- MP 18      May - in quantities not exceeding 0.5 kg per inner packaging and 1 kg per package - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods or articles of other classes, except Class 7, when mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR,
- provided they do not react dangerously with one another.

- MP 19 May - in quantities not exceeding 5 litres per inner packaging - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
  - with goods which are not subject to the requirements of ADR, provided they do not react dangerously with one another.
- MP 20 May be packed together with substances covered by the same UN number.
- Shall not be packed together with goods and articles of Class 1 having different UN numbers, except if provided for by special provision MP 24.
- Shall not be packed together with goods of other classes or with goods which are not subject to the requirements of ADR.
- MP 21 May be packed together with articles covered by the same UN number.
- Shall not be packed together with goods of Class 1 having different UN numbers, except for:
- (a) their own means of initiation, provided that
    - (i) the means of initiation will not function under normal conditions of carriage; or
    - (ii) such means have at least two effective protective features which prevent explosion of an article in the event of accidental functioning of the means of initiation; or
    - (iii) when such means do not have two effective protective features (i.e. means of initiation assigned to compatibility group B), in the opinion of the competent authority of the country of origin<sup>3</sup>, the accidental functioning of the means of initiation does not cause the explosion of an article under normal conditions of carriage;
  - (b) articles of compatibility groups C, D and E.
- Shall not be packed together with goods of other classes or with goods which are not subject to the requirements of ADR.
- When goods are packed together in accordance with this special provision, account shall be taken of a possible amendment of the classification of packages in accordance with 2.2.1.1. For the description of the goods in the transport document, see 5.4.1.2.1 (b).

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<sup>3</sup> *If the country of origin is not a Contracting Party to ADR, the approval shall require validation by the competent authority of the first country Contracting Party to ADR reached by the consignment.*

- MP 22      May be packed together with articles covered by the same UN number.
- Shall not be packed together with goods of Class 1 having different UN numbers, except
- (a)    With their own means of initiation, provided that the means of initiation will not function under normal conditions of carriage; or
  - (b)    With articles of compatibility groups C, D and E; or
  - (c)    If provided for by special provision MP 24.
- Shall not be packed together with goods of other classes or with goods which are not subject to the requirements of ADR.
- When goods are packed together in accordance with this special provision, account shall be taken of a possible amendment of the classification of packages in accordance with 2.2.1.1. For the description of the goods in the transport document, see 5.4.1.2.1 (b).
- MP 23      May be packed together with articles covered by the same UN number.
- Shall not be packed together with goods and articles of Class 1 having different UN numbers, except
- (a)    With their own means of initiation, provided that the means of initiation will not function under normal conditions of carriage; or
  - (b)    If provided for by special provision MP 24.
- Shall not be packed together with goods of other classes or with goods which are not subject to the requirements of ADR.
- When goods are packed together in accordance with this special provision, account shall be taken of a possible amendment of the classification of packages in accordance with 2.2.1.1. For the description of the goods in the transport document, see 5.4.1.2.1 (b).
- MP 24      May be packed together with goods with the UN numbers shown in the table below, under the following conditions:
- if a letter A is indicated in the table, the goods with those UN numbers may be included in the same package without any special limitation of mass;
  - if a letter B is indicated in the table, the goods with those UN numbers may be included in the same package up to a total mass of 50 kg of explosive substances.
- When goods are packed together in accordance with this special provision, account shall be taken of a possible amendment of the classification of packages in accordance with 2.2.1.1. For the description of the goods in the transport document, see 5.4.1.2.1 (b).

[illegible]



## CHAPTER 4.2

### USE OF PORTABLE TANKS AND UN MULTIPLE-ELEMENT GAS CONTAINERS (MEGCs)

**NOTE 1:** *For fixed tanks (tank-vehicles), demountable tanks and tank-containers and tank-swap bodies, with shells made of metallic materials, and battery-vehicles and multiple element gas containers (MEGCs), see Chapter 4.3; for fibre-reinforced plastics tanks, see Chapter 4.4; for vacuum operated waste tanks, see Chapter 4.5.*

**NOTE 2:** *Portable tanks and UN MEGCs marked in accordance with the applicable provisions of Chapter 6.7 but which were approved in a State which is not a Contracting Party to ADR may nevertheless be used for carriage under ADR..*

#### **4.2.1 General provisions for the use of portable tanks for the carriage of substances of Class 1 and Classes 3 to 9**

4.2.1.1 This section provides general provisions applicable to the use of portable tanks for the carriage of substances of Classes 1, 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 7, 8 and 9. In addition to these general provisions, portable tanks shall conform to the design, construction, inspection and testing requirements detailed in 6.7.2. Substances shall be carried in portable tanks conforming to the applicable portable tank instruction identified in Column (10) of the Table A of Chapter 3.2 and described in 4.2.5.2.6 (T1 to T23) and the portable tank special provisions assigned to each substance in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3.

4.2.1.2 During carriage, portable tanks shall be adequately protected against damage to the shell and service equipment resulting from lateral and longitudinal impact and overturning. If the shell and service equipment are so constructed as to withstand impact or overturning it need not be protected in this way. Examples of such protection are given in 6.7.2.17.5.

4.2.1.3 Certain substances are chemically unstable. They are accepted for carriage only when the necessary steps have been taken to prevent their dangerous decomposition, transformation or polymerization during carriage. To this end, care shall in particular be taken to ensure that shells do not contain any substances liable to promote these reactions.

4.2.1.4 The temperature of the outer surface of the shell excluding openings and their closures or of the thermal insulation shall not exceed 70 °C during carriage. When necessary, the shell shall be thermally insulated.

4.2.1.5 Empty portable tanks not cleaned and not gas-free shall comply with the same provisions as portable tanks filled with the previous substance.

4.2.1.6 Substances shall not be carried in the same or in adjoining compartments of shells when they may react dangerously with each other (see definition for "dangerous reaction" in 1.2.1).

4.2.1.7 The design approval certificate, the test report and the certificate showing the results of the initial inspection and test for each portable tank issued by the competent authority or its authorized body shall be retained by the authority or body and the owner. Owners shall be able to provide this documentation upon the request of any competent authority.

4.2.1.8 Unless the name of the substance(s) being carried appears on the metal plate described in 6.7.2.20.2 a copy of the certificate specified in 6.7.2.18.1 shall be made available upon the request of a competent authority or its authorized body and readily provided by the consignor, consignee or agent, as appropriate.

**4.2.1.9 Degree of filling**

4.2.1.9.1 Prior to filling, the consignor shall ensure that the appropriate portable tank is used and that the portable tank is not filled with substances which in contact with the materials of the shell, gaskets, service equipment and any protective linings, are likely to react dangerously with them to form dangerous products or appreciably weaken these materials. The consignor may need to consult the manufacturer of the substance in conjunction with the competent authority for guidance on the compatibility of the substance with the portable tank materials.

4.2.1.9.1.1 Portable tanks shall not be filled above the extent provided in 4.2.1.9.2 to 4.2.1.9.6. The applicability of 4.2.1.9.2, 4.2.1.9.3 or 4.2.1.9.5.1 to individual substances is specified in the applicable portable tank instruction or special provisions in 4.2.5.2.6 or 4.2.5.3 and Column (10) or (11) of Table A of Chapter 3.2.

4.2.1.9.2 The maximum degree of filling (in %) for general use is determined by the formula:

$$\text{Degree of filling} = \frac{97}{1 + \alpha (t_r - t_f)}$$

4.2.1.9.3 The maximum degree of filling (in %) for liquids of Class 6.1 and Class 8, in packing groups I and II, and liquids with an absolute vapour pressure of more than 175 kPa (1.75 bar) at 65 °C, is determined by the formula:

$$\text{Degree of filling} = \frac{95}{1 + \alpha (t_r - t_f)}$$

4.2.1.9.4 In these formulae,  $\alpha$  is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling ( $t_f$ ) and the maximum mean bulk temperature during carriage ( $t_r$ ) (both in °C). For liquids carried under ambient conditions  $\alpha$  could be calculated by the formula:

$$\alpha = \frac{d_{15} - d_{50}}{35d_{50}}$$

in which  $d_{15}$  and  $d_{50}$  are the densities of the liquid at 15 °C and 50 °C, respectively.

4.2.1.9.4.1 The maximum mean bulk temperature ( $t_r$ ) shall be taken as 50 °C except that, for journeys under temperate or extreme climatic conditions, the competent authorities concerned may agree to a lower or require a higher temperature, as appropriate.

4.2.1.9.5 The provisions of 4.2.1.9.2 to 4.2.1.9.4.1 do not apply to portable tanks which contain substances maintained at a temperature above 50 °C during carriage (e.g. by means of a heating device). For portable tanks equipped with a heating device, a temperature regulator shall be used to ensure the maximum degree of filling is not more than 95% full at any time during carriage.

4.2.1.9.5.1 The maximum degree of filling (in %) for solids carried above their melting point and for elevated temperature liquids shall be determined by the following formula:

$$\text{Degree of filling} = 95 \frac{d_r}{d_f}$$

in which  $d_f$  and  $d_r$  are the densities of the liquid at the mean temperature of the liquid during filling and the maximum mean bulk temperature during carriage respectively.

- 4.2.1.9.6      Portable tanks shall not be offered for carriage:
- (a)      With a degree of filling, for liquids having a viscosity less than 2 680 mm<sup>2</sup>/s at 20 °C or maximum temperature of the substance during carriage in the case of the heated substance, of more than 20% but less than 80% unless the shells of portable tanks are divided, by partitions or surge plates, into sections of not more than 7 500 litres capacity;
  - (b)      With residue of substances previously carried adhering to the outside of the shell or service equipment;
  - (c)      When leaking or damaged to such an extent that the integrity of the portable tank or its lifting or securing arrangements may be affected; and
  - (d)      Unless the service equipment has been examined and found to be in good working order.

- 4.2.1.9.7      Forklift pockets of portable tanks shall be closed off when the tank is filled. This provision does not apply to portable tanks which according to 6.7.2.17.4 need not be provided with a means of closing off the forklift pockets.

**4.2.1.10      *Additional provisions applicable to the carriage of Class 3 substances in portable tanks***

- 4.2.1.10.1      All portable tanks intended for the carriage of flammable liquids shall be closed and be fitted with relief devices in accordance with 6.7.2.8 to 6.7.2.15.

- 4.2.1.10.1.1      For portable tanks intended for use only on land, open venting systems may be used if allowed according to Chapter 4.3.

**4.2.1.11      *Additional provisions applicable to the carriage of Classes 4.1, 4.2 or 4.3 substances (other than Class 4.1 self-reactive substances) in portable tanks***

*(Reserved)*

**NOTE:** For Class 4.1 self-reactive substances, see 4.2.1.13.1.

**4.2.1.12      *Additional provisions applicable to the carriage of Class 5.1 substances in portable tanks***

*(Reserved)*

**4.2.1.13      *Additional provisions applicable to the carriage of Class 5.2 substances and Class 4.1 self-reactive substances in portable tanks***

- 4.2.1.13.1      Each substance shall have been tested and a report submitted to the competent authority of the country of origin for approval. Notification thereof shall be sent to the competent authority of the country of destination. The notification shall contain relevant transport information and the report with test results. The tests undertaken shall include those necessary:

- (a)      To prove the compatibility of all materials normally in contact with the substance during carriage;
- (b)      To provide data for the design of the pressure and emergency relief devices taking into account the design characteristics of the portable tank.

Any additional provision necessary for safe carriage of the substance shall be clearly described in the report.

- 4.2.1.13.2 The following provisions apply to portable tanks intended for the carriage of Type F organic peroxides or Type F self-reactive substances with a Self-Accelerating Decomposition Temperature (SADT) of 55 °C or more. In case of conflict these provisions prevail over those specified in Section 6.7.2. Emergencies to be taken into account are self-accelerating decomposition of the substance and fire-engulfment as described in 4.2.1.13.8.
- 4.2.1.13.3 The additional provisions for carriage of organic peroxides or self-reactive substances with a SADT less than 55 °C in portable tanks shall be specified by the competent authority of the country of origin. Notification thereof shall be sent to the competent authority of the country of destination.
- 4.2.1.13.4 The portable tank shall be designed for a test pressure of at least 0.4 MPa (4 bar).
- 4.2.1.13.5 Portable tanks shall be fitted with temperature sensing devices.
- 4.2.1.13.6 Portable tanks shall be fitted with pressure-relief devices and emergency-relief devices. Vacuum-relief devices may also be used. Pressure-relief devices shall operate at pressures determined according to both the properties of the substance and the construction characteristics of the portable tank. Fusible elements are not allowed in the shell.
- 4.2.1.13.7 The pressure-relief devices shall consist of spring-loaded valves fitted to prevent significant build-up within the portable tank of the decomposition products and vapours released at a temperature of 50 °C. The capacity and start-to-discharge pressure of the relief valves shall be based on the results of the tests specified in 4.2.1.13.1. The start-to-discharge pressure shall, however, in no case be such that liquid would escape from the valve(s) if the portable tank were overturned.
- 4.2.1.13.8 The emergency-relief devices may be of the spring-loaded or frangible types, or a combination of the two, designed to vent all the decomposition products and vapours evolved during a period of not less than one hour of complete fire-engulfment as calculated by the following formula:

$$q = 70961 \times F \times A^{0.82}$$

where:

- q = heat absorption [W]  
 A = wetted area [m<sup>2</sup>]  
 F = insulation factor  
 = 1 for non-insulated shells, or

$$F = \frac{U(923 - T)}{47032} \text{ for insulated shells}$$

where:

- K = heat conductivity of insulation layer [W · m<sup>-1</sup> · K<sup>-1</sup>]  
 L = thickness of insulation layer [m]  
 U = K/L = heat transfer coefficient of the insulation [W · m<sup>-2</sup> · K<sup>-1</sup>]  
 T = temperature of the substance at relieving conditions [K]

The start-to-discharge pressure of the emergency-relief device(s) shall be higher than that specified in 4.2.1.13.7 and based on the results of the tests referred to in 4.2.1.13.1. The emergency-relief devices shall be dimensioned in such a way that the maximum pressure in the portable tank never exceeds the test pressure of the tank.

**NOTE:** *An example of a method to determine the size of emergency-relief devices is given in Appendix 5 of the "Manual of Tests and Criteria".*

- 4.2.1.13.9 For insulated portable tanks the capacity and setting of emergency-relief device(s) shall be determined assuming a loss of insulation from 1% of the surface area.
- 4.2.1.13.10 Vacuum-relief devices and spring-loaded valves shall be provided with flame arresters. Due attention shall be paid to the reduction of the relief capacity caused by the flame arrester.
- 4.2.1.13.11 Service equipment such as valves and external piping shall be so arranged that no substance remains in them after filling the portable tank.
- 4.2.1.13.12 Portable tanks may be either insulated or protected by a sun-shield. If the SADT of the substance in the portable tank is 55 °C or less, or the portable tank is constructed of aluminium, the portable tank shall be completely insulated. The outer surface shall be finished in white or bright metal.
- 4.2.1.13.13 The degree of filling shall not exceed 90% at 15 °C.
- 4.2.1.13.14 The marking as required in 6.7.2.20.2 shall include the UN number and the technical name with the approved concentration of the substance concerned.
- 4.2.1.13.15 Organic peroxides and self-reactive substances specifically listed in portable tank instruction T23 in 4.2.5.2.6 may be carried in portable tanks.
- 4.2.1.14** *Additional provisions applicable to the carriage of Class 6.1 substances in portable tanks*  
(Reserved)
- 4.2.1.15** *Additional provisions applicable to the carriage of Class 6.2 substances in portable tanks*  
(Reserved)
- 4.2.1.16** *Additional provisions applicable to the carriage of Class 7 substances in portable tanks*
- 4.2.1.16.1 Portable tanks used for the carriage of radioactive material shall not be used for the carriage of other goods.
- 4.2.1.16.2 The degree of filling for portable tanks shall not exceed 90% or, alternatively, any other value approved by the competent authority.
- 4.2.1.17** *Additional provisions applicable to the carriage of Class 8 substances in portable tanks*
- 4.2.1.17.1 Pressure-relief devices of portable tanks used for the carriage of Class 8 substances shall be inspected at intervals not exceeding one year.
- 4.2.1.18** *Additional provisions applicable to the carriage of Class 9 substances in portable tanks*  
(Reserved)

**4.2.1.19**      *Additional provisions applicable to the carriage of solid substances carried above their melting point*

4.2.1.19.1      Solid substances carried or offered for carriage above their melting point which are not assigned a portable tank instruction in column (10) of the Table A of Chapter 3.2 or when the assigned portable tank instruction does not apply to carriage at temperatures above their melting point may be carried in portable tanks provided that the solid substances are classified in Classes 4.1, 4.2, 4.3, 5.1, 6.1, 8 or 9 and have no subsidiary risk other than that of Class 6.1 or Class 8 and are in packing group II or III.

4.2.1.19.2      Unless otherwise indicated in the Table A of Chapter 3.2, portable tanks used for the carriage of these solid substances above their melting point shall conform to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II. A portable tank which affords an equivalent or greater level of safety may be selected according to 4.2.5.2.5. The maximum degree of filling (in %) shall be determined according to 4.2.1.9.5 (TP3).

**4.2.2**            **General provisions for the use of portable tanks for the carriage of non-refrigerated liquefied gases**

4.2.2.1           This section provides general provisions applicable to the use of portable tanks for the carriage of non-refrigerated liquefied gases.

4.2.2.2           Portable tanks shall conform to the design, construction, inspection and testing requirements detailed in 6.7.3. Non-refrigerated liquefied gases shall be carried in portable tanks conforming to portable tank instruction T50 as described in 4.2.5.2.6 and any portable tank special provisions assigned to specific non-refrigerated liquefied gases in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3.

4.2.2.3           During carriage, portable tanks shall be adequately protected against damage to the shell and service equipment resulting from lateral and longitudinal impact and overturning. If the shell and service equipment are so constructed as to withstand impact or overturning it need not be protected in this way. Examples of such protection are given in 6.7.3.13.5.

4.2.2.4           Certain non-refrigerated liquefied gases are chemically unstable. They are accepted for carriage only when the necessary steps have been taken to prevent their dangerous decomposition, transformation or polymerization during carriage. To this end, care shall in particular be taken to ensure that portable tanks do not contain any non-refrigerated liquefied gases liable to promote these reactions.

4.2.2.5           Unless the name of the gas(es) being carried appears on the metal plate described in 6.7.3.16.2, a copy of the certificate specified in 6.7.3.14.1 shall be made available upon a competent authority request and readily provided by the consignor, consignee or agent, as appropriate.

4.2.2.6           Empty portable tanks not cleaned and not gas-free shall comply with the same provisions as portable tanks filled with the previous non-refrigerated liquefied gas.

**4.2.2.7**           **Filling**

4.2.2.7.1          Prior to filling the portable tank shall be inspected to ensure that it is authorized for the non-refrigerated liquefied gas to be carried and that the portable tank is not loaded with non-refrigerated liquefied gases which in contact with the materials of the shell, gaskets, service equipment and any protective linings, are likely to react dangerously with them to form

dangerous products or appreciably weaken these materials. During filling, the temperature of the non-refrigerated liquefied gas shall fall within the limits of the design temperature range.

4.2.2.7.2 The maximum mass of non-refrigerated liquefied gas per litre of shell capacity (kg/l) shall not exceed the density of the non-refrigerated liquefied gas at 50 °C multiplied by 0.95. Furthermore, the shell shall not be liquid-full at 60 °C.

4.2.2.7.3 Portable tanks shall not be filled above their maximum permissible gross mass and the maximum permissible load mass specified for each gas to be carried.

4.2.2.8 Portable tanks shall not be offered for carriage:

- (a) In an ullage condition liable to produce an unacceptable hydraulic force due to surge within the shell;
- (b) When leaking;
- (c) When damaged to such an extent that the integrity of the tank or its lifting or securing arrangements may be affected; and
- (d) Unless the service equipment has been examined and found to be in good working order.

4.2.2.9 Forklift pockets of portable tanks shall be closed off when the tank is filled. This provision does not apply to portable tanks which according to 6.7.3.13.4 need not be provided with a means of closing off the forklift pockets.

#### **4.2.3 General provisions for the use of portable tanks for the carriage of refrigerated liquefied gases**

4.2.3.1 This section provides general provisions applicable to the use of portable tanks for the carriage of refrigerated liquefied gases.

4.2.3.2 Portable tanks shall conform to the design, construction, inspection and testing requirements detailed in 6.7.4. Refrigerated liquefied gases shall be carried in portable tanks conforming to portable tank instruction T75 as described in 4.2.5.2.6 and the portable tank special provisions assigned to each substance in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3.

4.2.3.3 During carriage, portable tanks shall be adequately protected against damage to the shell and service equipment resulting from lateral and longitudinal impact and overturning. If the shell and service equipment are so constructed as to withstand impact or overturning it need not be protected in this way. Examples of such protection are provided in 6.7.4.12.5.

4.2.3.4 Unless the name of the gas(es) being carried appears on the metal plate described in 6.7.4.15.2, a copy of the certificate specified in 6.7.4.13.1 shall be made available upon a competent authority request and readily provided by the consignor, consignee or agent, as appropriate.

4.2.3.5 Empty portable tanks not cleaned and not gas-free shall comply with the same provisions as portable tanks filled with the previous substance.



**4.2.3.6 Filling**

- 4.2.3.6.1 Prior to filling the portable tank shall be inspected to ensure that it is authorized for the refrigerated liquefied gas to be carried and that the portable tank is not loaded with refrigerated liquefied gases which in contact with the materials of the shell, gaskets, service equipment and any protective linings, are likely to react dangerously with them to form dangerous products or appreciably weaken these materials. During filling, the temperature of the refrigerated liquefied gas shall be within the limits of the design temperature range.
- 4.2.3.6.2 In estimating the initial degree of filling the necessary holding time for the intended journey including any delays which might be encountered shall be taken into consideration. The initial degree of filling of the shell, except as provided for in 4.2.3.6.3 and 4.2.3.6.4, shall be such that if the contents, except helium, were to be raised to a temperature at which the vapour pressure is equal to the maximum allowable working pressure (MAWP) the volume occupied by liquid would not exceed 98%.
- 4.2.3.6.3 Shells intended for the carriage of helium can be filled up to but not above the inlet of the pressure-relief device.
- 4.2.3.6.4 A higher initial degree of filling may be allowed, subject to approval by the competent authority, when the intended duration of carriage is considerably shorter than the holding time.

**4.2.3.7 Actual holding time**

- 4.2.3.7.1 The actual holding time shall be calculated for each journey in accordance with a procedure recognized by the competent authority, on the basis of the following:
- (a) The reference holding time for the refrigerated liquefied gas to be carried (see 6.7.4.2.8.1) (as indicated on the plate referred to in 6.7.4.15.1);
  - (b) The actual filling density;
  - (c) The actual filling pressure;
  - (d) The lowest set pressure of the pressure limiting device(s).
- 4.2.3.7.2 The actual holding time shall be marked either on the portable tank itself or on a metal plate firmly secured to the portable tank, in accordance with 6.7.4.15.2.
- 4.2.3.8 Portable tanks shall not be offered for carriage:
- (a) In an ullage condition liable to produce an unacceptable hydraulic force due to surge within the shell;
  - (b) When leaking;
  - (c) When damaged to such an extent that the integrity of the portable tank or its lifting or securing arrangements may be affected;
  - (d) Unless the service equipment has been examined and found to be in good working order;
  - (e) Unless the actual holding time for the refrigerated liquefied gas being carried has been determined in accordance with 4.2.3.7 and the portable tank is marked in accordance with 6.7.4.15.2; and



- (f) Unless the duration of carriage, after taking into consideration any delays which might be encountered, does not exceed the actual holding time.

4.2.3.9 Forklift pockets of portable tanks shall be closed off when the tank is filled. This provision does not apply to portable tanks which according to 6.7.4.12.4, need not be provided with a means of closing off the forklift pockets.

#### **4.2.4 General provisions for the use of UN multiple-element gas containers (MEGCs)**

4.2.4.1 This section provides general requirements applicable to the use of multiple-element gas containers (MEGCs) for the carriage of non-refrigerated gases referred to in 6.7.5.

4.2.4.2 MEGCs shall conform to the design, construction, inspection and testing requirements detailed in 6.7.5. The elements of MEGCs shall be periodically inspected according to the provisions set out in packing instruction P200 of 4.1.4.1 and in 6.2.1.6.

4.2.4.3 During carriage, MEGCs shall be protected against damage to the elements and service equipment resulting from lateral and longitudinal impact and overturning. If the elements and service equipment are so constructed as to withstand impact or overturning, they need not be protected in this way. Examples of such protection are given in 6.7.5.10.4.

4.2.4.4 The periodic testing and inspection requirements for MEGCs are specified in 6.7.5.12. MEGCs or their elements shall not be charged or filled after they become due for periodic inspection but may be carried after the expiry of the time limit.

#### **4.2.4.5 Filling**

4.2.4.5.1 Prior to filling, the MEGC shall be inspected to ensure that it is authorized for the gas to be carried and that the applicable provisions of ADR have been met.

4.2.4.5.2 Elements of MEGCs shall be filled according to the working pressures, filling ratios and filling provisions specified in packing instruction P200 of 4.1.4.1 for the specific gas being filled into each element. In no case shall an MEGC or group of elements be filled as a unit in excess of the lowest working pressure of any given element.

4.2.4.5.3 MEGCs shall not be filled above their maximum permissible gross mass.

4.2.4.5.4 Isolation valves shall be closed after filling and remain closed during carriage. Toxic gases (gases of groups T, TF, TC, TO, TFC and TOC) shall only be carried in MEGCs where each element is equipped with an isolation valve.

4.2.4.5.5 The opening(s) for filling shall be closed by caps or plugs. The leakproofness of the closures and equipment shall be verified by the filler after filling.

4.2.4.5.6 MEGCs shall not be offered for filling:

- (a) when damaged to such an extent that the integrity of the pressure receptacles or its structural or service equipment may be affected;
- (b) unless the pressure receptacles and its structural and service equipment has been examined and found to be in good working order; and
- (c) unless the required certification, retest, and filling markings are legible.

- 4.2.4.6 Charged MEGCs shall not be offered for carriage;
- (a) when leaking;
  - (b) when damaged to such an extent that the integrity of the pressure receptacles or its structural or service equipment may be affected;
  - (c) unless the pressure receptacles and its structural and service equipment have been examined and found to be in good working order; and
  - (d) unless the required certification, retest, and filling markings are legible.

4.2.4.7 Empty MEGCs that have not been cleaned and purged shall comply with the same requirements as MEGCs filled with the previous substance.

## **4.2.5 Portable tank instructions and special provisions**

### **4.2.5.1 General**

4.2.5.1.1 This section includes the portable tank instructions and special provisions applicable to dangerous goods authorized to be carried in portable tanks. Each portable tank instruction is identified by an alpha-numeric code (e.g. T1). Column (10) of Table A of Chapter 3.2 indicates the portable tank instruction that shall be used for each substance permitted for carriage in a portable tank. When no portable tank instruction appears in Column (10) for a specific dangerous goods entry then carriage of the substance in portable tanks is not permitted unless a competent authority approval is granted as detailed in 6.7.1.3. Portable tank special provisions are assigned to specific dangerous goods in Column (11) of Table A of Chapter 3.2. Each portable tank special provision is identified by an alpha-numeric code (e.g. TP1). A listing of the portable tank special provisions is provided in 4.2.5.3.

***NOTE:** The gases authorized for carriage in MEGCs are indicated with the letter "(M)" in Column (10) of Table A of Chapter 3.2.*

### **4.2.5.2 Portable tank instructions**

4.2.5.2.1 Portable tank instructions apply to dangerous goods of Classes 1 to 9. Portable tank instructions provide specific information relevant to portable tanks provisions applicable to specific substances. These provisions shall be met in addition to the general provisions in this Chapter and the general requirements in Chapter 6.7.

4.2.5.2.2 For substances of Class 1 and Classes 3 to 9, the portable tank instructions indicate the applicable minimum test pressure, the minimum shell thickness (in reference steel), bottom opening requirements and pressure relief requirements. In portable tank instruction T23, self-reactive substances of Class 4.1 and Class 5.2 organic peroxides permitted to be carried in portable tanks are listed along with the applicable control and emergency temperatures.

4.2.5.2.3 Non-refrigerated liquefied gases are assigned to portable tank instruction T50. T50 provides the maximum allowable working pressures, the requirements for the openings below liquid level, pressure-relief requirements and maximum filling density requirements for non-refrigerated liquefied gases permitted for carriage in portable tanks.

4.2.5.2.4 Refrigerated liquefied gases are assigned to portable tank instruction T75.

4.2.5.2.5 *Determination of the appropriate portable tank instructions*

When a specific portable tank instruction is specified in Column (10) of Table A of Chapter 3.2 for a specific dangerous goods entry additional portable tanks which possess higher minimum test pressures, greater shell thicknesses, more stringent bottom opening and pressure-relief device arrangements may be used. The following guidelines apply to determining the appropriate portable tanks which may be used for carriage of particular substances:

| Portable tank instruction specified | Portable tank instructions also permitted   |
|-------------------------------------|---|
| T1                                  | T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22 |
| T2                                  | T4, T5, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22             |
| T3                                  | T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22         |
| T4                                  | T5, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22                 |
| T5                                  | T10, T14, T19, T20, T22   |
| T6                                  | T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22                     |
| T7                                  | T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22                         |
| T8                                  | T9, T10, T13, T14, T19, T20, T21, T22   |
| T9                                  | T10, T13, T14, T19, T20, T21, T22   |
| T10                                 | T14, T19, T20, T22  |
| T11                                 | T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22   |
| T12                                 | T14, T16, T18, T19, T20, T22  |
| T13                                 | T14, T19, T20, T21, T22   |
| T14                                 | T19, T20, T22   |
| T15                                 | T16, T17, T18, T19, T20, T21, T22   |
| T16                                 | T18, T19, T20, T22  |
| T17                                 | T18, T19, T20, T21, T22   |
| T18                                 | T19, T20, T22   |
| T19                                 | T20, T22  |
| T20                                 | T22   |
| T21                                 | T22   |
| T22                                 | None  |
| T23                                 | None  |

4.2.5.2.6 *Portable tank instructions*

Portable tank instructions specify the requirements applicable to a portable tank when used for the carriage of specific substances. Portable tank instructions T1 to T22 specify the applicable minimum test pressure, the minimum shell thickness (in mm reference steel), and the pressure-relief and bottom-opening requirements.

| <b>T1 - T22</b> <b>PORTABLE TANK INSTRUCTIONS</b> <b>T1 - T22</b>   |                             |   |   |   |
|---|-----------------------------|---|---|---|
| <i>These portable tank instructions apply to liquid and solid substances of Classes 3 to 9. The general provisions of Section 4.2.1 and the requirements of Section 6.7.2 shall be met.</i> |                             |   |   |   |
| Portable tank instruction   | Minimum test pressure (bar) | Minimum shell thickness (in mm-reference steel) (see 6.7.2.4) | Pressure-relief requirements <sup>a</sup> (see 6.7.2.8) | Bottom opening requirements (see 6.7.2.6) |
| T1  | 1.5                         | See 6.7.2.4.2   | Normal  | See 6.7.2.6.2                             |
| T2  | 1.5                         | See 6.7.2.4.2   | Normal  | See 6.7.2.6.3                             |
| T3  | 2.65                        | See 6.7.2.4.2   | Normal  | See 6.7.2.6.2                             |
| T4  | 2.65                        | See 6.7.2.4.2   | Normal  | See 6.7.2.6.3                             |
| T5  | 2.65                        | See 6.7.2.4.2   | See 6.7.2.8.3   | Not allowed                               |
| T6  | 4                           | See 6.7.2.4.2   | Normal  | See 6.7.2.6.2                             |
| T7  | 4                           | See 6.7.2.4.2   | Normal  | See 6.7.2.6.3                             |
| T8  | 4                           | See 6.7.2.4.2   | Normal  | Not allowed                               |
| T9  | 4                           | 6mm   | Normal  | Not allowed                               |
| T10   | 4                           | 6mm   | See 6.7.2.8.3   | Not allowed                               |
| T11   | 6                           | See 6.7.2.4.2   | Normal  | See 6.7.2.6.3                             |
| T12   | 6                           | See 6.7.2.4.2   | See 6.7.2.8.3   | See 6.7.2.6.3                             |
| T13   | 6                           | 6mm   | Normal  | Not allowed                               |
| T14   | 6                           | 6mm   | See 6.7.2.8.3   | Not allowed                               |
| T15   | 10                          | See 6.7.2.4.2   | Normal  | See 6.7.2.6.3                             |
| T16   | 10                          | See 6.7.2.4.2   | See 6.7.2.8.3   | See 6.7.2.6.3                             |
| T17   | 10                          | 6mm   | Normal  | See 6.7.2.6.3                             |
| T18   | 10                          | 6mm   | See 6.7.2.8.3   | See 6.7.2.6.3                             |
| T19   | 10                          | 6mm   | See 6.7.2.8.3   | Not allowed                               |
| T20   | 10                          | 8mm   | See 6.7.2.8.3   | Not allowed                               |
| T21   | 10                          | 10mm  | Normal  | Not allowed                               |
| T22   | 10                          | 10mm  | See 6.7.2.8.3   | Not allowed                               |

<sup>a</sup> When the word "Normal" is indicated, all the requirements of 6.7.2.8 apply except for 6.7.2.8.3.

| <b>T23</b> <b>PORTABLE TANK INSTRUCTION</b> <b>T23</b>   |   |                             |  |                             |   |                   |                     |                       |
|--|---|-----------------------------|--|-----------------------------|---|-------------------|---------------------|-----------------------|
| <i>This portable tank instruction applies to self-reactive substances of Class 4.1 and organic peroxides of Class 5.2. The general provisions of Section 4.2.1 and the requirements of Section 6.7.2 shall be met. The additional provisions specific to self-reactive substances of Class 4.1 and organic peroxides of Class 5.2 in 4.2.1.13 shall also be met.</i> |   |                             |  |                             |   |                   |                     |                       |
| UN No.   | Substance   | Minimum test pressure (bar) | Minimum shell thickness (mm-reference steel) | Bottom opening requirements | Pressure-relief requirements                            | Degree of filling | Control temperature | Emergency temperature |
| 3109   | ORGANIC PEROXIDE, TYPE F, LIQUID<br>tert-Butyl hydroperoxide <sup>a</sup> , not more than 72% with water<br>Cumyl hydroperoxide, not more than 90% in diluent type A<br>Di-tert-butyl peroxide, not more than 32% in diluent type A<br>Isopropyl cumyl hydroperoxide, not more than 72% in diluent type A<br>p-Menthyl hydroperoxide, not more than 72% in diluent type A<br>Pinanyl hydroperoxide, not more than 56% in diluent type A | 4                           | See 6.7.2.4.2                                | See 6.7.2.6.3               | See 6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8 | See 4.2.1.13.13   |                     |                       |
| 3110   | ORGANIC PEROXIDE TYPE F, SOLID<br>Dicumyl peroxide <sup>b</sup>   | 4                           | See 6.7.2.4.2                                | See 6.7.2.6.3               | See 6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8 | See 4.2.1.13.13   |                     |                       |
| 3119   | ORGANIC PEROXIDE, TYPE F, LIQUID, TEMPERATURE CONTROLLED  | 4                           | See 6.7.2.4.2                                | See 6.7.2.6.3               | See 6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8 | See 4.2.1.13.13   | <sup>c</sup>        | <sup>c</sup>          |
|  | tert-Amyl peroxyneodecanoate, not more than 47% in diluent type A   |                             |  |                             |   |                   | -10 °C              | -5 °C                 |
|  | tert-Butyl peroxyacetate, not more than 32% in diluent type B   |                             |  |                             |   |                   | +30 °C              | +35 °C                |
|  | tert-Butyl peroxy-2-ethylhexanoate, not more than 32% in diluent type B   |                             |  |                             |   |                   | +15 °C              | +20 °C                |

<sup>a</sup> Provided that steps have been taken to achieve the safety equivalence of 65% tert-Butyl hydroperoxide and 35% water.

<sup>b</sup> Maximum quantity per portable tank: 2000 kg.

<sup>c</sup> As approved by the competent authority.

| T23 PORTABLE TANK INSTRUCTION (cont'd) T23   |   |                             |  |                             |   |                   |                     |                       |
|--|---|-----------------------------|--|-----------------------------|---|-------------------|---------------------|-----------------------|
| <i>This portable tank instruction applies to self-reactive substances of Class 4.1 and organic peroxides of Class 5.2. The general provisions of Section 4.2.1 and the requirements of Section 6.7.2 shall be met. The additional provisions specific to self-reactive substances of Class 4.1 and organic peroxides of Class 5.2 in 4.2.1.13 shall also be met.</i> |   |                             |  |                             |   |                   |                     |                       |
| UN No.   | Substance   | Minimum test pressure (bar) | Minimum shell thickness (mm-reference steel) | Bottom opening requirements | Pressure-relief requirements                            | Degree of filling | Control temperature | Emergency temperature |
| 3119<br>(Cont'd)   | tert-Butyl peroxy-pivalate, not more than 27% in diluent type B                       |                             |  |                             |   |                   | +5 °C               | +10 °C                |
|  | tert-Butyl peroxy-3,5,5-trimethyl-hexanoate, not more than 32% in diluent type B      |                             |  |                             |   |                   | +35 °C              | +40 °C                |
|  | Di-(3,5,5-trimethyl-hexanoyl) peroxide, not more than 38% in diluent type A or type B |                             |  |                             |   |                   | 0 °C                | +5 °C                 |
|  | Peroxyacetic acid, distilled, type F, stabilized <sup>d</sup>                         |                             |  |                             |   |                   | +30 °C              | +35 °C                |
| 3120   | ORGANIC PEROXIDE, TYPE F, SOLID, TEMPERATURE CONTROLLED                               | 4                           | See 6.7.2.4.2                                | See 6.7.2.6.3               | See 6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8 | See 4.2.1.13.13   | <sup>c</sup>        | <sup>c</sup>          |
| 3229   | SELF-REACTIVE LIQUID TYPE F   | 4                           | See 6.7.2.4.2                                | See 6.7.2.6.3               | See 6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8 | See 4.2.1.13.13   |                     |                       |
| 3230   | SELF-REACTIVE SOLID TYPE F  | 4                           | See 6.7.2.4.2                                | See 6.7.2.6.3               | See 6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8 | See 4.2.1.13.13   |                     |                       |
| 3239   | SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED                                   | 4                           | See 6.7.2.4.2                                | See 6.7.2.6.3               | See 6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8 | See 4.2.1.13.13   | <sup>c</sup>        | <sup>c</sup>          |
| 3240   | SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED                                    | 4                           | See 6.7.2.4.2                                | See 6.7.2.6.3               | See 6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8 | See 4.2.1.13.13   | <sup>c</sup>        | <sup>c</sup>          |

<sup>c</sup> As approved by the competent authority.

<sup>d</sup> Formulation derived from distillation of peroxyacetic acid originating from peroxyacetic acid in concentration of not more than 41% with water, total active oxygen (Peroxyacetic acid+H<sub>2</sub>O<sub>2</sub>) ≤ 9.5%, which fulfils the criteria of the Manual of Tests and Criteria, paragraph 20.4.3 (f).

| T50 PORTABLE TANK INSTRUCTION T50  |  |   |                             |  |                                |
|--|--|---|-----------------------------|--|--------------------------------|
| <i>This portable tank instruction applies to non-refrigerated liquefied gases. The general provisions of Section 4.2.2 and the requirements of Section 6.7.3 shall be met.</i> |  |   |                             |  |                                |
| UN No.   | Non-refrigerated liquefied gases                           | Max. allowable working pressure (bar): Small; Bare; Sunshield; Insulated; respectively <sup>a</sup> | Openings below liquid level | Pressure- relief requirements <sup>b</sup> (see 6.7.3.7) | Maximum filling density (kg/l) |
| 1005   | Ammonia, anhydrous   | 29.0<br>25.7<br>22.0<br>19.7  | Allowed                     | See 6.7.3.7.3  | 0.53                           |
| 1009   | Bromotrifluoromethane (Refrigerant gas R 13B1)             | 38.0<br>34.0<br>30.0<br>27.5  | Allowed                     | Normal   | 1.13                           |
| 1010   | Butadienes, stabilized                                     | 7.5<br>7.0<br>7.0<br>7.0  | Allowed                     | Normal   | 0.55                           |
| 1010   | Butadienes and hydrocarbon mixture, stabilized             | See MAWP definition in 6.7.3.1  | Allowed                     | Normal   | See 4.2.2.7                    |
| 1011   | Butane   | 7.0<br>7.0<br>7.0<br>7.0  | Allowed                     | Normal   | 0.51                           |
| 1012   | Butylene   | 8.0<br>7.0<br>7.0<br>7.0  | Allowed                     | Normal   | 0.53                           |
| 1017   | Chlorine   | 19.0<br>17.0<br>15.0<br>13.5  | Not Allowed                 | See 6.7.3.7.3  | 1.25                           |
| 1018   | Chlorodifluoromethane (Refrigerant gas R 22)               | 26.0<br>24.0<br>21.0<br>19.0  | Allowed                     | Normal   | 1.03                           |
| 1020   | Chloropentafluoroethane (Refrigerant gas R 115)            | 23.0<br>20.0<br>18.0<br>16.0  | Allowed                     | Normal   | 1.06                           |
| 1021   | 1-Chloro-1,2,2,2-tetrafluoroethane (Refrigerant gas R 124) | 10.3<br>9.8<br>7.9<br>7.0   | Allowed                     | Normal   | 1.20                           |
| 1027   | Cyclopropane   | 18.0<br>16.0<br>14.5<br>13.0  | Allowed                     | Normal   | 0.53                           |

<sup>a</sup> "Small" means tanks having a shell with a diameter of 1.5 m or less; "Bare" means tanks having a shell with a diameter of more than 1.5 m without insulation or sun shield (see 6.7.3.2.12); "Sunshield" means tanks having a shell with a diameter of more than 1.5 m with sun shield (see 6.7.3.2.12); "Insulated" means tanks having a shell with a diameter of more than 1.5 m with insulation (see 6.7.3.2.12); (See definition of "Design reference temperature" in 6.7.3.1).

<sup>b</sup> The word "Normal" in the pressure relief requirements column indicates that a frangible disc as specified in 6.7.3.7.3 is not required.

| T50 PORTABLE TANK INSTRUCTION (cont'd) T50   |  |   |                             |   |                                |
|--|--|---|-----------------------------|---|--------------------------------|
| <i>This portable tank instruction applies to non-refrigerated liquefied gases. The general provisions of Section 4.2.2 and the requirements of Section 6.7.3 shall be met.</i> |  |   |                             |   |                                |
| UN No.   | Non-refrigerated liquefied gases   | Max. allowable working pressure (bar): Small; Bare; Sunshield; Insulated; respectively <sup>a</sup> | Openings below liquid level | Pressure-relief requirements <sup>b</sup> (see 6.7.3.7) | Maximum filling density (kg/l) |
| 1028   | Dichlorodifluoromethane (Refrigerant gas R 12)   | 16.0<br>15.0<br>13.0<br>11.5  | Allowed                     | Normal  | 1.15                           |
| 1029   | Dichlorofluoromethane (Refrigerant gas R 21)   | 7.0<br>7.0<br>7.0<br>7.0  | Allowed                     | Normal  | 1.23                           |
| 1030   | 1,1-Difluoroethane (Refrigerant gas R 152a)  | 16.0<br>14.0<br>12.4<br>11.0  | Allowed                     | Normal  | 0.79                           |
| 1032   | Dimethylamine, anhydrous   | 7.0<br>7.0<br>7.0<br>7.0  | Allowed                     | Normal  | 0.59                           |
| 1033   | Dimethyl ether   | 15.5<br>13.8<br>12.0<br>10.6  | Allowed                     | Normal  | 0.58                           |
| 1036   | Ethylamine   | 7.0<br>7.0<br>7.0<br>7.0  | Allowed                     | Normal  | 0.61                           |
| 1037   | Ethyl chloride   | 7.0<br>7.0<br>7.0<br>7.0  | Allowed                     | Normal  | 0.80                           |
| 1040   | Ethylene oxide with nitrogen up to a total pressure of 1MPa (10 bar) at 50 °C                    | -<br>-<br>-<br>10.0   | Not Allowed                 | See 6.7.3.7.3   | 0.78                           |
| 1041   | Ethylene oxide and carbon dioxide mixture with more than 9% but not more than 87% ethylene oxide | See MAWP definition in 6.7.3.1  | Allowed                     | Normal  | See 4.2.2.7                    |
| 1055   | Isobutylene  | 8.1<br>7.0<br>7.0<br>7.0  | Allowed                     | Normal  | 0.52                           |

<sup>a</sup> "Small" means tanks having a shell with a diameter of 1.5 m or less; "Bare" means tanks having a shell with a diameter of more than 1.5 m without insulation or sun shield (see 6.7.3.2.12); "Sunshield" means tanks having a shell with a diameter of more than 1.5 m with sun shield (see 6.7.3.2.12); "Insulated" means tanks having a shell with a diameter of more than 1.5 m with insulation (see 6.7.3.2.12); (See definition of "Design reference temperature" in 6.7.3.1).

<sup>b</sup> The word "Normal" in the pressure relief requirements column indicates that a frangible disc as specified in 6.7.3.7.3 is not required.



| T50 PORTABLE TANK INSTRUCTION (cont'd) T50   |  |  |                             |   |                                |
|--|--|--|-----------------------------|---|--------------------------------|
| <i>This portable tank instruction applies to non-refrigerated liquefied gases. The general provisions of Section 4.2.2 and the requirements of Section 6.7.3 shall be met.</i> |  |  |                             |   |                                |
| UN No.   | Non-refrigerated liquefied gases                             | Max. allowable working pressure (bar): Small; Bare; Sunshield; Insulated respectively <sup>a</sup> | Openings below liquid level | Pressure-relief requirements <sup>b</sup> (see 6.7.3.7) | Maximum filling density (kg/l) |
| 1060   | Methylacetylene and propadiene mixture, stabilized           | 28.0<br>24.5<br>22.0<br>20.0   | Allowed                     | Normal  | 0.43                           |
| 1061   | Methylamine, anhydrous                                       | 10.8<br>9.6<br>7.8<br>7.0  | Allowed                     | Normal  | 0.58                           |
| 1062   | Methyl bromide with not more than 2% chloropicrin            | 7.0<br>7.0<br>7.0<br>7.0   | Not Allowed                 | See 6.7.3.7.3   | 1.51                           |
| 1063   | Methyl chloride (Refrigerant gas R 40)                       | 14.5<br>12.7<br>11.3<br>10.0   | Allowed                     | Normal  | 0.81                           |
| 1064   | Methyl mercaptan   | 7.0<br>7.0<br>7.0<br>7.0   | Not Allowed                 | See 6.7.3.7.3   | 0.78                           |
| 1067   | Dinitrogen tetroxide   | 7.0<br>7.0<br>7.0<br>7.0   | Not Allowed                 | See 6.7.3.7.3   | 1.30                           |
| 1075   | Petroleum gases, liquefied                                   | See MAWP definition in 6.7.3.1   | Allowed                     | Normal  | See 4.2.2.7                    |
| 1077   | Propylene  | 28.0<br>24.5<br>22.0<br>20.0   | Allowed                     | Normal  | 0.43                           |
| 1078   | Refrigerant gas, n.o.s.                                      | See MAWP definition in 6.7.3.1   | Allowed                     | Normal  | See 4.2.2.7                    |
| 1079   | Sulphur dioxide  | 11.6<br>10.3<br>8.5<br>7.6   | Not Allowed                 | See 6.7.3.7.3   | 1.23                           |
| 1082   | Trifluorochloroethylene, stabilized (Refrigerant gas R 1113) | 17.0<br>15.0<br>13.1<br>11.6   | Not Allowed                 | See 6.7.3.7.3   | 1.13                           |

<sup>a</sup> "Small" means tanks having a shell with a diameter of 1.5 m or less; "Bare" means tanks having a shell with a diameter of more than 1.5 m without insulation or sun shield (see 6.7.3.2.12); "Sunshield" means tanks having a shell with a diameter of more than 1.5 m with sun shield (see 6.7.3.2.12); "Insulated" means tanks having a shell with a diameter of more than 1.5 m with insulation (see 6.7.3.2.12); (See definition of "Design reference temperature" in 6.7.3.1).

<sup>b</sup> The word "Normal" in the pressure relief requirements column indicates that a frangible disc as specified in 6.7.3.7.3 is not required.

| T50 PORTABLE TANK INSTRUCTION (cont'd) T50   |  |  |                             |   |                                |
|--|--|--|-----------------------------|---|--------------------------------|
| <i>This portable tank instruction applies to non-refrigerated liquefied gases. The general provisions of Section 4.2.2 and the requirements of Section 6.7.3 shall be met.</i> |  |  |                             |   |                                |
| UN No.   | Non-refrigerated liquefied gases                                       | Max. allowable working pressure (bar): Small; Bare; Sunshield; Insulated respectively <sup>a</sup> | Openings below liquid level | Pressure-relief requirements <sup>b</sup> (see 6.7.3.7) | Maximum filling density (kg/l) |
| 1083   | Trimethylamine, anhydrous  | 7.0<br>7.0<br>7.0<br>7.0   | Allowed                     | Normal  | 0.56                           |
| 1085   | Vinyl bromide, stabilized  | 7.0<br>7.0<br>7.0<br>7.0   | Allowed                     | Normal  | 1.37                           |
| 1086   | Vinyl chloride, stabilized   | 10.6<br>9.3<br>8.0<br>7.0  | Allowed                     | Normal  | 0.81                           |
| 1087   | Vinyl methyl ether, stabilized   | 7.0<br>7.0<br>7.0<br>7.0   | Allowed                     | Normal  | 0.67                           |
| 1581   | Chloropicrin and methyl bromide mixture with more than 2% chloropicrin | 7.0<br>7.0<br>7.0<br>7.0   | Not Allowed                 | See 6.7.3.7.3   | 1.51                           |
| 1582   | Chloropicrin and methyl chloride mixture                               | 19.2<br>16.9<br>15.1<br>13.1   | Not Allowed                 | See 6.7.3.7.3   | 0.81                           |
| 1858   | Hexafluoropropylene (Refrigerant gas R 1216)                           | 19.2<br>16.9<br>15.1<br>13.1   | Allowed                     | Normal  | 1.11                           |
| 1912   | Methyl chloride and methylene chloride mixture                         | 15.2<br>13.0<br>11.6<br>10.1   | Allowed                     | Normal  | 0.81                           |
| 1958   | 1,2-Dichloro-1,1,2,2-tetrafluoroethane (Refrigerant gas R 114)         | 7.0<br>7.0<br>7.0<br>7.0   | Allowed                     | Normal  | 1.30                           |
| 1965   | Hydrocarbon gas, mixture liquefied, n.o.s.                             | See MAWP definition in 6.7.3.1   | Allowed                     | Normal  | See 4.2.2.7                    |
| 1969   | Isobutane  | 8.5<br>7.5<br>7.0<br>7.0   | Allowed                     | Normal  | 0.49                           |

<sup>a</sup> "Small" means tanks having a shell with a diameter of 1.5 m or less; "Bare" means tanks having a shell with a diameter of more than 1.5 m without insulation or sun shield (see 6.7.3.2.12); "Sunshield" means tanks having a shell with a diameter of more than 1.5 m with sun shield (see 6.7.3.2.12); "Insulated" means tanks having a shell with a diameter of more than 1.5 m with insulation (see 6.7.3.2.12); (See definition of "Design reference temperature" in 6.7.3.1).

<sup>b</sup> The word "Normal" in the pressure relief requirements column indicates that a frangible disc as specified in 6.7.3.7.3 is not required.

| T50 PORTABLE TANK INSTRUCTION (cont'd) T50   |  |  |                             |  |                                |
|--|--|--|-----------------------------|--|--------------------------------|
| <i>This portable tank instruction applies to non-refrigerated liquefied gases. The general provisions of Section 4.2.2 and the requirements of Section 6.7.3 shall be met.</i> |  |  |                             |  |                                |
| UN No.   | Non-refrigerated liquefied gases   | Max. allowable working pressure (bar): Small; Bare; Sunshield; Insulated respectively <sup>a</sup> | Openings below liquid level | Pressure- relief requirements <sup>b</sup> (see 6.7.3.7) | Maximum filling density (kg/l) |
| 1973   | Chlorodifluoromethane and chloropentafluoroethane mixture with fixed boiling point, with approximately 49% chlorodifluoromethane (Refrigerant gas R 502) | 28.3<br>25.3<br>22.8<br>20.3   | Allowed                     | Normal   | 1.05                           |
| 1974   | Chlorodifluorobromomethane (Refrigerant gas R 12B1)  | 7.4<br>7.0<br>7.0<br>7.0   | Allowed                     | Normal   | 1.61                           |
| 1976   | Octafluorocyclobutane (Refrigerant gas RC 318)   | 8.8<br>7.8<br>7.0<br>7.0   | Allowed                     | Normal   | 1.34                           |
| 1978   | Propane  | 22.5<br>20.4<br>18.0<br>16.5   | Allowed                     | Normal   | 0.42                           |
| 1983   | 1-Chloro-2,2,2-trifluoroethane (Refrigerant gas R 133a)  | 7.0<br>7.0<br>7.0<br>7.0   | Allowed                     | Normal   | 1.18                           |
| 2035   | 1,1,1-Trifluoroethane (Refrigerant gas R 143a)   | 31.0<br>27.5<br>24.2<br>21.8   | Allowed                     | Normal   | 0.76                           |
| 2424   | Octafluoropropane (Refrigerant gas R 218)  | 23.1<br>20.8<br>18.6<br>16.6   | Allowed                     | Normal   | 1.07                           |
| 2517   | 1-Chloro-1,1-difluoroethane (Refrigerant gas R 142b)   | 8.9<br>7.8<br>7.0<br>7.0   | Allowed                     | Normal   | 0.99                           |
| 2602   | Dichlorodifluoromethane and 1,1-difluoroethane azeotropic mixture with approximately 74% dichlorodifluoromethane (Refrigerant gas R 500)                 | 20.0<br>18.0<br>16.0<br>14.5   | Allowed                     | Normal   | 1.01                           |

<sup>a</sup> "Small" means tanks having a shell with a diameter of 1.5 m or less; "Bare" means tanks having a shell with a diameter of more than 1.5 m without insulation or sun shield (see 6.7.3.2.12); "Sunshield" means tanks having a shell with a diameter of more than 1.5 m with sun shield (see 6.7.3.2.12); "Insulated" means tanks having a shell with a diameter of more than 1.5 m with insulation (see 6.7.3.2.12); (See definition of "Design reference temperature" in 6.7.3.1).

<sup>b</sup> The word "Normal" in the pressure relief requirements column indicates that a frangible disc as specified in 6.7.3.7.3 is not required.

| T50 PORTABLE TANK INSTRUCTION (cont'd) T50   |  |   |                             |   |                                |
|--|--|---|-----------------------------|---|--------------------------------|
| <i>This portable tank instruction applies to non-refrigerated liquefied gases. The general provisions of Section 4.2.2 and the requirements of Section 6.7.3 shall be met.</i> |  |   |                             |   |                                |
| UN No.   | Non-refrigerated liquefied gases   | Max. allowable working pressure (bar): Small; Bare; Sunshield; Insulated; respectively <sup>a</sup> | Openings below liquid level | Pressure-relief requirements <sup>b</sup> (see 6.7.3.7) | Maximum filling density (kg/l) |
| 3057   | Trifluoroacetyl chloride   | 14.6<br>12.9<br>11.3<br>9.9   | Not allowed                 | 6.7.3.7.3   | 1.17                           |
| 3070   | Ethylene oxide and dichlorodifluoromethane mixture with not more than 12.5% ethylene oxide | 14.0<br>12.0<br>11.0<br>9.0   | Allowed                     | 6.7.3.7.3   | 1.09                           |
| 3153   | Perfluoro (methyl vinyl ether)   | 14.3<br>13.4<br>11.2<br>10.2  | Allowed                     | Normal  | 1.14                           |
| 3159   | 1,1,1,2-Tetrafluoroethane (Refrigerant gas R 134a)   | 17.7<br>15.7<br>13.8<br>12.1  | Allowed                     | Normal  | 1.04                           |
| 3161   | Liquefied gas, flammable, n.o.s.   | See MAWP definition in 6.7.3.1  | Allowed                     | Normal  | See 4.2.2.7                    |
| 3163   | Liquefied gas, n.o.s.  | See MAWP definition in 6.7.3.1  | Allowed                     | Normal  | See 4.2.2.7                    |
| 3220   | Pentafluoroethane (Refrigerant gas R 125)  | 34.4<br>30.8<br>27.5<br>24.5  | Allowed                     | Normal  | 0.95                           |
| 3252   | Difluoromethane (Refrigerant gas R 32)   | 43.0<br>39.0<br>34.4<br>30.5  | Allowed                     | Normal  | 0.78                           |
| 3296   | Heptafluoropropane (Refrigerant gas R 227)   | 16.0<br>14.0<br>12.5<br>11.0  | Allowed                     | Normal  | 1.20                           |
| 3297   | Ethylene oxide and chlorotetrafluoroethane mixture, with not more than 8.8% ethylene oxide | 8.1<br>7.0<br>7.0<br>7.0  | Allowed                     | Normal  | 1.16                           |

<sup>a</sup> "Small" means tanks having a shell with a diameter of 1.5 m or less; "Bare" means tanks having a shell with a diameter of more than 1.5 m without insulation or sun shield (see 6.7.3.2.12); "Sunshield" means tanks having a shell with a diameter of more than 1.5 m with sun shield (see 6.7.3.2.12); "Insulated" means tanks having a shell with a diameter of more than 1.5 m with insulation (see 6.7.3.2.12); (See definition of "Design reference temperature" in 6.7.3.1).

<sup>b</sup> The word "Normal" in the pressure relief requirements column indicates that a frangible disc as specified in 6.7.3.7.3 is not required.

| T50 PORTABLE TANK INSTRUCTION (cont'd) T50   |  |   |                             |  |                                |
|--|--|---|-----------------------------|--|--------------------------------|
| <i>This portable tank instruction applies to non-refrigerated liquefied gases. The general provisions of Section 4.2.2 and the requirements of Section 6.7.3 shall be met.</i> |  |   |                             |  |                                |
| UN No.   | Non-refrigerated liquefied gases   | Max. allowable working pressure (bar): Small; Bare; Sunshield; Insulated; respectively <sup>a</sup> | Openings below liquid level | Pressure- relief requirements <sup>b</sup> (see 6.7.3.7) | Maximum filling density (kg/l) |
| 3298   | Ethylene oxide and pentafluoroethane mixture, with not more than 7.9% ethylene oxide             | 25.9<br>23.4<br>20.9<br>18.6  | Allowed                     | Normal   | 1.02                           |
| 3299   | Ethylene oxide and tetrafluoroethane mixture, with not more than 5.6% ethylene oxide             | 16.7<br>14.7<br>12.9<br>11.2  | Allowed                     | Normal   | 1.03                           |
| 3318   | Ammonia solution, relative density less than 0.880 at 15 °C in water, with more than 50% ammonia | See MAWP definition in 6.7.3.1  | Allowed                     | See 6.7.3.7.3  | See 4.2.2.7                    |
| 3337   | Refrigerant gas R 404A   | 31.6<br>28.3<br>25.3<br>22.5  | Allowed                     | Normal   | 0.84                           |
| 3338   | Refrigerant gas R 407A   | 31.3<br>28.1<br>25.1<br>22.4  | Allowed                     | Normal   | 0.95                           |
| 3339   | Refrigerant gas R 407B   | 33.0<br>29.6<br>26.5<br>23.6  | Allowed                     | Normal   | 0.95                           |
| 3340   | Refrigerant gas R 407C   | 29.9<br>26.8<br>23.9<br>21.3  | Allowed                     | Normal   | 0.95                           |

| T75 PORTABLE TANK INSTRUCTION T75  |  |
|--|--|
| <i>This portable tank instruction applies to refrigerated liquefied gases. The general provisions of Section 4.2.3 and the requirements of Section 6.7.4 shall be met.</i> |  |

<sup>a</sup> "Small" means tanks having a shell with a diameter of 1.5 m or less; "Bare" means tanks having a shell with a diameter of more than 1.5 m without insulation or sun shield (see 6.7.3.2.12); "Sunshield" means tanks having a shell with a diameter of more than 1.5 m with sun shield (see 6.7.3.2.12); "Insulated" means tanks having a shell with a diameter of more than 1.5 m with insulation (see 6.7.3.2.12); (See definition of "Design reference temperature" in 6.7.3.1).

<sup>b</sup> The word "Normal" in the pressure relief requirements column indicates that a frangible disc as specified in 6.7.3.7.3 is not required.

### 4.2.5.3 *Portable tank special provisions*

Portable tank special provisions are assigned to certain substances to indicate provisions which are in addition to or in lieu of those provided by the portable tank instructions or the requirements in Chapter 6.7. Portable tank special provisions are identified by an alpha numeric code beginning with the letters "TP" (tank provision) and are assigned to specific substances in Column (11) of Table A of Chapter 3.2. The following is a list of the portable tank special provisions:

TP1 The degree of filling prescribed in 4.2.1.9.2 shall not be exceeded.

$$(\text{Degree of filling} = \frac{97}{1 + \alpha (t_r - t_f)})$$

TP2 The degree of filling prescribed in 4.2.1.9.3 shall not be exceeded.

$$(\text{Degree of filling} = \frac{95}{1 + \alpha (t_r - t_f)})$$

TP3 The maximum degree of filling (in %) for solids carried above their melting point and for elevated temperature liquids shall be determined in accordance with 4.2.1.9.5.

$$(\text{Degree of filling} = 95 \frac{d_r}{d_f})$$

TP4 The degree of filling shall not exceed 90% or, alternatively, any other value approved by the competent authority (see 4.2.1.16.2).

TP5 The degree of filling prescribed in 4.2.3.6 shall be met.

TP6 To prevent the tank bursting in any event, including fire engulfment, it shall be provided with pressure-relief devices which are adequate in relation to the capacity of the tank and to the nature of the substance carried. The device shall also be compatible with the substance.

TP7 Air shall be eliminated from the vapour space by nitrogen or other means.

TP8 The test pressure may be reduced to 1.5 bar when the flash point of the substances carried is greater than 0 °C.

TP9 A substance under this description shall only be carried in a portable tank under an approval granted by the competent authority.

TP10 A lead lining, not less than 5 mm thick, which shall be tested annually, or another suitable lining material approved by the competent authority is required.

TP12 *(Deleted)*

TP13 *(Reserved)*

- TP16 The tank shall be fitted with a special device to prevent under-pressure and excess pressure during normal carriage conditions. This device shall be approved by the competent authority.
- Pressure-relief requirements are as indicated in 6.7.2.8.3 to prevent crystallization of the product in the pressure-relief valve.
- TP17 Only inorganic non-combustible materials shall be used for thermal insulation of the tank.
- TP18 Temperature shall be maintained between 18 °C and 40 °C. Portable tanks containing solidified methacrylic acid shall not be reheated during carriage.
- TP19 The calculated shell thickness shall be increased by 3 mm. Shell thickness shall be verified ultrasonically at intervals midway between periodic hydraulic tests.
- TP20 This substance shall only be carried in insulated tanks under a nitrogen blanket.
- TP21 The shell thickness shall be not less than 8 mm. Tanks shall be hydraulically tested and internally inspected at intervals not exceeding 2.5 years.
- TP22 Lubricant for joints or other devices shall be oxygen compatible.
- TP23 Carriage permitted under special conditions prescribed by the competent authorities.
- TP24 The portable tank may be fitted with a device located under maximum filling conditions in the vapour space of the shell to prevent the build up of excess pressure due to the slow decomposition of the substance carried. This device shall also prevent an unacceptable amount of leakage of liquid in the case of overturning or entry of foreign matter into the tank. This device shall be approved by the competent authority or its authorized body.
- TP25 Sulphur trioxide 99.95% pure and above may be carried in tanks without an inhibitor provided that it is maintained at a temperature equal to or above 32.5 °C.
- TP26 When carried under heated conditions, the heating device shall be fitted outside the shell. For UN 3176 this requirement only applies when the substance reacts dangerously with water.
- TP27 A portable tank having a minimum test pressure of 4 bar may be used if it is shown that a test pressure of 4 bar or less is acceptable according to the test pressure definition in 6.7.2.1.
- TP28 A portable tank having a minimum test pressure of 2.65 bar may be used if it is shown that a test pressure of 2.65 bar or less is acceptable according to the test pressure definition in 6.7.2.1.
- TP29 A portable tank having a minimum test pressure of 1.5 bar may be used if it is shown that a test pressure of 1.5 bar or less is acceptable according to the test pressure definition in 6.7.2.1.
- TP30 This substance shall be carried in insulated tanks.
- TP31 This substance may only be carried in tanks in the solid state.

- TP32 For UN Nos. 0331, 0332 and 3375, portable tanks may be used subject to the following conditions:
- (a) To avoid unnecessary confinement, each portable tank constructed of metal shall be fitted with a pressure-relief device that may be of the reclosing spring-loaded type, a frangible disc or a fusible element. The set to discharge or burst pressure, as applicable, shall not be greater than 2.65 bar for portable tanks with minimum test pressures greater than 4 bar.
  - (b) The suitability for carriage in tanks shall be demonstrated. One method to evaluate this suitability is test 8 (d) in Test Series 8 (see Manual of Tests and Criteria, Part 1, Sub-section 18.7).
  - (c) Substances shall not be allowed to remain in the portable tank for any period that could result in caking. Appropriate measures shall be taken to avoid accumulation and packing of substances in the tank (e.g. cleaning, etc).
- TP33 The portable tank instruction assigned for this substance applies to granular and powdered solids and to solids which are filled and discharged at temperatures above their melting point which are cooled and carried as a solid mass. For solids which are carried above their melting point, see 4.2.1.19.
- TP34 Portable tanks need not be subjected to the impact test in 6.7.4.14.1 if the portable tank is marked "NOT FOR RAIL TRANSPORT" on the plate specified in 6.7.4.15.1 and also in letters of at least 10 cm high on both sides of the outer jacket.
- TP35 Portable tank instruction T14 prescribed in ADR applicable up to 31 December 2008 may continue to be applied until 31 December 2014.



## CHAPTER 4.3

### USE OF FIXED TANKS (TANK-VEHICLES), DEMOUNTABLE TANKS, TANK-CONTAINERS AND TANK SWAP BODIES WITH SHELLS MADE OF METALLIC MATERIALS, AND BATTERY-VEHICLES AND MULTIPLE-ELEMENT GAS CONTAINERS (MEGCs)

**NOTE:** *For portable tanks and UN multiple-element gas containers (MEGCs) see Chapter 4.2; for fibre-reinforced plastics tanks, see Chapter 4.4; for vacuum operated waste tanks, see Chapter 4.5.*

#### 4.3.1 Scope

4.3.1.1 Provisions which take up the whole width of the page apply both to fixed tanks (tank-vehicles), demountable tanks and battery-vehicles, and to tank-containers, tank swap bodies and MEGCs. Provisions contained in a single column apply only to:

- fixed tanks (tank-vehicles), demountable tanks and battery-vehicles (left-hand column);
- tank-containers, tank swap bodies and MEGCs (right-hand column).

4.3.1.2 These provisions apply to:

|   |  |   |
|---|--|---|
| fixed tanks (tank-vehicles), demountable tanks and battery-vehicles |  | tank-containers, tank swap bodies and MEGCs |
|---|--|---|

used for the carriage of gaseous, liquid, powdery or granular substances.

4.3.1.3 Section 4.3.2 lists the provisions applicable to fixed tanks (tank-vehicles), demountable tanks, tank-containers and tank swap bodies, intended for the carriage of substances of all classes, and to battery-vehicles and MEGCs intended for the carriage of gases of Class 2. Sections 4.3.3 and 4.3.4 contain special provisions adding to or amending the provisions of Section 4.3.2.

4.3.1.4 For requirements concerning the construction, equipment, type approval, tests and marking, see Chapter 6.8.

4.3.1.5 For transitional measures concerning the application of this Chapter, see:

|        |  |        |
|--------|--|--------|
| 1.6.3. |  | 1.6.4. |
|--------|--|--------|

#### 4.3.2 Provisions applicable to all classes

##### 4.3.2.1 Use

4.3.2.1.1 A substance subject to ADR may be carried in fixed tanks (tank-vehicles), demountable tanks, battery-vehicles, tank-containers, tank swap bodies and MEGCs only when provision is made for a tank code according to 4.3.3.1.1 and 4.3.4.1.1 in Column (12) of Table A in Chapter 3.2.

4.3.2.1.2 The required type of tank, battery-vehicle and MEGC is given in code form in Column (12) of Table A in Chapter 3.2. The identification codes appearing there are made up of letters or

numbers in a given order. The explanations for reading the four parts of the code are given in 4.3.3.1.1 (when the substance to be carried belongs to Class 2) and in 4.3.4.1.1 (when the substance to be carried belongs to Classes 3 to 9) <sup>1</sup>.

- 4.3.2.1.3 The required type according to 4.3.2.1.2 corresponds to the least stringent construction requirements which are acceptable for the dangerous substance in question unless otherwise prescribed in this Chapter or in Chapter 6.8. It is possible to use tanks corresponding to codes prescribing a higher minimum calculation pressure, or more stringent requirements for filling or discharge openings or for safety valves/devices (see 4.3.3.1.1 for Class 2 and 4.3.4.1.1 for Classes 3 to 9).
- 4.3.2.1.4 For certain substances, tanks, battery-vehicles or MEGCs are subject to additional provisions which are included as special provisions in Column (13) of Table A in Chapter 3.2.
- 4.3.2.1.5 Tanks, battery-vehicles and MEGCs shall not be loaded with any dangerous substances other than those for the carriage of which they have been approved according to 6.8.2.3.1 and which, in contact with the materials of the shell, gaskets, equipment and protective linings, are not liable to react dangerously with them (see "dangerous reaction" in 1.2.1), to form dangerous products or appreciably to weaken these materials <sup>2</sup>.
- 4.3.2.1.6 Foodstuffs shall not be carried in tanks used for dangerous substances unless the necessary steps have been taken to prevent any harm to public health.
- 4.3.2.1.7 The tank record shall be retained by the owner or the operator who shall be able to provide this documentation at the request of the competent authority. The tank record shall be maintained throughout the life of the tank and retained for 15 months after the tank is taken out of service.

Should a change of owner or operator occur during the life of the tank the tank record shall be transferred to the new owner or operator.

Copies of the tank record or all necessary documents shall be made available to the expert for tests, inspections and checks on tanks in accordance with 6.8.2.4.5 or 6.8.3.4.16, on the occasion of periodic inspections or exceptional checks.

#### **4.3.2.2 Degree of filling**

- 4.3.2.2.1 The following degrees of filling shall not be exceeded in tanks intended for the carriage of liquids at ambient temperatures:

- (a) for flammable substances without additional risks (e.g. toxicity or corrosivity), in tanks with a venting system or with safety valves (even where preceded by a bursting disc):

$$\text{Degree of filling} = \frac{100}{1 + \alpha (50 - t_F)} \% \text{ of capacity}$$

- (b) for toxic or corrosive substances (whether flammable or not) in tanks with a venting system or with safety valves (even where preceded by a bursting disc):

<sup>1</sup> An exception is made for tanks intended for the carriage of substances of classes 5.2 or 7 (see 4.3.4.1.3).

<sup>2</sup> It may be necessary to consult the manufacturer of the substance and the competent authority for guidance on the compatibility of the substance with the materials of the tank, battery-vehicle or MEGC.

$$\text{Degree of filling} = \frac{98}{1 + \alpha (50 - t_F)} \% \text{ of capacity}$$

- (c) for flammable substances and for slightly toxic or corrosive substances (whether flammable or not) in hermetically closed tanks without a safety device:

$$\text{Degree of filling} = \frac{97}{1 + \alpha (50 - t_F)} \% \text{ of capacity}$$

- (d) for highly toxic, toxic, highly corrosive or corrosive substances (whether flammable or not) in hermetically closed tanks without a safety device:

$$\text{Degree of filling} = \frac{95}{1 + \alpha (50 - t_F)} \% \text{ of capacity}$$

- 4.3.2.2.2 In these formulae,  $\alpha$  is the mean coefficient of cubical expansion of the liquid between 15 °C and 50 °C, i.e. for a maximum variation in temperature of 35 °C.

$\alpha$  is calculated by the formula:

$$\alpha = \frac{d_{15} - d_{50}}{35d_{50}}$$

where  $d_{15}$  and  $d_{50}$  are the relative densities of the liquid at 15 °C and 50 °C respectively.  
 $t_F$  is the mean temperature of the liquid during filling.

- 4.3.2.2.3 The provisions of 4.3.2.2.1 (a) to (d) above shall not apply to tanks whose contents are, by means of a heating device, maintained at a temperature above 50 °C during carriage. In this case the degree of filling at the outset shall be such, and the temperature so regulated, that the tank is not full to more than 95% of its capacity and that the filling temperature is not exceeded, at any time during carriage.

- 4.3.2.2.4 Shells intended for the carriage of substances in the liquid state or liquefied gases or refrigerated liquefied gases, which are not divided by partitions or surge plates into sections of not more than 7 500 litres capacity, shall be filled to not less than 80% or not more than 20% of their capacity.

This provision is not applicable to:

- liquids with a kinematic viscosity at 20 °C of at least 2 680 mm<sup>2</sup>/s;
- molten substances with a kinematic viscosity at the temperature of filling of at least 2 680 mm<sup>2</sup>/s;
- UN 1963 HELIUM, REFRIGERATED, LIQUID and UN 1966 HYDROGEN, REFRIGERATED, LIQUID.

### 4.3.2.3 *Operation*

- 4.3.2.3.1 The thickness of the walls of the shell shall not, throughout its use, fall below the minimum figure prescribed in:

6.8.2.1.17 to 6.8.2.1.21. | 6.8.2.1.17 to 6.8.1.20.

## 4.3.2.3.2

During carriage tank-containers/MEGCs shall be loaded on the carrying vehicle in such a way as to be adequately protected by the fittings of the carrying vehicle or of the tank-container/MEGC itself against lateral and longitudinal impact and against overturning<sup>3</sup>. If the tank-containers/MEGCs, including the service equipment, are so constructed as to withstand impact or overturning they need not be protected in this way.

4.3.2.3.3 During filling and discharge of tanks, battery-vehicles and MEGCs, appropriate measures shall be taken to prevent the release of dangerous quantities of gases and vapours. Tanks, battery-vehicles and MEGCs shall be closed so that the contents cannot spill out uncontrolled. The openings of bottom-discharge tanks shall be closed by means of screw-threaded plugs, blank flanges or other equally effective devices. The leakproofness of the closures of the tanks, and of the battery-vehicles and MEGCs shall be checked by the filler after the tank is filled. This applies in particular to the upper part of the dip tube.

4.3.2.3.4 Where several closure systems are fitted in series, that nearest to the substance being carried shall be closed first.

4.3.2.3.5 No dangerous residue of the filling substance shall adhere to the outside of the tank during carriage.

4.3.2.3.6 Substances which may react dangerously with each other shall not be carried in adjoining compartments of tanks.

Substances which may react dangerously with each other may be carried in adjoining compartments of tanks, when these compartments are separated by a partition with a wall thickness equal to or greater than that of the tank itself. They may also be carried separated by an empty space or an empty compartment between loaded compartments.

#### 4.3.2.4 *Empty tanks, battery-vehicles and MEGCs, uncleaned*

**NOTE:** For empty tanks, battery-vehicles and MEGCs, uncleaned, special provisions TU1, TU2, TU4, TU16 and TU35 of 4.3.5 may apply.

4.3.2.4.1 No dangerous residue of the filling substance shall adhere to the outside of the tank during carriage.

4.3.2.4.2 To be accepted for carriage, empty tanks, battery-vehicles and MEGCs, uncleaned, shall be closed in the same manner and be leakproof to the same degree as if they were full.

4.3.2.4.3 Where empty tanks, battery-vehicles and MEGCs, uncleaned, are not closed in the same manner and are not leakproof to the same degree as if they were full and where the

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<sup>3</sup> Examples of protection of shells:

- protection against lateral impact may, for example, consist of longitudinal bars protecting the shell on both sides at the level of the median line;
- protection against overturning may, for example, consist of reinforcing rings or bars fixed transversally in relation to the frame;
- protection against rear impact, may, for example, consist of a bumper or frame.

provisions of ADR cannot be complied with, they shall be carried, with due regard to adequate safety, to the nearest suitable place where cleaning or repair can be carried out. Carriage is adequately safe if suitable measures have been taken to ensure equivalent safety commensurate with the provisions of ADR and to prevent the uncontrolled release of the dangerous goods.

- 4.3.2.4.4 Empty fixed tanks (tank-vehicles), demountable tanks, battery-vehicles, tank-containers, tank swap bodies and MEGCs, uncleaned, may also be carried after the expiry of the periods established in 6.8.2.4.2 and 6.8.2.4.3 for undergoing the inspection.

### 4.3.3 Special provisions applicable to Class 2

#### 4.3.3.1 Coding and hierarchy of tanks

##### 4.3.3.1.1 Coding of tanks, battery-vehicles and MEGCs

The four parts of the codes (tank codes) given in Column (12) of Table A in Chapter 3.2 have the following meanings:

| Part | Description                            | Tank Code  |
|------|--|--|
| 1    | Types of tank, battery-vehicle or MEGC | C = tank, battery-vehicle or MEGC for compressed gases;<br>P = tank, battery-vehicle or MEGC for liquefied gases or dissolved gases;<br>R = tank for refrigerated liquefied gases.   |
| 2    | Calculation pressure                   | X = value of the minimum relevant test pressure according to the table in 4.3.3.2.5; or<br>22 = minimum calculation pressure in bar.   |
| 3    | Openings (see 6.8.2.2 and 6.8.3.2)     | B = tank with bottom filling or discharge openings with 3 closures; or<br>battery-vehicle or MEGC with openings below the surface of the liquid or for compressed gases;<br>C = tank with top filling or discharge openings with 3 closures with only cleaning openings below the surface of the liquid;<br>D = tank with top filling or discharge openings with 3 closures; or<br>battery-vehicle or MEGC with no openings below the surface of the liquid. |
| 4    | Safety valves/devices                  | N = tank, battery-vehicle or MEGC with safety valve according to 6.8.3.2.9 or 6.8.3.2.10 which is not hermetically closed;<br>H = hermetically closed tank, battery-vehicle or MEGC (see 1.2.1);   |

**NOTE 1:** The special provision TU17 indicated in Column (13) of Table A in Chapter 3.2 for certain gases means that the gas may only be carried in a battery-vehicle or MEGC the elements of which are composed of receptacles.

**NOTE 2:** The pressures indicated on the tank itself or on the panel shall be not less than the value of "X" or the minimum calculation pressure.

4.3.3.1.2 *Hierarchy of tanks*

| <b>Tank code</b> | <b>Other tank code(s) permitted for the substances under this code</b> |
|------------------|--|
| C*BN             | C#BN, C#CN, C#DN, C#BH, C#CH, C#DH                                     |
| C*BH             | C#BH, C#CH, C#DH   |
| C*CN             | C#CN, C#DN, C#CH, C#DH   |
| C*CH             | C#CH, C#DH   |
| C*DN             | C#DN, C#DH   |
| C*DH             | C#DH   |
| P*BN             | P#BN, P#CN, P#DN, P#BH, P#CH, P#DH                                     |
| P*BH             | P#BH, P#CH, P#DH   |
| P*CN             | P#CN, P#DN, P#CH, P#DH   |
| P*CH             | P#CH, P#DH   |
| P*DN             | P#DN, P#DH   |
| P*DH             | P#DH   |
| R*BN             | R#BN, R#CN, R#DN   |
| R*CN             | R#CN, R#DN   |
| R*DN             | R#DN   |

The figure represented by "#" shall be equal to or greater than the figure represented by "\*".

**NOTE:** This hierarchy does not take any special provisions into account (see 4.3.5 and 6.8.4) for each entry.

4.3.3.2 *Filling conditions and test pressures*

4.3.3.2.1 The test pressure for tanks intended for the carriage of compressed gases shall be at least 1.5 times the working pressure as defined in 1.2.1 for pressure receptacles.

4.3.3.2.2 The test pressure for tanks intended for the carriage of:

- high pressure liquefied gases; and
- dissolved gases

shall be such that, when the shell is filled to the maximum filling ratio, the pressure reached in the shell by the substance at 55 °C for tanks with thermal insulation or 65 °C for tanks without thermal insulation does not exceed the test pressure.

4.3.3.2.3 The test pressure for tanks intended for the carriage of low pressure liquefied gases will be:

- (a) If the tank is equipped with thermal insulation, at least equal to the vapour pressure, reduced by 0.1 MPa (1 bar) of the liquid at 60 °C, but not less than 1 MPa (10 bar);
- (b) If the tank is not equipped with thermal insulation, at least equal to the vapour pressure, reduced by 0.1 MPa (1 bar), of the liquid at 65 °C, but not less than 1 MPa (10 bar).

The maximum permissible mass of contents per litre of capacity is calculated as follows:

*Maximum permissible mass of contents per litre of capacity = 0.95 × density of the liquid phase at 50 °C (in kg/l)*

Moreover the vapour phase shall not disappear below 60 °C.

If the shells are not more than 1.5 m in diameter, the values of the test pressure and maximum filling ratio conforming to packing instruction P200 in 4.1.4.1 shall be applicable.

4.3.3.2.4 The test pressure for tanks intended for the carriage of refrigerated liquefied gases shall be not less than 1.3 times the maximum allowable working pressure and indicated on the tank but not less than 300 kPa (3 bar) (gauge pressure); for tanks with vacuum insulation the test pressure shall be not less than 1.3 times the maximum allowable working pressure increased by 100 kPa (1 bar).

4.3.3.2.5 *Table of gases and gas mixtures which may be carried in fixed tanks (tank-vehicles), battery-vehicles, demountable tanks, tank-containers or MEGCs indicating the minimum test pressure for tanks and as far as applicable the filling ratio*

In the case of gases and gas mixtures classified under n.o.s. entries, the values of the test pressure and the filling ratio shall be prescribed by the expert approved by the competent authority.

When tanks for compressed or high pressure liquefied gases have been subjected to a test pressure lower than shown in the table, and the tanks are fitted with thermal insulation, a lower maximum load may be prescribed by the expert approved by the competent authority, provided that the pressure reached in the tank by the substance at 55 °C does not exceed the test pressure stamped on the tank.

| UN No. | Name  | Classification code | Minimum test pressure for tanks                            |     |                            |     | Maximum permissible mass of contents per litre of capacity |
|--------|---|---------------------|--|-----|----------------------------|-----|--|
|        |   |                     | With thermal insulation                                    |     | Without thermal insulation |     |  |
|        |   |                     | MPa  | bar | MPa                        | bar |  |
| 1001   | Acetylene, dissolved                            | 4 F                 | only in battery-vehicles and MEGCs composed of receptacles |     |                            |     |  |
| 1002   | Air, compressed                                 | 1 A                 | see 4.3.3.2.1  |     |                            |     |  |
| 1003   | Air, refrigerated liquid                        | 3 O                 | see 4.3.3.2.4  |     |                            |     |  |
| 1005   | Ammonia, anhydrous                              | 2 TC                | 2.6  | 26  | 2.9                        | 29  | 0.53   |
| 1006   | Argon, compressed                               | 1 A                 | see 4.3.3.2.1  |     |                            |     |  |
| 1008   | Boron trifluoride                               | 2 TC                | 22.5   | 225 | 22.5                       | 225 | 0.715  |
|        |   |                     | 30   | 300 | 30                         | 300 | 0.86   |
| 1009   | Bromotrifluoromethane (Refrigerant gas R13B1)   | 2 A                 | 12   | 120 |                            |     | 1.50   |
|        |   |                     |  |     | 4.2                        | 42  | 1.13   |
|        |   |                     |  |     | 12                         | 120 | 1.44   |
|        |   |                     |  |     | 25                         | 250 | 1.60   |
| 1010   | BUTADIENES, STABILIZED (1,2-butadiene) or       | 2 F                 | 1  | 10  | 1                          | 10  | 0.59   |
| 1010   | BUTADIENES, STABILIZED (1,3-butadiene) or       | 2 F                 | 1  | 10  | 1                          | 10  | 0.55   |
| 1010   | BUTADIENES AND HYDROCARBON, MIXTURE, STABILIZED | 2 F                 | 1  | 10  | 1                          | 10  | 0.50   |
| 1011   | Butane  | 2 F                 | 1  | 10  | 1                          | 10  | 0.51   |
| 1012   | 1-butylene or                                   | 2 F                 | 1  | 10  | 1                          | 10  | 0.53   |
| 1012   | trans-2-butylene or                             | 2 F                 | 1  | 10  | 1                          | 10  | 0.54   |
| 1012   | cis-2-butylene or                               | 2 F                 | 1  | 10  | 1                          | 10  | 0.55   |
| 1012   | butylenes mixture                               | 2 F                 | 1  | 10  | 1                          | 10  | 0.50   |
| 1013   | Carbon dioxide                                  | 2 A                 | 19   | 190 |                            |     | 0.73   |
|        |   |                     | 22.5   | 225 |                            |     | 0.78   |
|        |   |                     |  |     | 19                         | 190 | 0.66   |
|        |   |                     |  |     | 25                         | 250 | 0.75   |
| 1016   | Carbon monoxide, compressed                     | 1 TF                | see 4.3.3.2.1  |     |                            |     |  |

| UN No. | Name  | Classification code | Minimum test pressure for tanks                      |     |                            |     | Maximum permissible mass of contents per litre of capacity |
|--------|---|---------------------|--|-----|----------------------------|-----|--|
|        |   |                     | With thermal insulation                              |     | Without thermal insulation |     |  |
|        |   |                     | MPa  | bar | MPa                        | bar |  |
| 1017   | Chlorine  | 2 TOC               | 1.7  | 17  | 1.9                        | 19  | 1.25   |
| 1018   | Chlorodifluoromethane (Refrigerant gas R22)   | 2 A                 | 2.4  | 24  | 2.6                        | 26  | 1.03   |
| 1020   | Chloropentafluoroethane (Refrigerant gas R115)  | 2 A                 | 2  | 20  | 2.3                        | 23  | 1.08   |
| 1021   | 1-chloro-1,2,2,2- tetrafluoroethane (Refrigerant gas R124)  | 2 A                 | 1  | 10  | 1.1                        | 11  | 1.2  |
| 1022   | Chlorotrifluoromethane (Refrigerant gas R13)  | 2 A                 | 12   | 120 |                            |     | 0.96   |
|        |   |                     | 22.5   | 225 |                            |     | 1.12   |
|        |   |                     |  |     | 10                         | 100 | 0.83   |
|        |   |                     |  |     | 12                         | 120 | 0.90   |
|        |   |                     |  |     | 19                         | 190 | 1.04   |
|        |   |                     |  |     | 25                         | 250 | 1.10   |
| 1023   | Coal gas, compressed  | TF                  | see 4.3.3.2.1  |     |                            |     |  |
| 1026   | Cyanogen  | 2 TF                | 10   | 100 | 10                         | 100 | 0.70   |
| 1027   | Cyclopropane  | 2 F                 | 1.6  | 16  | 1.8                        | 18  | 0.53   |
| 1028   | Dichlorodifluoromethane (Refrigerant gas R12)   | 2 A                 | 1.5  | 15  | 1.6                        | 16  | 1.15   |
| 1029   | Dichlorofluoromethane (Refrigerant gas R21)   | 2 A                 | 1  | 10  | 1                          | 10  | 1.23   |
| 1030   | 1,1-difluoroethane (Refrigerant gas R152a)  | 2 F                 | 1.4  | 14  | 1.6                        | 16  | 0.79   |
| 1032   | Dimethylamine, anhydrous  | 2 F                 | 1  | 10  | 1                          | 10  | 0.59   |
| 1033   | Dimethyl ether  | 2 F                 | 1.4  | 14  | 1.6                        | 16  | 0.58   |
| 1035   | Ethane  | 2 F                 | 12   | 120 |                            |     | 0.32   |
|        |   |                     |  |     | 9.5                        | 95  | 0.25   |
|        |   |                     |  |     | 12                         | 120 | 0.29   |
|        |   |                     |  |     | 30                         | 300 | 0.39   |
| 1036   | Ethylamine  | 2 F                 | 1  | 10  | 1                          | 10  | 0.61   |
| 1037   | Ethyl chloride  | 2 F                 | 1  | 10  | 1                          | 10  | 0.8  |
| 1038   | Ethylene, refrigerated liquid   | 3 F                 | see 4.3.3.2.4  |     |                            |     |  |
| 1039   | Ethyl methyl ether  | 2 F                 | 1  | 10  | 1                          | 10  | 0.64   |
| 1040   | Ethylene oxide with nitrogen up to a total pressure of 1MPa (10 bar) at 50 °C                     | 2 TF                | 1.5  | 15  | 1.5                        | 15  | 0.78   |
| 1041   | Ethylene oxide and carbon dioxide mixture, with more than 9% but not more than 87% ethylene oxide | 2 F                 | 2.4  | 24  | 2.6                        | 26  | 0.73   |
| 1046   | Helium, compressed  | 1 A                 | see 4.3.3.2.1  |     |                            |     |  |
| 1048   | Hydrogen bromide, anhydrous   | 2 TC                | 5  | 50  | 5.5                        | 55  | 1.54   |
| 1049   | Hydrogen, compressed  | 1 F                 | see 4.3.3.2.1  |     |                            |     |  |
| 1050   | Hydrogen chloride, anhydrous  | 2 TC                | 12   | 120 |                            |     | 0.69   |
|        |   |                     |  |     | 10                         | 100 | 0.30   |
|        |   |                     |  |     | 12                         | 120 | 0.56   |
|        |   |                     |  |     | 15                         | 150 | 0.67   |
|        |   |                     |  |     | 20                         | 200 | 0.74   |
| 1053   | Hydrogen sulphide   | 2 TF                | 4.5  | 45  | 5                          | 50  | 0.67   |
| 1055   | Isobutylene   | 2 F                 | 1  | 10  | 1                          | 10  | 0.52   |
| 1056   | Krypton, compressed   | 1 A                 | see 4.3.3.2.1  |     |                            |     |  |
| 1058   | Liquefied gases, non flammable, charged with nitrogen, carbon dioxide or air                      | 2 A                 | 1.5 × filling pressure<br>see 4.3.3.2.2 or 4.3.3.2.3 |     |                            |     |  |



| UN No. | Name   | Classification code | Minimum test pressure for tanks                            |     |                            |     | Maximum permissible mass of contents per litre of capacity |
|--------|--|---------------------|--|-----|----------------------------|-----|--|
|        |  |                     | With thermal insulation                                    |     | Without thermal insulation |     |  |
|        |  |                     | MPa  | bar | MPa                        | bar | kg   |
| 1060   | Methylacetylene and propadiene mixture, stabilized:                    | 2 F                 | see 4.3.3.2.2 or 4.3.3.2.3                                 |     |                            |     |  |
|        | mixture P1   | 2 F                 | 2.5  | 25  | 2.8                        | 28  | 0.49   |
|        | mixture P2   | 2 F                 | 2.2  | 22  | 2.3                        | 23  | 0.47   |
|        | propadiene with 1% to 4% methylacetylene                               | 2 F                 | 2.2  | 22  | 2.2                        | 22  | 0.50   |
| 1061   | Methylamine, anhydrous   | 2 F                 | 1  | 10  | 1.1                        | 11  | 0.58   |
| 1062   | Methyl bromide with not more than 2% chloropicrin                      | 2 T                 | 1  | 10  | 1                          | 10  | 1.51   |
| 1063   | Methyl chloride (Refrigerant gas R40)                                  | 2 F                 | 1.3  | 13  | 1.5                        | 15  | 0.81   |
| 1064   | Methyl mercaptan   | 2 TF                | 1  | 10  | 1                          | 10  | 0.78   |
| 1065   | Neon, compressed   | 1 A                 | see 4.3.3.2.1  |     |                            |     |  |
| 1066   | Nitrogen, compressed   | 1 A                 | see 4.3.3.2.1  |     |                            |     |  |
| 1067   | Dinitrogen tetroxide (nitrogen dioxide)                                | 2 TOC               | only in battery-vehicles and MEGCs composed of receptacles |     |                            |     |  |
| 1070   | Nitrous oxide  | 2 O                 | 22.5   | 225 |                            |     | 0.78   |
|        |  |                     |  |     | 18                         | 180 | 0.68   |
|        |  |                     |  |     | 22.5                       | 225 | 0.74   |
|        |  |                     |  |     | 25                         | 250 | 0.75   |
| 1071   | Oil gas, compressed  | 1 TF                | see 4.3.3.2.1  |     |                            |     |  |
| 1072   | Oxygen, compressed   | 1 O                 | see 4.3.3.2.1  |     |                            |     |  |
| 1073   | Oxygen, refrigerated liquid  | 3 O                 | see 4.3.3.2.4  |     |                            |     |  |
| 1076   | Phosgene   | 2 TC                | only in battery-vehicles and MEGCs composed of receptacles |     |                            |     |  |
| 1077   | Propylene  | 2 F                 | 2.5  | 25  | 2.7                        | 27  | 0.43   |
| 1078   | Refrigerant gases, n.o.s. such as:                                     | 2 A                 |  |     |                            |     |  |
|        | mixture F1   | 2 A                 | 1  | 10  | 1.1                        | 11  | 1.23   |
|        | mixture F2   | 2 A                 | 1.5  | 15  | 1.6                        | 16  | 1.15   |
|        | mixture F3   | 2 A                 | 2.4  | 24  | 2.7                        | 27  | 1.03   |
|        | other mixtures   | 2 A                 | see 4.3.3.2.2 or 4.3.3.2.3                                 |     |                            |     |  |
| 1079   | Sulphur dioxide  | 2 TC                | 1  | 10  | 1.2                        | 12  | 1.23   |
| 1080   | Sulphur hexafluoride   | 2 A                 | 12   | 120 |                            |     | 1.34   |
|        |  |                     |  |     | 7                          | 70  | 1.04   |
|        |  |                     |  |     | 14                         | 140 | 1.33   |
|        |  |                     |  |     | 16                         | 160 | 1.37   |
| 1082   | Trifluorochloroethylene, stabilized                                    | 2 TF                | 1.5  | 15  | 1.7                        | 17  | 1.13   |
| 1083   | Trimethylamine, anhydrous  | 2 F                 | 1  | 10  | 1                          | 10  | 0.56   |
| 1085   | Vinyl bromide, stabilized  | 2 F                 | 1  | 10  | 1                          | 10  | 1.37   |
| 1086   | Vinyl chloride, stabilized   | 2 F                 | 1  | 10  | 1.1                        | 11  | 0.81   |
| 1087   | inyl methyl ether, stabilized  | 2 F                 | 1  | 10  | 1                          | 10  | 0.67   |
| 1581   | Chloropicrin and methyl bromide mixture with more than 2% chloropicrin | 2 T                 | 1  | 10  | 1                          | 10  | 1.51   |
| 1582   | Chloropicrin and methyl chloride mixture                               | 2 T                 | 1.3  | 13  | 1.5                        | 15  | 0.81   |
| 1612   | Hexaethyl tetraphosphate and compressed gas mixture                    | 1 T                 | see 4.3.3.2.1  |     |                            |     |  |
| 1749   | Chlorine trifluoride   | 2 TOC               | 3  | 30  | 3                          | 30  | 1.40   |
| 1858   | Hexafluoropropylene (Refrigerant gas R 1216)                           | 2A                  | 1.7  | 17  | 1.9                        | 19  | 1.11   |
| 1859   | Silicon tetrafluoride  | 2 TC                | 20   | 200 | 20                         | 200 | 0.74   |
|        |  |                     | 30   | 300 | 30                         | 300 | 1.10   |
| 1860   | Vinyl fluoride, stabilized   | 2 F                 | 12   | 120 |                            |     | 0.58   |
|        |  |                     | 22.5   | 225 |                            |     | 0.65   |
|        |  |                     |  |     | 25                         | 250 | 0.64   |

| UN No. | Name  | Classification code | Minimum test pressure for tanks |     |                            |     | Maximum permissible mass of contents per litre of capacity |
|--------|---|---------------------|---------------------------------|-----|----------------------------|-----|--|
|        |   |                     | With thermal insulation         |     | Without thermal insulation |     |  |
|        |   |                     | MPa                             | bar | MPa                        | bar | kg   |
| 1912   | Methyl chloride and methylene chloride mixture  | 2 F                 | 1.3                             | 13  | 1.5                        | 15  | 0.81   |
| 1913   | Neon, refrigerated liquid   | 3 A                 | see 4.3.3.2.4                   |     |                            |     |  |
| 1951   | Argon, refrigerated liquid  | 3 A                 | see 4.3.3.2.4                   |     |                            |     |  |
| 1952   | Ethylene oxide and carbon dioxide mixture, with not more than 9% ethylene oxide   | 2 A                 | 19                              | 190 | 19                         | 190 | 0.66   |
|        |   |                     | 25                              | 250 | 25                         | 250 | 0.75   |
| 1953   | Compressed gas, toxic, flammable, n.o.s. <sup>a</sup>   | 1 TF                | see 4.3.3.2.1 or 4.3.3.2.2      |     |                            |     |  |
| 1954   | Compressed gas, flammable n.o.s.  | 1 F                 | see 4.3.3.2.1 or 4.3.3.2.2      |     |                            |     |  |
| 1955   | Compressed gas, toxic, n.o.s. <sup>a</sup>  | 1 T                 | see 4.3.3.2.1 or 4.3.3.2.2      |     |                            |     |  |
| 1956   | Compressed gas, n.o.s.  | 1 A                 | see 4.3.3.2.1 or 4.3.3.2.2      |     |                            |     |  |
| 1957   | Deuterium, compressed   | 1 F                 | see 4.3.3.2.1                   |     |                            |     |  |
| 1958   | 1,2-dichloro-1,1,2,2-tetrafluoroethane (Refrigerant gas R114)   | 2 A                 | 1                               | 10  | 1                          | 10  | 1.3  |
| 1959   | 1,1-difluoroethylene (Refrigerant gas R1132a)   | 2 F                 | 12                              | 120 |                            |     | 0.66   |
|        |   |                     | 22.5                            | 225 |                            |     | 0.78   |
|        |   |                     |                                 |     | 25                         | 250 | 0.77   |
| 1961   | Ethane, refrigerated liquid   | 3 F                 | see 4.3.3.2.4                   |     |                            |     |  |
| 1962   | Ethylene  | 2 F                 | 12                              | 120 |                            |     | 0.25   |
|        |   |                     | 22.5                            | 225 |                            |     | 0.36   |
|        |   |                     |                                 |     | 22.5                       | 225 | 0.34   |
|        |   |                     |                                 |     | 30                         | 300 | 0.37   |
| 1963   | Helium, refrigerated liquid   | 3 A                 | see 4.3.3.2.4                   |     |                            |     |  |
| 1964   | Hydrocarbon gas mixture, compressed, n.o.s.   | 1 F                 | see 4.3.3.2.1 or 4.3.3.2.2      |     |                            |     |  |
| 1965   | Hydrocarbon gas mixture, liquefied, n.o.s.:   | 2 F                 |                                 |     |                            |     |  |
|        | Mixture A   | 2 F                 | 1                               | 10  | 1                          | 10  | 0.50   |
|        | Mixture A01   | 2 F                 | 1.2                             | 12  | 1.4                        | 14  | 0.49   |
|        | Mixture A02   | 2 F                 | 1.2                             | 12  | 1.4                        | 14  | 0.48   |
|        | Mixture A0  | 2 F                 | 1.2                             | 12  | 1.4                        | 14  | 0.47   |
|        | Mixture A1  | 2 F                 | 1.6                             | 16  | 1.8                        | 18  | 0.46   |
|        | Mixture B1  | 2 F                 | 2                               | 20  | 2.3                        | 23  | 0.45   |
|        | Mixture B2  | 2 F                 | 2                               | 20  | 2.3                        | 23  | 0.44   |
|        | Mixture B   | 2 F                 | 2                               | 20  | 2.3                        | 23  | 0.43   |
|        | Mixture C   | 2 F                 | 2.5                             | 25  | 2.7                        | 27  | 0.42   |
|        | Other mixtures  | 2 F                 | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 1966   | Hydrogen, refrigerated liquid   | 3 F                 | see 4.3.3.2.4                   |     |                            |     |  |
| 1967   | Insecticide gas, toxic, n.o.s. <sup>a</sup>   | 2 T                 | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 1968   | Insecticide gas, n.o.s.   | 2 A                 | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 1969   | Isobutane   | 2 F                 | 1                               | 10  | 1                          | 10  | 0.49   |
| 1970   | Krypton, refrigerated liquid  | 3 A                 | see 4.3.3.2.4                   |     |                            |     |  |
| 1971   | Methane, compressed or natural gas, compressed with high methane content  | 1 F                 | see 4.3.3.2.1                   |     |                            |     |  |
| 1972   | Methane, refrigerated liquid or natural gas, refrigerated liquid with high methane content  | 3 F                 | see 4.3.3.2.4                   |     |                            |     |  |
| 1973   | Chlorodifluoromethane and chloropentafluoroethane mixture with fixed boiling point, with approximately 49% chlorodifluoromethane (Refrigerant gas R502) | 2 A                 | 2.5                             | 25  | 2.8                        | 28  | 1.05   |

<sup>a</sup> Allowed if LC<sub>50</sub> equal to or greater than 200 ppm.

| UN No. | Name   | Classification code | Minimum test pressure for tanks |     |                            |     | Maximum permissible mass of contents per litre of capacity |
|--------|--|---------------------|---------------------------------|-----|----------------------------|-----|--|
|        |  |                     | With thermal insulation         |     | Without thermal insulation |     |  |
|        |  |                     | MPa                             | bar | MPa                        | bar | kg   |
| 1974   | Chlorodifluorobromomethane (Refrigerant gas R12B1)                     | 2 A                 | 1                               | 10  | 1                          | 10  | 1.61   |
| 1976   | Octafluorocyclobutane (Refrigerant gas RC318)                          | 2 A                 | 1                               | 10  | 1                          | 10  | 1.34   |
| 1977   | Nitrogen, refrigerated liquid  | 3 A                 | see 4.3.3.2.4                   |     |                            |     |  |
| 1978   | Propane  | 2 F                 | 2.1                             | 21  | 2.3                        | 23  | 0.42   |
| 1982   | Tetrafluoromethane (Refrigerant gas R14)                               | 2 A                 | 20                              | 200 | 20                         | 200 | 0.62   |
|        |  |                     | 30                              | 300 | 30                         | 300 | 0.94   |
| 1983   | 1-chloro-2,2,2-trifluoroethane (Refrigerant gas R133a)                 | 2 A                 | 1                               | 10  | 1                          | 10  | 1.18   |
| 1984   | Trifluoromethane (Refrigerant gas R23)                                 | 2 A                 | 19                              | 190 |                            |     | 0.92   |
|        |  |                     | 25                              | 250 |                            |     | 0.99   |
|        |  |                     |                                 |     | 19                         | 190 | 0.87   |
|        |  |                     |                                 |     | 25                         | 250 | 0.95   |
| 2034   | Hydrogen and methane mixture, compressed                               | 1 F                 | see 4.3.3.2.1                   |     |                            |     |  |
| 2035   | 1,1,1-trifluoroethane (Refrigerant gas R143a)                          | 2 F                 | 2.8                             | 28  | 3.2                        | 32  | 0.79   |
| 2036   | Xenon  | 2 A                 | 12                              | 120 |                            |     | 1.30   |
|        |  |                     |                                 |     | 13                         | 130 | 1.24   |
| 2044   | 2,2-dimethylpropane  | 2 F                 | 1                               | 10  | 1                          | 10  | 0.53   |
| 2073   | Ammonia solutions, relative density less than 0.880 at 15 °C in water: | 4 A                 |                                 |     |                            |     |  |
|        | with more than 35% and not more than 40% ammonia                       | 4 A                 | 1                               | 10  | 1                          | 10  | 0.80   |
|        | with more than 40% and not more than 50% ammonia                       | 4 A                 | 1.2                             | 12  | 1.2                        | 12  | 0.77   |
| 2187   | Carbon dioxide, refrigerated liquid                                    | 3 A                 | see 4.3.3.2.4                   |     |                            |     |  |
| 2189   | Dichlorosilane   | 2 TFC               | 1                               | 10  | 1                          | 10  | 0.90   |
| 2191   | Sulfuryl fluoride  | 2 T                 | 5                               | 50  | 5                          | 50  | 1.1  |
| 2193   | Hexafluoroethane (Refrigerant gas R116)                                | 2 A                 | 16                              | 160 |                            |     | 1.28   |
|        |  |                     | 20                              | 200 |                            |     | 1.34   |
|        |  |                     |                                 |     | 20                         | 200 | 1.10   |
| 2197   | Hydrogen iodide, anhydrous   | 2 TC                | 1.9                             | 19  | 2.1                        | 21  | 2.25   |
| 2200   | Propadiene, stabilized   | 2 F                 | 1.8                             | 18  | 2.0                        | 20  | 0.50   |
| 2201   | Nitrous oxide, refrigerated liquid                                     | 3 O                 | see 4.3.3.2.4                   |     |                            |     |  |
| 2203   | Silane <sup>b</sup>  | 2 F                 | 22.5                            | 225 | 22.5                       | 225 | 0.32   |
|        |  |                     | 25                              | 250 | 25                         | 250 | 0.36   |
| 2204   | Carbonyl sulphide  | 2 TF                | 2.7                             | 27  | 3.0                        | 30  | 0.84   |
| 2417   | Carbonyl fluoride  | 2 TC                | 20                              | 200 | 20                         | 200 | 0.47   |
|        |  |                     | 30                              | 300 | 30                         | 300 | 0.70   |
| 2419   | Bromotrifluoroethylene   | 2 F                 | 1                               | 10  | 1                          | 10  | 1.19   |
| 2420   | Hexafluoroacetone  | 2 TC                | 1.6                             | 16  | 1.8                        | 18  | 1.08   |
| 2422   | Octafluorobut-2-ene (Refrigerant gas R1318)                            | 2 A                 | 1                               | 10  | 1                          | 10  | 1.34   |
| 2424   | Octafluoropropane (Refrigerant gas R218)                               | 2 A                 | 2.1                             | 21  | 2.3                        | 23  | 1.07   |
| 2451   | Nitrogen trifluoride   | 2 O                 | 20                              | 200 | 20                         | 200 | 0.50   |
|        |  |                     | 30                              | 300 | 30                         | 300 | 0.75   |
| 2452   | Ethylacetylene, stabilized   | 2 F                 | 1                               | 10  | 1                          | 10  | 0.57   |
| 2453   | Ethyl fluoride (Refrigerant gas R161)                                  | 2 F                 | 2.1                             | 21  | 2.5                        | 25  | 0.57   |

<sup>b</sup> Considered as pyrophoric.

| UN No. | Name  | Classification code | Minimum test pressure for tanks |     |                            |     | Maximum permissible mass of contents per litre of capacity |
|--------|---|---------------------|---------------------------------|-----|----------------------------|-----|--|
|        |   |                     | With thermal insulation         |     | Without thermal insulation |     |  |
|        |   |                     | MPa                             | bar | MPa                        | bar | kg   |
| 2454   | Methyl fluoride (Refrigerant gas R41)   | 2 F                 | 30                              | 300 | 30                         | 300 | 0.36   |
| 2517   | 1-chloro-1,1-difluoroethane (Refrigerant gas R142b)   | 2 F                 | 1                               | 10  | 1                          | 10  | 0.99   |
| 2591   | Xenon, refrigerated liquid  | 3 A                 | see 4.3.3.2.4                   |     |                            |     |  |
| 2599   | Chlorotrifluoromethane and trifluoromethane, azeotropic mixture with approximately 60% chlorotrifluoromethane (Refrigerant gas R503)                                | 2 A                 | 3.1                             | 31  | 3.1                        | 31  | 0.11   |
|        |   |                     | 4.2                             | 42  |                            |     | 0.21   |
|        |   |                     | 10                              | 100 |                            |     | 0.76   |
|        |   |                     |                                 |     | 4.2                        | 42  | 0.20   |
|        |   |                     |                                 |     | 10                         | 100 | 0.66   |
| 2601   | Cyclobutane   | 2 F                 | 1                               | 10  | 1                          | 10  | 0.63   |
| 2602   | Dichlorodifluoromethane and difluoro-1,1 ethane, azeotropic mixture with approximately 74% dichlorodifluoromethane (Refrigerant gas R500)                           | 2 A                 | 1.8                             | 18  | 2                          | 20  | 1.01   |
| 2901   | Bromine chloride  | 2 TOC               | 1                               | 10  | 1                          | 10  | 1.50   |
| 3057   | Trifluoroacetyl chloride  | 2 TC                | 1.3                             | 13  | 1.5                        | 15  | 1.17   |
| 3070   | Ethylene oxide and dichlorodifluoromethane mixture with not more than 12.5% ethylene oxide  | 2 A                 | 1.5                             | 15  | 1.6                        | 16  | 1.09   |
| 3083   | Perchloryl fluoride   | 2 TO                | 2.7                             | 27  | 3.0                        | 30  | 1.21   |
| 3136   | Trifluoromethane, refrigerated liquid   | 3 A                 | See 4.3.3.2.4                   |     |                            |     |  |
| 3138   | Ethylene, acetylene propylene in mixture, refrigerated liquid, containing at least 71.5% ethylene with not more than 22.5% acetylene and not more than 6% propylene | 3 F                 | see 4.3.3.2.4                   |     |                            |     |  |
| 3153   | Perfluoro(methyl vinyl ether)   | 2 F                 | 1.4                             | 14  | 1.5                        | 15  | 1.14   |
| 3154   | Perfluoro(ethyl vinyl ether)  | 2 F                 | 1                               | 10  | 1                          | 10  | 0.98   |
| 3156   | Compressed gas, oxidizing, n.o.s.   | 1 O                 | see 4.3.3.2.1 or 4.3.3.2.2      |     |                            |     |  |
| 3157   | Liquefied gas, oxidizing, n.o.s.  | 2 O                 | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 3158   | Gas, refrigerated liquid, n.o.s.  | 3 A                 | see 4.3.3.2.4                   |     |                            |     |  |
| 3159   | 1,1,1,2-tetrafluoroethane (Refrigerant gas R134a)   | 2 A                 | 1.6                             | 16  | 1.8                        | 18  | 1.04   |
| 3160   | Liquefied gas, toxic, flammable, n.o.s. <sup>a</sup>  | 2 TF                | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 3161   | Liquefied gas, flammable, n.o.s.  | 2 F                 | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 3162   | Liquefied gas, toxic, n.o.s. <sup>a</sup>   | 2 T                 | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 3163   | Liquefied gas, n.o.s.   | 2 A                 | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 3220   | Pentafluoroethane (Refrigerant gas R125)  | 2 A                 | 4.1                             | 41  | 4.9                        | 49  | 0.95   |
| 3252   | Difluoromethane (Refrigerant gas R32)   | 2 F                 | 3.9                             | 39  | 4.3                        | 43  | 0.78   |
| 3296   | Heptafluoropropane (Refrigerant gas R227)   | 2 A                 | 1.4                             | 14  | 1.6                        | 16  | 1.20   |
| 3297   | Ethylene oxide and chlorotetrafluoroethane mixture, with not more than 8.8% ethylene oxide  | 2 A                 | 1                               | 10  | 1                          | 10  | 1.16   |
| 3298   | Ethylene oxide and pentafluoroethane mixture, with not more than 7.9% ethylene oxide  | 2 A                 | 2.4                             | 24  | 2.6                        | 26  | 1.02   |

<sup>a</sup> Allowed if LC<sub>50</sub> equal to or greater than 200 ppm.

| UN No. | Name  | Classification code | Minimum test pressure for tanks |     |                            |     | Maximum permissible mass of contents per litre of capacity |
|--------|---|---------------------|---------------------------------|-----|----------------------------|-----|--|
|        |   |                     | With thermal insulation         |     | Without thermal insulation |     |  |
|        |   |                     | MPa                             | bar | MPa                        | bar |  |
| 3299   | Ethylene oxide and tetrafluoroethane mixture, with not more than 5.6% ethylene oxide              | 2 A                 | 1.5                             | 15  | 1.7                        | 17  | 1.03   |
| 3300   | Ethylene oxide and carbon dioxide mixture, with more than 87% ethylene oxide                      | 2 TF                | 2.8                             | 28  | 2.8                        | 28  | 0.73   |
| 3303   | Compressed gas, toxic, oxidizing, n.o.s. <sup>a</sup>   | 1 TO                | see 4.3.3.2.1 or 4.3.3.2.2      |     |                            |     |  |
| 3304   | Compressed gas, toxic, corrosive, n.o.s. <sup>a</sup>   | 1 TC                | see 4.3.3.2.1 or 4.3.3.2.2      |     |                            |     |  |
| 3305   | Compressed gas, toxic, flammable, corrosive, n.o.s. <sup>a</sup>                                  | 1 TFC               | see 4.3.3.2.1 or 4.3.3.2.2      |     |                            |     |  |
| 3306   | Compressed gas, toxic, oxidizing, corrosive, n.o.s. <sup>a</sup>                                  | 1 TOC               | see 4.3.3.2.1 or 4.3.3.2.2      |     |                            |     |  |
| 3307   | Liquefied gas, toxic, oxidizing, n.o.s. <sup>a</sup>  | 2 TO                | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 3308   | Liquefied gas, toxic, corrosive, n.o.s. <sup>a</sup>  | 2 TC                | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 3309   | Liquefied gas, toxic, flammable, corrosive, n.o.s. <sup>a</sup>                                   | 2 TFC               | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 3310   | Liquefied gas, toxic, oxidizing, corrosive, n.o.s. <sup>a</sup>                                   | 2 TOC               | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 3311   | Gas, refrigerated liquid, oxidizing, n.o.s.   | 3 O                 | see 4.3.3.2.4                   |     |                            |     |  |
| 3312   | Gas, refrigerated liquid, flammable, n.o.s.   | 3 F                 | see 4.3.3.2.4                   |     |                            |     |  |
| 3318   | Ammonia solutions, relative density less than 0.880 at 15 °C in water, with more than 50% ammonia | 4 TC                | see 4.3.3.2.2                   |     |                            |     |  |
| 3337   | Refrigerant gas R404A   | 2 A                 | 2.9                             | 29  | 3.2                        | 32  | 0.84   |
| 3338   | Refrigerant gas R407A   | 2 A                 | 2.8                             | 28  | 3.2                        | 32  | 0.95   |
| 3339   | Refrigerant gas R407B   | 2 A                 | 3.0                             | 30  | 3.3                        | 33  | 0.95   |
| 3340   | Refrigerant gas R407C   | 2 A                 | 2.7                             | 27  | 3.0                        | 30  | 0.95   |
| 3354   | Insecticide gas, flammable, n.o.s.  | 2 F                 | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |
| 3355   | Insecticide gas, toxic, flammable, n.o.s. <sup>a</sup>  | 2 TF                | see 4.3.3.2.2 or 4.3.3.2.3      |     |                            |     |  |

#### 4.3.3.3 Operation

4.3.3.3.1 When tanks, battery-vehicles or MEGCs are approved for different gases, the change of use shall include emptying, purging and evacuation operations to the extent necessary for safe operation.

4.3.3.3.2 When tanks, battery-vehicles or MEGCs are handed over for carriage, only the particulars specified in 6.8.3.5.6 applicable to the gas loaded or just discharged shall be visible; all particulars concerning other gases shall be covered up.

4.3.3.3.3 All the elements of a battery-vehicle or MEGC shall contain only one and the same gas.

#### 4.3.3.4 (Reserved)

<sup>a</sup> Allowed if LC<sub>50</sub> equal to or greater than 200 ppm.

#### 4.3.4 Special provisions applicable to Classes 3 to 9

##### 4.3.4.1 Coding, rationalized approach and hierarchy of tanks

##### 4.3.4.1.1 Coding of tanks

The four parts of the codes (tank codes) given in Column (12) of Table A in Chapter 3.2 have the following meanings:

| Part | Description                 | Tank code  |
|------|-----------------------------|--|
| 1    | Types of tank               | <p>L = tank for substances in the liquid state (liquids or solids handed over for carriage in the molten state);</p> <p>S = tank for substances in the solid state (powdery or granular).</p>  |
| 2    | Calculation pressure        | <p>G = minimum calculation pressure according to the general requirements of 6.8.2.1.14; or</p> <p>1.5; 2.65; 4; 10; 15 or 21 = minimum calculation pressure in bar (see 6.8.2.1.14).</p>  |
| 3    | Openings<br>(see 6.8.2.2.2) | <p>A = tank with bottom-filling or bottom-discharge openings with 2 closures;</p> <p>B = tank with bottom-filling or bottom-discharge openings with 3 closures;</p> <p>C = tank with top-filling and discharge openings with only cleaning openings below the surface of the liquid;</p> <p>D = tank with top-filling and discharge openings with no openings below the surface of the liquid.</p> |
| 4    | Safety valves/devices       | <p>V = tank with a venting system, according to 6.8.2.2.6, but no flame trap; or non-explosion-pressure proof tank;</p> <p>F = tank with a venting system, according to 6.8.2.2.6, fitted with a flame trap; or explosion-pressure proof tank;</p> <p>N = tank without a venting system according to 6.8.2.2.6 and not hermetically closed;</p> <p>H = hermetically closed tank (see 1.2.1).</p>   |

4.3.4.1.2 *Rationalized approach for assignment of ADR tank codes to groups of substances and hierarchy of tanks*

**NOTE:** Certain substances and groups of substances are not included in the rationalized approach, see 4.3.4.1.3.

| Rationalized approach   |   |                     |   |
|---|---|---------------------|---|
| Tank code   | Group of permitted substances   |                     |   |
|   | Class   | Classification code | Packing group   |
| LIQUIDS<br>LGAV   | 3   | F2                  | III   |
|   | 9   | M9                  | III   |
| LGBV  | 4.1   | F2                  | II, III   |
|   | 5.1   | O1                  | III   |
|   | 9   | M6                  | III   |
|   |   | M11                 | III   |
|   | and groups of permitted substances for tank code LGAV                 |                     |   |
| LGBF  | 3   | F1                  | II<br>vapour pressure at 50 °C ≤ 1.1 bar  |
|   |   | F1                  | III   |
|   |   | D                   | II<br>vapour pressure at 50 °C ≤ 1.1 bar  |
|   |   | D                   | III   |
|   | and groups of permitted substances for tank codes LGAV and LGBV       |                     |   |
| L1.5BN  | 3   | F1                  | II<br>vapour pressure at 50 °C > 1.1 bar  |
|   |   | F1                  | III<br>flash-point < 23 °C, viscous,<br>vapour pressure at 50 °C > 1.1 bar<br>boiling point > 35 °C |
|   |   | D                   | II<br>vapour pressure at 50 °C > 1.1 bar  |
|   | and groups of permitted substances for tank codes LGAV, LGBV and LGBF |                     |   |
| L4BN  | 3   | F1                  | I,<br>III boiling point ≤ 35 °C   |
|   |   | FC                  | III   |
|   |   | D                   | I   |
|   | 5.1   | O1                  | I, II   |
|   |   | OT1                 | I   |
|   | 8   | C1                  | II, III   |
|   |   | C3                  | II, III   |
|   |   | C4                  | II, III   |
|   |   | C5                  | II, III   |
|   |   | C7                  | II, III   |
|   |   | C8                  | II, III   |
|   |   | C9                  | II, III   |
|   |   | C10                 | II, III   |
|   |   | CF1                 | II  |
|   |   | CF2                 | II  |
|   |   | CS1                 | II  |
|   |   | CW1                 | II  |
|   |   | CW2                 | II  |
|   |   | CO1                 | II  |
|   |   | CO2                 | II  |
|   |   | CT1                 | II, III   |
|   |   | CT2                 | II, III   |
|   |   | CFT                 | II  |
|   | 9   | M11                 | III   |
| and groups of permitted substances for tank codes LGAV, LGBV, LGBF and L1.5BN |   |                     |   |

| Rationalized approach |  |                     |               |
|-----------------------|--|---------------------|---------------|
| Tank code             | Group of permitted substances  |                     |               |
|                       | Class  | Classification code | Packing group |
| L4BH                  | 3  | FT1                 | II, III       |
|                       |  | FT2                 | II            |
|                       |  | FC                  | II            |
|                       |  | FTC                 | II            |
|                       | 6.1  | T1                  | II, III       |
|                       |  | T2                  | II, III       |
|                       |  | T3                  | II, III       |
|                       |  | T4                  | II, III       |
|                       |  | T5                  | II, III       |
|                       |  | T6                  | II, III       |
|                       |  | T7                  | II, III       |
|                       |  | TF1                 | II            |
|                       |  | TF2                 | II, III       |
|                       |  | TF3                 | II            |
|                       |  | TS                  | II            |
|                       |  | TW1                 | II            |
|                       |  | TW2                 | II            |
|                       |  | TO1                 | II            |
|                       |  | TO2                 | II            |
|                       |  | TC1                 | II            |
|                       |  | TC2                 | II            |
|                       |  | TC3                 | II            |
|                       |  | TC4                 | II            |
|                       |  | TFC                 | II            |
|                       | 6.2  | I3                  | II            |
|                       |  | I4                  |               |
|                       | 9  | M2                  | II            |
|                       | and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN and L4BN        |                     |               |
| L4DH                  | 4.2  | S1                  | II, III       |
|                       |  | S3                  | II, III       |
|                       |  | ST1                 | II, III       |
|                       |  | ST3                 | II, III       |
|                       |  | SC1                 | II, III       |
|                       |  | SC3                 | II, III       |
|                       | 4.3  | W1                  | II, III       |
|                       |  | WF1                 | II, III       |
|                       |  | WT1                 | II, III       |
|                       |  | WC1                 | II, III       |
|                       | 8  | CT1                 | II, III       |
|                       | and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN and L4BH  |                     |               |
| L10BH                 | 8  | C1                  | I             |
|                       |  | C3                  | I             |
|                       |  | C4                  | I             |
|                       |  | C5                  | I             |
|                       |  | C7                  | I             |
|                       |  | C8                  | I             |
|                       |  | C9                  | I             |
|                       |  | C10                 | I             |
|                       |  | CF1                 | I             |
|                       |  | CF2                 | I             |
|                       |  | CS1                 | I             |
|                       |  | CW1                 | I             |
|                       |  | CW2                 | I             |
|                       |  | CO1                 | I             |
|                       |  | CO2                 | I             |
|                       |  | CT1                 | I             |
|                       |  | CT2                 | I             |
|                       |  | COT                 | I             |
|                       | and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN, and L4BH |                     |               |



| Rationalized approach |   |                     |               |
|-----------------------|---|---------------------|---------------|
| Tank code             | Group of permitted substances   |                     |               |
|                       | Class   | Classification code | Packing group |
| L10CH                 | 3   | FT1                 | I             |
|                       |   | FT2                 | I             |
|                       |   | FC                  | I             |
|                       |   | FTC                 | I             |
|                       | 6.1   | T1                  | I             |
|                       |   | T2                  | I             |
|                       |   | T3                  | I             |
|                       |   | T4                  | I             |
|                       |   | T6                  | I             |
|                       |   | T7                  | I             |
|                       |   | TF1                 | I             |
|                       |   | TF2                 | I             |
|                       |   | TF3                 | I             |
|                       |   | TS                  | I             |
|                       |   | TW1                 | I             |
|                       |   | TO1                 | I             |
|                       |   | TC1                 | I             |
|                       |   | TC2                 | I             |
|                       |   | TC3                 | I             |
|                       |   | TC4                 | I             |
|                       |   | TFC                 | I             |
|                       | and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, and L10BH                           |                     |               |
| L10DH                 | 4.3   | W1                  | I             |
|                       |   | WF1                 | I             |
|                       |   | WT1                 | I             |
|                       |   | WC1                 | I             |
|                       |   | WFC                 | I             |
|                       | 5.1   | OTC                 | I             |
|                       | 8   | CT1                 | I             |
|                       | and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L4DH, L10BH and L10CH               |                     |               |
| L15CH                 | 3   | FT1                 | I             |
|                       | 6.1   | TF1                 | I             |
|                       | and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L10BH and L10CH                     |                     |               |
| L21DH                 | 4.2   | S1                  | I             |
|                       |   | S3                  | I             |
|                       |   | SW                  | I             |
|                       |   | ST3                 | I             |
|                       | and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L4DH, L10BH, L10CH, L10DH and L15CH |                     |               |
| SOLIDS<br>SGAV        | 4.1   | F1                  | III           |
|                       |   | F3                  | III           |
|                       | 4.2   | S2                  | II, III       |
|                       |   | S4                  | III           |
|                       | 5.1   | O2                  | II, III       |
|                       | 8   | C2                  | II, III       |
|                       |   | C4                  | III           |
|                       |   | C6                  | III           |
|                       |   | C8                  | III           |
|                       |   | C10                 | II, III       |
|                       |   | CT2                 | III           |
|                       | 9   | M7                  | III           |
|                       |   | M11                 | II, III       |

| Rationalized approach |  |                     |               |
|-----------------------|--|---------------------|---------------|
| Tank code             | Group of permitted substances  |                     |               |
|                       | Class  | Classification code | Packing group |
| SGAN                  | 4.1  | F1                  | II            |
|                       |  | F3                  | II            |
|                       |  | FT1                 | II, III       |
|                       |  | FT2                 | II, III       |
|                       |  | FC1                 | II, III       |
|                       |  | FC2                 | II, III       |
|                       | 4.2  | S2                  | II            |
|                       |  | S4                  | II, III       |
|                       |  | ST2                 | II, III       |
|                       |  | ST4                 | II, III       |
|                       |  | SC2                 | II, III       |
|                       |  | SC4                 | II, III       |
|                       | 4.3  | W2                  | II, III       |
|                       |  | WF2                 | II            |
|                       |  | WS                  | II, III       |
|                       |  | WT2                 | II, III       |
|                       |  | WC2                 | II, III       |
|                       | 5.1  | O2                  | II, III       |
|                       |  | OT2                 | II, III       |
|                       |  | OC2                 | II, III       |
|                       | 8  | C2                  | II            |
|                       |  | C4                  | II            |
|                       |  | C6                  | II            |
|                       |  | C8                  | II            |
|                       |  | C10                 | II            |
|                       |  | CF2                 | II            |
|                       |  | CS2                 | II            |
|                       |  | CW2                 | II            |
|                       |  | CO2                 | II            |
|                       |  | CT2                 | II            |
|                       | 9  | M3                  | III           |
|                       | and groups of permitted substances for tank codes SGAV                 |                     |               |
| SGAH                  | 6.1  | T2                  | II, III       |
|                       |  | T3                  | II, III       |
|                       |  | T5                  | II, III       |
|                       |  | T7                  | II, III       |
|                       |  | T9                  | II            |
|                       |  | TF3                 | II            |
|                       |  | TS                  | II            |
|                       |  | TW2                 | II            |
|                       |  | TO2                 | II            |
|                       |  | TC2                 | II            |
|                       |  | TC4                 | II            |
|                       | 9  | M1                  | II, III       |
|                       | and groups of permitted substances for tanks codes SGAV and SGAN       |                     |               |
| S4AH                  | 6.2  | I3                  | II            |
|                       | 9  | M2                  | II            |
|                       | and groups of permitted substances for tanks codes SGAV, SGAN and SGAH |                     |               |
| S10AN                 | 8  | C2                  | I             |
|                       |  | C4                  | I             |
|                       |  | C6                  | I             |
|                       |  | C8                  | I             |
|                       |  | C10                 | I             |
|                       |  | CF2                 | I             |
|                       |  | CS2                 | I             |
|                       |  | CW2                 | I             |
|                       |  | CO2                 | I             |
|                       |  | CT2                 | I             |
|                       | and groups of permitted substances for tank codes SGAV and SGAN        |                     |               |

| Rationalized approach  |                               |                     |               |
|--|-------------------------------|---------------------|---------------|
| Tank code  | Group of permitted substances |                     |               |
|  | Class                         | Classification code | Packing group |
| S10AH  | 6.1                           | T2                  | I             |
|  |                               | T3                  | I             |
|  |                               | T5                  | I             |
|  |                               | T7                  | I             |
|  |                               | TS                  | I             |
|  |                               | TW2                 | I             |
|  |                               | TO2                 | I             |
|  |                               | TC2                 | I             |
|  |                               | TC4                 | I             |
| and groups of permitted substances for tank codes SGAV, SGAN, SGAH and S10AN |                               |                     |               |

### *Hierarchy of tanks*

Tanks with tank codes different from those indicated in this table or in Table A of Chapter 3.2 may also be used provided that any element (number or letter) of parts 1 to 4 of these tank codes correspond to a level of safety at least equivalent to the corresponding element of the tank code indicated in Table A of Chapter 3.2, according to the following increasing order:

Part 1: Types of tanks

S → L

Part 2: Calculation pressure

G → 1.5 → 2.65 → 4 → 10 → 15 → 21 bar

Part 3: Openings

A → B → C → D

Part 4: Safety valves/devices

V → F → N → H

For example:

- A tank with the tank code L10CN is authorized for the carriage of a substance to which the tank code L4BN has been assigned;
- A tank with the tank code L4BN is authorized for the carriage of a substance to which the tank code SGAN has been assigned.

**NOTE:** The hierarchy does not take account of any special provisions for each entry (see 4.3.5 and 6.8.4).

#### 4.3.4.1.3

The following substances and groups of substances in respect of which a "(+)" is given after the tank code in Column (12) of Table A in Chapter 3.2 are subject to special provisions. In that case the alternate use of the tanks for other substances and groups of substances is permitted only where this is specified in the certificate of type approval. Higher value tanks according to the provisions at the end of the table in 4.3.4.1.2 may be used with due regard to the special provisions indicated in Column (13) of Table A in Chapter 3.2.

(a) Class 4.1:

UN No. 2448 sulphur, molten: code LGBV;

(b) Class 4.2:

UN No. 1381 phosphorus, white or yellow, dry, or under water or in solution and  
UN No. 2447 phosphorus, white or yellow molten: code L10DH;

## (c) Class 4.3:

UN No. 1389 alkali metal amalgam, liquid, UN No. 1391 alkali metal dispersion or alkaline earth metal dispersion, UN No. 1392 alkaline earth metal amalgam, liquid, UN No. 1415 lithium, UN No. 1420 potassium metal alloys, liquid, UN No. 1421 alkali metal alloy, liquid, n.o.s, UN No. 1422 potassium sodium alloys, liquid, UN No. 1428 sodium, UN No. 2257 potassium, UN No. 3401 alkali metal amalgam, solid, UN No. 3402 alkaline earth metal amalgam, solid, 3403 potassium metal alloys, solid and UN No. 3404 potassium sodium alloys, solid: code L10BN;

UN No. 1407 caesium and UN No. 1423 rubidium: code L10CH;

## (d) Class 5.1:

UN No. 1873 perchloric acid 50-72%: code L4DN;

UN No. 2015 hydrogen peroxide, aqueous solution, stabilized with more than 70% hydrogen peroxide: code L4DV;

UN No. 2014 hydrogen peroxide, aqueous solution with 20-60% hydrogen peroxide, UN No. 2015 hydrogen peroxide, aqueous solution, stabilized with 60-70% hydrogen peroxide, UN No. 2426 ammonium nitrate, liquid, hot concentrated solution with more than 80% but not more than 93% and UN No. 3149 hydrogen peroxide and peroxyacetic acid mixture, stabilized: code L4BV;

UN No. 3375 ammonium nitrate emulsion, suspension or gel, liquid: code LGAV;

UN No. 3375 ammonium nitrate emulsion, suspension or gel, solid: code SGAV;

## (e) Class 5.2:

UN No. 3109 organic peroxide type F, liquid and UN No. 3119 organic peroxide, type F, liquid temperature controlled: code L4BN;

UN No. 3110 organic peroxide, type F, solid and UN No. 3120 organic peroxide, type F, solid, temperature controlled: code S4AN;

## (f) Class 6.1:

UN No. 1613 hydrogen cyanide, aqueous solution and UN No. 3294 hydrogen cyanide solution in alcohol: code L15DH;

## (g) Class 7:

All substances: special tanks;

Minimum requirements for liquids: code L2.65CN; for solids: code S2.65AN

Notwithstanding the general requirements of this paragraph, tanks used for radioactive material may also be used for the carriage of other goods provided the requirements of 5.1.3.2 are complied with.

## (h) Class 8:

UN No. 1052 hydrogen fluoride, anhydrous, UN No. 1744 bromine or bromine solution and UN No. 1790 hydrofluoric acid, solution, with more than 85% hydrofluoric acid: code L21DH;

UN No. 1791 hypochlorite solution and UN No. 1908 chlorite solution: code L4BV.

## 4.3.4.1.4

Tanks intended for the carriage of liquid wastes complying with the requirements of Chapter 6.10 and equipped with two closures in accordance with 6.10.3.2, shall be assigned to tank code L4AH. If the tanks concerned are equipped for the alternate carriage of liquid and solid substances, they shall be assigned to the combined codes L4AH+S4AH.

**4.3.4.2      *General provisions***

4.3.4.2.1      Where hot substances are loaded, the temperature of the outer surface of the tank or of the thermal insulation shall not exceed 70 °C during carriage.

4.3.4.2.2      The connecting pipes between independent but interconnected tanks of a transport unit shall be empty during carriage. Flexible filling and discharge pipes which are not permanently connected to the shells shall be empty during carriage.

4.3.4.2.3      (*Reserved*)

**4.3.5      *Special provisions***

When they are shown under an entry in Column (13) of Table of A in Chapter 3.2, the following special provisions apply:

TU1      The tanks shall not be handed over for carriage until the substance has solidified completely and been covered by an inert gas. Uncleaned empty tanks which have contained these substances shall be filled with an inert gas.

TU2      The substance shall be covered by an inert gas. Uncleaned empty tanks which have contained these substances shall be filled with an inert gas.

TU3      The inside of the shell and all parts liable to come into contact with the substance shall be kept clean. No lubricant capable of combining dangerously with the substance shall be used for pumps, valves or other devices.

TU4      During carriage, these substances shall be under a layer of inert gas, the gauge pressure of which shall not be less than 50 kPa (0.5 bar).

Uncleaned empty tanks which have contained these substances shall when handed over for carriage be filled with an inert gas at a gauge pressure of at least 50 kPa (0.5 bar).

TU5      (*Reserved*)

TU6      Not authorized for carriage in tanks, battery-vehicles and MEGCs when having a LC<sub>50</sub> lower than 200 ppm.

TU7      The materials used to ensure leakproofness of the joints or for the maintenance of the closures shall be compatible with the contents.

TU8      An aluminium-alloy tank shall not be used for carriage unless the tank is reserved solely for such carriage and the acetaldehyde is free from acid.

TU9      UN No.1203 petrol (gasoline) with a vapour pressure at 50 °C of more than 110 kPa (1.1 bar) but not above 150 kPa (1.5 bar) may also be carried in tanks designed according to 6.8.2.1.14 (a) and having equipment conforming to 6.8.2.2.6.

TU10      (*Reserved*)

- TU11 During filling, the temperature of this substance shall not exceed 60 °C. A maximum filling temperature of 80 °C is allowed provided that smoulder spots are prevented and that the following conditions are met. After filling, the tanks shall be pressurized (e.g. with compressed air) to check tightness. It shall be ensured that no depressurization takes place during carriage. Before discharge, it shall be checked if pressure in the tanks is still above atmospheric. If this is not the case, an inert gas shall be introduced into the tanks prior to discharge.
- TU12 In the event of a change of use, shells and equipment shall be thoroughly cleansed of all residues before and after the carriage of this substance.
- TU13 Tanks shall be free from impurities at the time of filling. Service equipment such as valves and external piping shall be emptied after filling or discharging.
- TU14 The protective caps of closures shall be locked during carriage.
- TU15 Tanks shall not be used for the carriage of foodstuffs, articles of consumption or animal feeds.
- TU16 Uncleaned empty tanks, shall, when handed over for carriage, either:
- be filled with nitrogen; or
  - be filled with water to not less than 96% and not more than 98% of their capacity; between 1 October and 31 March, this water shall contain sufficient anti-freeze agent to make it impossible for the water to freeze during carriage; the anti-freeze agent shall be free from corrosive action and not liable to react with phosphorus.
- TU17 Only to be carried in battery-vehicles or MEGCs the elements of which are composed of receptacles.
- TU18 The degree of filling shall remain below the level at which, if the contents were raised to a temperature at which the vapour pressure equalled the opening pressure of the safety valve, the volume of the liquid would reach 95% of the tank's capacity at that temperature. The provision in 4.3.2.3.4 shall not apply.
- TU19 Tanks may be filled to 98% at the filling temperature and pressure. The provision in 4.3.2.3.4 shall not apply.
- TU20 *(Reserved)*
- TU21 The substance shall, if water is used as a protective agent, be covered with a depth of not less than 12 cm of water at the time of filling; the degree of filling at a temperature of 60 °C shall not exceed 98%. If nitrogen is used as a protective agent, the degree of filling at a temperature of 60 °C shall not exceed 96%. The remaining space shall be filled with nitrogen in such a way that, even after cooling, the pressure at no time falls below atmospheric pressure. The tank shall be closed in such a way that no leakage of gas occurs.
- TU22 Tanks shall be filled to not more than 90% of their capacity; a space of 5% shall remain empty when the liquid is at an average temperature of 50 °C.
- TU23 The degree of filling shall not exceed 0.93 kg per litre of capacity, if filling is by mass. If filling is by volume, the degree of filling shall not exceed 85%.

- TU24    The degree of filling shall not exceed 0.95 kg per litre of capacity, if filling is by mass. If filling is by volume, the degree of filling shall not exceed 85%.
- TU25    The degree of filling shall not exceed 1.14 kg per litre of capacity, if filling is by mass. If filling is by volume, the degree of filling shall not exceed 85%.
- TU26    The degree of filling shall not exceed 85%.
- TU27    Tanks shall not be filled to more than 98% of their capacity.
- TU28    Tanks shall be filled to not more than 95% of their capacity at a reference temperature of 15 °C.
- TU29    Tanks shall be filled to not more than 97% of their capacity and the maximum temperature after filling shall not exceed 140 °C.
- TU30    Tanks shall be filled as set out in the test report for the type approval of the tank but shall be filled to not more than 90% of their capacity.
- TU31    Tanks shall not be filled to more than 1 kg per litre of capacity.
- TU32    Tanks shall not be filled to more than 88% of their capacity.
- TU33    Tanks shall be filled to not less than 88% and not more than 92% of their capacity or to 2.86 kg per litre of capacity.
- TU34    Tanks shall not be filled to more than 0.84 kg per litre of capacity.
- TU35    Empty fixed tanks (tank-vehicles), empty demountable tanks and empty tank-containers, uncleaned, which have contained these substances are not subject to the requirements of ADR if adequate measures have been taken to nullify any hazard.
- TU36    The degree of filling according to 4.3.2.2, at the reference temperature of 15 °C, shall not exceed 93% of the capacity.
- TU37    Carriage in tanks is limited to substances containing pathogens which are unlikely to be a serious hazard, and for which, while capable of causing serious infection on exposure, effective treatment and preventive measures are available and the risk of spread of infection is limited (i.e. moderate individual risk and low community risk).
- TU38    (*Reserved*)
- TU39    The suitability of the substance for carriage in tanks shall be demonstrated. The method to evaluate this suitability shall be approved by the competent authority. One method is test 8(d) in Test Series 8 (see Manual of Tests and Criteria, Part 1, sub-section 18.7).

Substances shall not be allowed to remain in the tank for any period that could result in caking. Appropriate measures shall be taken to avoid accumulation and packing of substances in the tank (e.g. cleaning etc.).

## CHAPTER 4.4

### USE OF FIBRE-REINFORCED PLASTICS (FRP) TANKS, FIXED TANKS (TANK-VEHICLES), DEMOUNTABLE TANKS, TANK-CONTAINERS AND TANK SWAP BODIES

**NOTE:** *For portable tanks and UN multiple-element gas containers (MEGCs), see Chapter 4.2; for fixed tanks (tank-vehicles), demountable tanks, tank-containers and tank swap bodies, with shells made of metallic materials, and battery-vehicles and multiple elements gas containers (MEGCs) other than UN MEGCs, see Chapter 4.3; for vacuum operated waste containers, see Chapter 4.5.*

#### 4.4.1 General

The carriage of dangerous substances in fibre-reinforced plastics (FRP) tanks is permitted only when the following conditions are met:

- (a) The substance is classified in Class 3, 5.1, 6.1, 6.2, 8 or 9;
- (b) The maximum vapour pressure (absolute pressure) at 50 °C of the substance does not exceed 110 kPa (1.1 bar);
- (c) The carriage of the substance in metallic tanks is authorized according to 4.3.2.1.1;
- (d) The calculation pressure specified for that substance in part 2 of the tank code given in Column (12) of Table A in Chapter 3.2 does not exceed 4 bar (see also 4.3.4.1.1); and
- (e) The tank complies with the provisions of Chapter 6.9 applicable for the carriage of the substance.

#### 4.4.2 Operation

- 4.4.2.1 The provisions of 4.3.2.1.5 to 4.3.2.2.4, 4.3.2.3.3 to 4.3.2.3.6, 4.3.2.4.1, 4.3.2.4.2, 4.3.4.1 and 4.3.4.2 shall apply.
- 4.4.2.2 The temperature of the substance carried shall not exceed, at the time of filling, the maximum service temperature indicated on the tank plate referred to in 6.9.6.
- 4.4.2.3 When applicable to carriage in metallic tanks, the special provisions (TU) of 4.3.5 shall also apply, as indicated in Column (13) of Table A in Chapter 3.2.



## CHAPTER 4.5

### USE OF VACUUM OPERATED WASTE TANKS

**NOTE:** *For portable tanks and UN multiple-element gas containers (MEGCs), see Chapter 4.2; for fixed tanks (tank-vehicles), demountable tanks, tank-containers and tank swap bodies, with shells made of metallic materials, and battery-vehicles and multiple elements gas containers (MEGCs) other than UN MEGCs, see Chapter 4.3; for fibre reinforced plastics tanks, see Chapter 4.4.*

#### 4.5.1 Use

- 4.5.1.1 Wastes consisting of substances in Classes 3, 4.1, 5.1, 6.1, 6.2, 8 and 9 may be carried in vacuum-operated waste tanks conforming to Chapter 6.10 if their carriage in fixed tanks, demountable tanks, tank-containers or tank swap bodies is permitted according to Chapter 4.3. Substances assigned to tank code L4BH in Column (12) of Table A of Chapter 3.2 or to another tank code permitted under the hierarchy in 4.3.4.1.2 may be carried in vacuum operated waste tanks with the letter "A" or "B" in part 3 of the tank code, as indicated in No. 9.5 of the vehicle approval certificate conforming to 9.1.3.5.

#### 4.5.2 Operation

- 4.5.2.1 The provisions of Chapter 4.3 except those of 4.3.2.2.4 and 4.3.2.3.3 apply to the carriage in vacuum operated waste tanks and are supplemented by the provisions of 4.5.2.2 to 4.5.2.4 below.
- 4.5.2.2 For carriage of liquids classified as flammable, vacuum-operated waste tanks shall be filled through fillings which discharge into the tank at a low level. Provisions shall be made to minimize the production of spray.
- 4.5.2.3 When discharging flammable liquids with a flash-point below 23 °C by using air pressure, the maximum allowed pressure is 100 kPa (1 bar).
- 4.5.2.4 The use of tanks fitted with an internal piston operating as a compartment wall is allowed only when the substances on either side of the wall (piston) do not react dangerously with each other (see 4.3.2.3.6).

**CHAPTER 4.6**

*(Reserved)*

## CHAPTER 4.7

### USE OF MOBILE EXPLOSIVES MANUFACTURING UNITS (MEMUs)

**NOTE 1:** *For packagings, see Chapter 4.1; for portable tanks, see Chapter 4.2; for fixed tanks (tank vehicles), demountable tanks, tank-containers and tank swap bodies with shells made of metallic materials, see Chapter 4.3; for fibre-reinforced plastics (FRP) tanks, see Chapter 4.4; for vacuum operated waste tanks, see Chapter 4.5.*

**NOTE 2:** *For requirements concerning construction, equipment, type approval, tests and marking, see Chapters 6.7, 6.8, 6.9, 6.11 and 6.12.*

#### 4.7.1 Use

4.7.1.1 Substances of Classes 3, 5.1, 6.1 and 8 may be carried on MEMUs conforming to Chapter 6.12, in portable tanks if their carriage is permitted according to Chapter 4.2; or in fixed tanks, demountable tanks, tank containers or tank swap bodies if their carriage is permitted according to Chapter 4.3; or in fibre-reinforced plastics (FRP) tanks if their carriage is permitted according to Chapter 4.4; or in bulk containers, if their carriage is permitted according to Chapter 7.3.

4.7.1.2 Subject to the approval of the competent authority (see 7.5.5.2.3) explosive substances or articles of Class 1 may be carried in packages, in special compartments conforming to section 6.12.5, if their packaging is permitted according to Chapter 4.1 and their carriage is permitted according to Chapter 7.2 and 7.5.

#### 4.7.2 Operation

4.7.2.1 The following provisions apply for operation of tanks according to Chapter 6.12:

- (a) For tanks with a capacity of 1 000 litres or more, the provisions of Chapter 4.2, Chapter 4.3, except 4.3.1.4, 4.3.2.3.1, 4.3.3 and 4.3.4, or Chapter 4.4 apply to the carriage on MEMUs, and are supplemented by the provisions of 4.7.2.2, 4.7.2.3 and 4.7.2.4 below.
- (b) For tanks with a capacity of less than 1 000 litres, the provisions of Chapter 4.2, Chapter 4.3, except 4.3.1.4, 4.3.2.1, 4.3.2.3.1, 4.3.3 and 4.3.4, or Chapter 4.4 apply to the carriage on MEMUs, and are supplemented by the provisions of 4.7.2.2, 4.7.2.3 and 4.7.2.4 below.

4.7.2.2 The thickness of the walls of the shell shall not, throughout its use, fall below the minimum figure prescribed in the appropriate construction requirements.

4.7.2.3 Flexible discharge pipes, whether permanently connected or not, and hoppers shall be empty of mixed or sensitised explosive substances during carriage.

4.7.2.4 When applicable to carriage in tanks, the special provisions (TU) of 4.3.5 shall also apply as indicated in Column (13) of Table A in Chapter 3.2.

4.7.2.5 Operators shall ensure that the locks specified in 9.8.9 are used during carriage.

## **PART 5**

### **Consignment procedures**

## CHAPTER 5.1

### GENERAL PROVISIONS

#### 5.1.1 Application and general provisions

This Part sets forth the provisions for dangerous goods consignments relative to marking, labelling, and documentation, and, where appropriate, authorization of consignments and advance notifications.

#### 5.1.2 Use of overpacks

##### 5.1.2.1 (a) An overpack shall be:

- (i) marked with the word "OVERPACK"; and
- (ii) marked with the UN number preceded by the letters "UN", and labelled as required for packages in 5.2.2, for each item of dangerous goods contained in the overpack;

unless the UN numbers and the labels representative of all dangerous goods contained in the overpack are visible, except as required in 5.2.2.1.11. If the same UN number or the same label is required for different packages, it only needs to be applied once.

The marking of the word "OVERPACK", which shall be readily visible and legible, shall be in an official language of the country of origin and also, if that language is not English, French or German, in English, French or German, unless agreements, if any, concluded between the countries concerned in the transport operation provide otherwise.

##### (b) Orientation arrows illustrated in 5.2.1.9 shall be displayed on two opposite sides of the following overpacks:

- (i) overpacks containing packages which shall be marked in accordance with 5.2.1.9.1, unless the marking remains visible, and
- (ii) overpacks containing liquids in packages which need not be marked in accordance with 5.2.1.9.2, unless the closures remain visible.

##### 5.1.2.2 Each package of dangerous goods contained in an overpack shall comply with all applicable provisions of ADR. The intended function of each package shall not be impaired by the overpack.

##### 5.1.2.3 Each package bearing package orientation markings as prescribed in 5.2.1.9 and which is overpacked or placed in a large packaging shall be oriented in accordance with such markings.

##### 5.1.2.4 The prohibitions on mixed loading also apply to these overpacks.

**5.1.3 Empty uncleaned packagings (including IBCs and large packagings), tanks, MEMUs, vehicles and containers for carriage in bulk**

5.1.3.1 Empty uncleaned packagings (including IBCs and large packagings), tanks (including tank-vehicles, battery-vehicles, demountable tanks, portable tanks, tank-containers, MEGCs, MEMUs), vehicles and containers for carriage in bulk having contained dangerous goods of the different classes other than Class 7, shall be marked and labelled as if they were full.

*NOTE: For documentation, see Chapter 5.4.*

5.1.3.2 Packagings, including IBCs, and tanks used for the carriage of radioactive material shall not be used for the storage or carriage of other goods unless decontaminated below the level of 0.4 Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters and 0.04 Bq/cm<sup>2</sup> for all other alpha emitters.

**5.1.4 Mixed packing**

When two or more dangerous goods are packed within the same outer packaging, the package shall be labelled and marked as required for each substance or article. If the same label is required for different goods, it only needs to be applied once.

**5.1.5 General provisions for Class 7**

**5.1.5.1 Approval of shipments and notification**

**5.1.5.1.1 General**

In addition to the approval for package designs described in Chapter 6.4, multilateral shipment approval is also required in certain circumstances (5.1.5.1.2 and 5.1.5.1.3). In some circumstances it is also necessary to notify competent authorities of a shipment (5.1.5.1.4).

**5.1.5.1.2 Shipment approvals**

Multilateral approval shall be required for:

- (a) the shipment of Type B(M) packages not conforming with the requirements of 6.4.7.5 or designed to allow controlled intermittent venting;
- (b) the shipment of Type B(M) packages containing radioactive material with an activity greater than 3000 A<sub>1</sub> or 3000 A<sub>2</sub>, as appropriate, or 1000 TBq, whichever is the lower; and
- (c) The shipment of packages containing fissile materials if the sum of the criticality safety indexes of the packages in a single vehicle or container exceeds 50;

except that a competent authority may authorize carriage into or through its country without shipment approval, by a specific provision in its design approval (see 5.1.5.2.1).

**5.1.5.1.3 Shipment approval by special arrangement**

Provisions may be approved by a competent authority under which a consignment, which does not satisfy all of the applicable requirements of ADR may be carried under special arrangement (see 1.7.4).

5.1.5.1.4      *Notifications*

Notification to competent authorities is required as follows:

- (a) Before the first shipment of any package requiring competent authority approval, the consignor shall ensure that copies of each applicable competent authority certificate applying to that package design have been submitted to the competent authority of each country through or into which the consignment is to be carried. The consignor is not required to await an acknowledgement from the competent authority, nor is the competent authority required to make such acknowledgement of receipt of the certificate;
- (b) For each of the following types of shipments:
  - (i) Type C packages containing radioactive material with an activity greater than 3000 A<sub>1</sub> or 3000 A<sub>2</sub>, as appropriate, or 1000 TBq, whichever is the lower;
  - (ii) Type B(U) packages containing radioactive material with an activity greater than 3000 A<sub>1</sub> or 3000 A<sub>2</sub>, as appropriate, or 1000 TBq, whichever is the lower;
  - (iii) Type B(M) packages;
  - (iv) Shipment under special arrangement;

The consignor shall notify the competent authority of each country through or into which the consignment is to be carried. This notification shall be in the hands of each competent authority prior to the commencement of the shipment, and preferably at least 7 days in advance;

- (c) The consignor is not required to send a separate notification if the required information has been included in the application for shipment approval;
- (d) The consignment notification shall include:
  - (i) sufficient information to enable the identification of the package or packages including all applicable certificate numbers and identification marks;
  - (ii) information on the date of shipment, the expected date of arrival and proposed routing;
  - (iii) the name(s) of the radioactive material(s) or nuclide(s);
  - (iv) descriptions of the physical and chemical forms of the radioactive material, or whether it is special form radioactive material or low dispersible radioactive material; and
  - (v) the maximum activity of the radioactive contents during carriage expressed in becquerels (Bq) with an appropriate SI prefix symbol (see 1.2.2.1). For fissile material, the mass of fissile material in grams (g), or multiples thereof, may be used in place of activity.

**5.1.5.2** *Certificates issued by the competent authority*

5.1.5.2.1 Certificates issued by the competent authority are required for the following:

- (a) Designs for:
  - (i) special form radioactive material;
  - (ii) low dispersible radioactive material;
  - (iii) packages containing 0.1 kg or more of uranium hexafluoride;
  - (iv) all packages containing fissile material unless excepted by 6.4.11.2;
  - (v) Type B(U) packages and Type B(M) packages;
  - (vi) Type C packages;
- (b) Special arrangements;
- (c) Certain shipments (see 5.1.5.1.2).

The certificates shall confirm that the applicable requirements are met, and for design approvals shall attribute to the design an identification mark.

The package design and shipment approval certificates may be combined into a single certificate.

Certificates and applications for these certificates shall be in accordance with the requirements in 6.4.23.

5.1.5.2.2 The consignor shall be in possession of a copy of each applicable certificate.

5.1.5.2.3 For package designs where a competent authority issued certificate is not required, the consignor shall, on request, make available for inspection by the competent authority, documentary evidence of the compliance of the package design with all the applicable requirements.

**5.1.5.3** *Determination of transport index (TI) and criticality safety index (CSI)*

5.1.5.3.1 The transport index (TI) for a package, overpack or container, or for unpackaged LSA-I or SCO-I, shall be the number derived in accordance with the following procedure:

- (a) Determine the maximum radiation level in units of millisieverts per hour (mSv/h) at a distance of 1 m from the external surfaces of the package, overpack, container, or unpackaged LSA-I and SCO-I. The value determined shall be multiplied by 100 and the resulting number is the transport index. For uranium and thorium ores and their concentrates, the maximum radiation level at any point 1 m from the external surface of the load may be taken as:

|            |  |
|------------|--|
| 0.4 mSv/h  | for ores and physical concentrates of uranium and thorium;             |
| 0.3 mSv/h  | for chemical concentrates of thorium;                                  |
| 0.02 mSv/h | for chemical concentrates of uranium, other than uranium hexafluoride; |



- (b) For tanks, containers and unpackaged LSA-I and SCO-I, the value determined in step (a) above shall be multiplied by the appropriate factor from Table 5.1.5.3.1;
- (c) The value obtained in steps (a) and (b) above shall be rounded up to the first decimal place (e.g. 1.13 becomes 1.2), except that a value of 0.05 or less may be considered as zero.

**Table 5.1.5.3.1: Multiplication factors for tanks, containers and unpackaged LSA-I and SCO-I**

| Size of load <sup>a</sup>                                 | Multiplication factor |
|---|-----------------------|
| size of load $\leq 1 \text{ m}^2$                         | 1                     |
| $1 \text{ m}^2 < \text{size of load} \leq 5 \text{ m}^2$  | 2                     |
| $5 \text{ m}^2 < \text{size of load} \leq 20 \text{ m}^2$ | 3                     |
| $20 \text{ m}^2 < \text{size of load}$                    | 10                    |

<sup>a</sup> Largest cross-sectional area of the load being measured.

- 5.1.5.3.2 The transport index for each overpack, container or vehicle shall be determined as either the sum of the TIs of all the packages contained, or by direct measurement of radiation level, except in the case of non-rigid overpacks for which the transport index shall be determined only as the sum of the TIs of all the packages.
- 5.1.5.3.3 The criticality safety index for each overpack or container shall be determined as the sum of the CSIs of all the packages contained. The same procedure shall be followed for determining the total sum of the CSIs in a consignment or aboard a vehicle.
- 5.1.5.3.4 Packages and overpacks shall be assigned to either category I-WHITE, II-YELLOW or III-YELLOW in accordance with the conditions specified in Table 5.1.5.3.4 and with the following requirements:
  - (a) For a package or overpack, both the transport index and the surface radiation level conditions shall be taken into account in determining which is the appropriate category. Where the transport index satisfies the condition for one category but the surface radiation level satisfies the condition for a different category, the package or overpack shall be assigned to the higher category. For this purpose, category I-WHITE shall be regarded as the lowest category;
  - (b) The transport index shall be determined following the procedures specified in 5.1.5.3.1 and 5.1.5.3.2;
  - (c) If the surface radiation level is greater than 2 mSv/h, the package or overpack shall be carried under exclusive use and under the provisions of 7.5.11, CV33 (1.3) and (3.5) (a);
  - (d) A package carried under a special arrangement shall be assigned to category III-YELLOW except when otherwise specified in the competent authority approval certificate of the country of origin of design (see 2.2.7.2.4.6);
  - (e) An overpack which contains packages carried under special arrangement shall be assigned to category III-YELLOW except when otherwise specified in the competent authority approval certificate of the country of origin of design (see 2.2.7.2.4.6).

**Table 5.1.5.3.4: Categories of packages and overpacks**

| <b>Conditions</b>                            |   |                         |
|--|---|-------------------------|
| <b>Transport index</b>                       | <b>Maximum radiation level at any point on external surface</b> | <b>Category</b>         |
| 0 <sup>a</sup>                               | Not more than 0.005 mSv/h                                       | I-WHITE                 |
| More than 0 but not more than 1 <sup>a</sup> | More than 0.005 mSv/h but not more than 0.5 mSv/h               | II-YELLOW               |
| More than 1 but not more than 10             | More than 0.5 mSv/h but not more than 2 mSv/h                   | III-YELLOW              |
| More than 10                                 | More than 2 mSv/h but not more than 10 mSv/h                    | III-YELLOW <sup>b</sup> |

<sup>a</sup> If the measured TI is not greater than 0.05, the value quoted may be zero in accordance with 5.1.5.3.1 (c).

<sup>b</sup> Shall also be carried under exclusive use.

#### 5.1.5.4

#### **Summary of approval and prior notification requirements**

**NOTE 1:** Before first shipment of any package requiring competent authority approval of the design, the consignor shall ensure that a copy of the approval certificate for that design has been submitted to the competent authority of each country en route (see 5.1.5.1.4 (a)).

**NOTE 2:** Notification required if contents exceed  $3 \times 10^3 A_1$ , or  $3 \times 10^3 A_2$ , or 1000 TBq; (see 5.1.5.1.4 (b)).

**NOTE 3:** Multilateral approval of shipment required if contents exceed  $3 \times 10^3 A_1$ , or  $3 \times 10^3 A_2$ , or 1000 TBq, or if controlled intermittent venting is allowed (see 5.1.5.1).

**NOTE 4:** See approval and prior notification provisions for the applicable package for carrying this material.

| Subject  | UN Number  | Competent Authority approval required          |  | Consignor required to notify the competent authorities of the country of origin and of the countries en route <sup>a</sup> before each shipment | Reference  |
|--|--|--|--|---|--|
|  |  | Country of origin                              | Countries en route <sup>a</sup>                |   |  |
| Calculation of unlisted A <sub>1</sub> and A <sub>2</sub> values   | -  | Yes  | Yes  | No  | ---  |
| Excepted packages<br>- package design<br>- shipment  | 2908, 2909, 2910, 2911                                     | No<br>No                                       | No<br>No                                       | No<br>No  | ---  |
| LSA material <sup>b</sup> and SCO <sup>b</sup><br>Industrial packages types 1, 2 or 3, non fissile and fissile excepted<br>- package design<br>- shipment                        | 2912, 2913, 3321, 3322                                     | No<br>No                                       | No<br>No                                       | No<br>No  | ---  |
| Type A packages <sup>b</sup> , non fissile and fissile excepted<br>- package design<br>- shipment  | 2915, 3332   | No<br>No                                       | No<br>No                                       | No<br>No  | --   |
| Type B(U) packages <sup>b</sup> , non fissile and fissile excepted<br>- package design<br>- shipment   | 2916   | Yes<br>No                                      | No<br>No                                       | See Note 1<br>See Note 2  | 5.1.5.1.4 (b),<br>5.1.5.2.1 (a),<br>6.4.22.2               |
| Type B(M) packages <sup>b</sup> , non fissile and fissile excepted<br>- package design<br>- shipment   | 2917   | Yes<br>See Note 3                              | Yes<br>See Note 3                              | No<br>Yes   | 5.1.5.1.4 (b),<br>5.1.5.2.1 (a),<br>5.1.5.1.2,<br>6.4.22.3 |
| Type C packages <sup>b</sup> , non fissile and fissile excepted<br>- package design<br>- shipment  | 3323   | Yes<br>No                                      | No<br>No                                       | See Note 1<br>See Note 2  | 5.1.5.1.4 (b),<br>5.1.5.2.1 (a),<br>6.4.22.2               |
| Packages for fissile material<br>- package design<br>- shipment :<br>- sum of criticality safety indexes not more than 50<br>- sum of criticality safety indexes greater than 50 | 2977, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3333 | Yes <sup>c</sup><br><br>No <sup>d</sup><br>Yes | Yes <sup>c</sup><br><br>No <sup>d</sup><br>Yes | No<br><br>See Note 2<br>See Note 2  | 5.1.5.2.1 (a),<br>5.1.5.1.2,<br>6.4.22.4,<br>6.4.22.5      |
| Special form radioactive material<br>- design<br>- shipment  | -<br>See Note 4  | Yes<br>See Note 4                              | No<br>See Note 4                               | No<br>See Note 4  | 1.6.6.3,<br>5.1.5.2.1 (a)<br>6.4.22.5                      |

<sup>a</sup> Countries from, through or into which the consignment is carried.

<sup>b</sup> If the radioactive contents are fissile material which is not excepted from the provisions for packages containing fissile material, then the provisions for fissile material packages apply (see 6.4.11).

<sup>c</sup> Designs of packages for fissile material may also require approval in respect of one of the other items in the table.

<sup>d</sup> Shipments may, however, require approval in respect of one of the other items in the table.

| Subject  | UN Number       | Competent Authority approval required |                                 | Consignor required to notify the competent authorities of the country of origin and of the countries en route <sup>a</sup> before each shipment | Reference  |
|--|-----------------|---------------------------------------|---------------------------------|---|--|
|  |                 | Country of origin                     | Countries en route <sup>a</sup> |   |  |
| Low dispersable radioactive material<br>- design<br>- shipment                       | -<br>See Note 4 | Yes<br>See Note 4                     | No<br>See Note 4                | No<br>See Note 4  | 5.1.5.2.1 (a),<br>6.4.22.3   |
| Packages containing 0.1 kg or more of uranium hexafluoride<br>- design<br>- shipment | -<br>See Note 4 | Yes<br>See Note 4                     | No<br>See Note 4                | No<br>See Note 4  | 5.1.5.2.1 (a),<br>6.4.22.1   |
| Special Arrangement<br>- shipment  | 2919, 3331      | Yes                                   | Yes                             | Yes   | 1.7.4.2,<br>5.1.5.2.1 (b),<br>5.1.5.1.4 (b)                            |
| Approved packages designs subjected to transitional measures                         | -               | See 1.6.6                             | See 1.6.6                       | See Note 1  | 1.6.6.1,<br>1.6.6.2,<br>5.1.5.1.4 (b),<br>5.1.5.2.1 (a),<br>5.1.5.1.2. |

<sup>a</sup> Countries from, through or into which the consignment is carried.

## CHAPTER 5.2

### MARKING AND LABELLING

#### 5.2.1 Marking of packages

**NOTE:** For markings related to the construction, testing and approval of packagings, large packagings, gas receptacles and IBCs, see Part 6.

5.2.1.1 Unless provided otherwise in ADR, the UN number corresponding to the dangerous goods contained, preceded by the letters "UN" shall be clearly and durably marked on each package. In the case of unpackaged articles the marking shall be displayed on the article, on its cradle or on its handling, storage or launching device.

5.2.1.2 All package markings required by this Chapter:

- (a) shall be readily visible and legible;
- (b) shall be able to withstand open weather exposure without a substantial reduction in effectiveness.

5.2.1.3 Salvage packagings shall additionally be marked with the word "**SALVAGE**".

5.2.1.4 Intermediate bulk containers of more than 450 litres capacity and large packagings shall be marked on two opposite sides.

#### 5.2.1.5 *Additional provisions for goods of Class 1*

For goods of Class 1, packages shall, in addition, bear the proper shipping name as determined in accordance with 3.1.2. The marking, which shall be clearly legible and indelible, shall be in an official language of the country of origin and also, if that language is not English, French or German, in English, French or German unless any agreements concluded between the countries concerned in the transport operation provide otherwise.

#### 5.2.1.6 *Additional provisions for goods of Class 2*

Refillable receptacles shall bear the following particulars in clearly legible and durable characters:

- (a) the UN number and the proper shipping name of the gas or mixture of gases, as determined in accordance with 3.1.2.  
In the case of gases classified under an N.O.S. entry, only the technical name <sup>1</sup> of the gas has to be indicated in addition to the UN number.  
In the case of mixtures, not more than the two constituents which most predominantly contribute to the hazards have to be indicated;

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<sup>1</sup> *Instead of the technical name the use of one of the following names is permitted:*

- *for UN No. 1078 refrigerant gas, n.o.s.: mixture F1, mixture F2, mixture F3;*
- *for UN No. 1060 methylacetylene and propadiene mixtures, stabilized: mixture P1, mixture P2;*
- *for UN No. 1965 hydrocarbon gas mixture, liquefied, n.o.s.: mixture A or butane, mixture A01 or butane, mixture A02 or butane, mixture A0 or butane, mixture A1, mixture B1, mixture B2, mixture B, mixture C or propane;*
- *for UN No. 1010 Butadienes, stabilized: 1,2-Butadiene, stabilized, 1,3-Butadiene, stabilized.*

- (b) for compressed gases filled by mass and for liquefied gases, either the maximum filling mass and the tare of the receptacle with fittings and accessories as fitted at the time of filling, or the gross mass;
- (c) the date (year) of the next periodic inspection.

These marks can either be engraved or indicated on a durable information disk or label attached on the receptacle or indicated by an adherent and clearly visible marking such as by printing or by any equivalent process.

**NOTE 1:** See also 6.2.2.7.

**NOTE 2:** For non refillable receptacles, see 6.2.2.8.

#### **5.2.1.7 Special marking provisions for goods of Class 7**

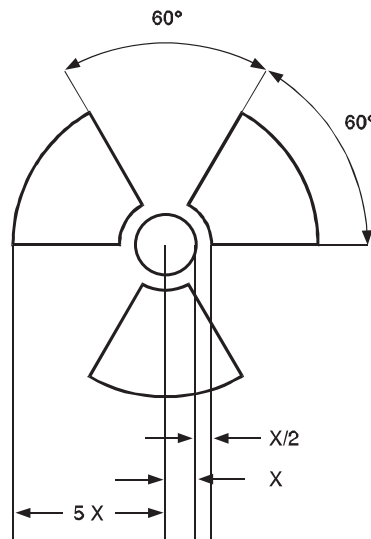
- 5.2.1.7.1 Each package shall be legibly and durably marked on the outside of the packaging with an identification of either the consignor or consignee, or both.
- 5.2.1.7.2 For each package, other than excepted packages, the UN number preceded by the letters "UN" and the proper shipping name shall be legibly and durably marked on the outside of the packaging. In the case of excepted packages only the UN number, preceded by the letters "UN", is required.
- 5.2.1.7.3 Each package of gross mass exceeding 50 kg shall have its permissible gross mass legibly and durably marked on the outside of the packaging.
- 5.2.1.7.4 Each package which conforms to:
  - (a) a Type IP-1 package, a Type IP-2 package or a Type IP-3 package design shall be legibly and durably marked on the outside of the packaging with "TYPE IP-1", "TYPE IP-2" or "TYPE IP-3" as appropriate;
  - (b) a Type A package design shall be legibly and durably marked on the outside of the packaging with "TYPE A";
  - (c) a Type IP-2 package, a Type IP-3 package or a Type A package design shall be legibly and durably marked on the outside of the packaging with the international vehicle registration code (VRI Code)<sup>2</sup> of the country of origin of design and either the name of the manufacturer or other identification of the packaging specified by the competent authority of the country of origin of design.
- 5.2.1.7.5 Each package which conforms to a design approved by the competent authority shall be legibly and durably marked on the outside of the packaging with:
  - (a) the identification mark allocated to that design by the competent authority;
  - (b) a serial number to uniquely identify each packaging which conforms to that design;
  - (c) in the case of a Type B(U) or Type B(M) package design, with "TYPE B(U)" or "TYPE B(M)"; and
  - (d) in the case of a Type C package design, with "TYPE C".

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<sup>2</sup> Distinguishing sign for motor vehicles in international traffic prescribed in the Vienna Convention on Road Traffic (1968).

- 5.2.1.7.6 Each package which conforms to a Type B(U), Type B(M) or Type C package design shall have the outside of the outermost receptacle which is resistant to the effects of fire and water plainly marked by embossing, stamping or other means resistant to the effects of fire and water with the trefoil symbol shown in the figure below.

Basic trefoil symbol with proportions based on a central circle of radius  $X$ .  
The minimum allowable size of  $X$  shall be 4 mm.



- 5.2.1.7.7 Where LSA-I or SCO-I material is contained in receptacles or wrapping materials and is carried under exclusive use as permitted by 4.1.9.2.3, the outer surface of these receptacles or wrapping materials may bear the marking "RADIOACTIVE LSA-I" or "RADIOACTIVE SCO-I", as appropriate.

- 5.2.1.7.8 In case of international carriage of packages requiring competent authority design or shipment approval, for which different approval types apply in the different countries concerned, marking shall be in accordance with the certificate of the country of origin of the design.

#### 5.2.1.8 *Special marking provisions for environmentally hazardous substances*

- 5.2.1.8.1 Packages containing environmentally hazardous substances meeting the criteria of 2.2.9.1.10 shall be durably marked with the environmentally hazardous substance mark shown in 5.2.1.8.3, with the exception of single packagings and combination packagings containing inner packagings with:

- contents of 5 l or less for liquids, or
- contents of 5 kg or less for solids.

- 5.2.1.8.2 The environmentally hazardous substance mark shall be located adjacent to the markings required by 5.2.1.1. The requirements of 5.2.1.2 and 5.2.1.4 shall be met.

- 5.2.1.8.3 The environmentally hazardous substance mark shall be as shown below. The dimensions shall be 100 mm × 100 mm, except in the case of packages of such dimensions that they can only bear smaller marks.



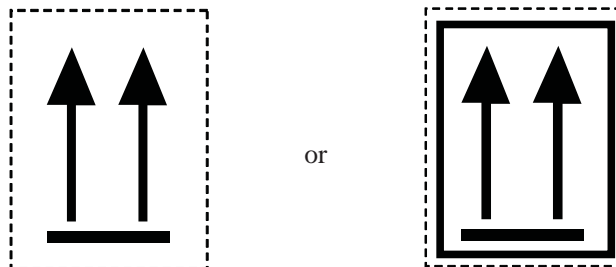
Symbol (fish and tree): black on white or suitable contrasting background

#### 5.2.1.9 *Orientation arrows*

- 5.2.1.9.1 Except as provided in 5.2.1.9.2:

- combination packagings having inner packagings containing liquids;
- single packagings fitted with vents; and
- cryogenic receptacles intended for the carriage of refrigerated liquefied gases,

shall be legibly marked with package orientation arrows which are similar to the illustration shown below or with those meeting the specifications of ISO 780:1985. The orientation arrows shall appear on two opposite vertical sides of the package with the arrows pointing in the correct upright direction. They shall be rectangular and of a size that is clearly visible commensurate with the size of the package. Depicting a rectangular border around the arrows is optional.



Two black or red arrows on white or suitable contrasting background.  
The rectangular border is optional.

- 5.2.1.9.2 Orientation arrows are not required on packages containing:
- (a) pressure receptacles except for cryogenic receptacles;
  - (b) dangerous goods in inner packagings of not more than 120 ml which are prepared with sufficient absorbent material between the inner and outer packagings to completely absorb the liquid contents;
  - (c) Class 6.2 infectious substances in primary receptacles of not more than 50 ml;
  - (d) Class 7 radioactive material in Type IP-2, IP-3, A, B(U), B(M) or C packages; or
  - (e) articles which are leak-tight in all orientations (e.g. alcohol or mercury in thermometers, aerosols, etc.).



- 5.2.1.9.3      Arrows for purposes other than indicating proper package orientation shall not be displayed on a package marked in accordance with this sub-section.

## **5.2.2      Labelling of packages**

### **5.2.2.1      *Labelling provisions***

- 5.2.2.1.1      For each article or substance listed in Table A of Chapter 3.2, the labels shown in Column (5) shall be affixed unless otherwise provided for by a special provision in Column (6).

- 5.2.2.1.2      Indelible danger markings corresponding exactly to the prescribed models may be used instead of labels.

- 5.2.2.1.3 to  
5.2.2.1.5      (*Reserved*)

- 5.2.2.1.6      Except as provided in 5.2.2.1.2, each label shall:

- (a)    be affixed to the same surface of the package, if the dimensions of the package allow; for packages of Class 1 and 7, near the mark indicating the proper shipping name;
- (b)    be so placed on the package that it is not covered or obscured by any part or attachment to the packaging or any other label or marking; and
- (c)    be displayed next to each other when more than one label is required.

Where a package is of such an irregular shape or small size that a label cannot be satisfactorily affixed, the label may be attached to the package by a securely affixed tag or other suitable means.

- 5.2.2.1.7      Intermediate bulk containers of more than 450 litres capacity and large packagings shall be labelled on two opposite sides.

- 5.2.2.1.8      (*Reserved*)

- 5.2.2.1.9      *Special provisions for the labelling of self-reactive substances and organic peroxides*

- (a)    The label conforming to model No. 4.1 also implies that the product may be flammable and hence no label conforming to model No. 3 is required. In addition, a label conforming to model No. 1 shall be applied for self-reactive substances Type B, unless the competent authority has permitted this label to be dispensed with for a specific packaging because test data have proven that the self-reactive substance in such a packaging does not exhibit explosive behaviour.
- (b)    The label conforming to model No. 5.2 also implies that the product may be flammable and hence no label conforming to model No. 3 is required. In addition, the following labels shall be applied:
  - (i)    A label conforming to model No. 1 for organic peroxides type B, unless the competent authority has permitted this label to be dispensed with for a specific packaging because test data have proven that the organic peroxide in such a packaging does not exhibit explosive behaviour;

- (ii) A label conforming to model No. 8 is required when Packing Group I or II criteria of Class 8 are met.

For self-reactive substances and organic peroxides mentioned by name, the labels to be affixed are indicated in the list found in 2.2.41.4 and 2.2.52.4 respectively.

5.2.2.1.10 *Special provisions for the labelling of infectious substances packages*

In addition to the label conforming to model No. 6.2, infectious substances packages shall bear any other label required by the nature of the contents.

5.2.2.1.11 *Special provisions for the labelling of radioactive material*

5.2.2.1.11.1 Except when enlarged labels are used in accordance with 5.3.1.1.3, each package, overpack and container containing radioactive material shall bear at least two labels which conform to the models Nos.7A, 7B, and 7C as appropriate according to the category (see 5.1.5.3.4) of that package, overpack or container. Labels shall be affixed to two opposite sides on the outside of the package or on the outside of all four sides of the container. Each overpack containing radioactive material shall bear at least two labels on opposite sides of the outside of the overpack. In addition, each package, overpack and container containing fissile material, other than fissile material excepted under 6.4.11.2 shall bear labels which conform to model No.7E; such labels, where applicable shall be affixed adjacent to the labels for radioactive material. Labels shall not cover the markings specified in 5.2.1. Any labels which do not relate to the contents shall be removed or covered.

5.2.2.1.11.2 Each label conforming to models Nos.7A, 7B, and 7C shall be completed with the following information.

(a) *Contents:*

- (i) except for LSA-I material, the name(s) of the radionuclide(s) as taken from Table 2.2.7.2.2.1, using the symbols prescribed therein. For mixtures of radionuclides, the most restrictive nuclides shall be listed to the extent the space on the line permits. The group of LSA or SCO shall be shown following the name(s) of the radionuclide(s). The terms "LSA-II", "LSA-III", "SCO-I" and "SCO-II" shall be used for this purpose;
- (ii) for LSA-I material, only the term "LSA-I" is necessary; the name of the radionuclide is not necessary;
- (b) *Activity:* The maximum activity of the radioactive contents during carriage expressed in becquerels (Bq) with the appropriate SI prefix symbol (see 1.2.2.1). For fissile material, the mass of fissile material in grams (g), or multiples thereof, may be used in place of activity;
- (c) For overpacks and containers the "contents" and "activity" entries on the label shall bear the information required in (a) and (b) above, respectively, totalled together for the entire contents of the overpack or container except that on labels for overpacks or containers containing mixed loads of packages containing different radionuclides, such entries may read "See Transport Documents";
- (d) *Transport index:* The number determined in accordance with 5.1.5.3.1 and 5.1.5.3.2 (no transport index entry is required for category I-WHITE).

- 5.2.2.1.11.3 Each label conforming to the model No. 7E shall be completed with the criticality safety index (CSI) as stated in the certificate of approval for special arrangement or the certificate of approval for the package design issued by the competent authority.
- 5.2.2.1.11.4 For overpacks and containers, the criticality safety index (CSI) on the label shall bear the information required in 5.2.2.1.11.3 totalled together for the fissile contents of the overpack or container.
- 5.2.2.1.11.5 In case of international carriage of packages requiring competent authority design or shipment approval, for which different approval types apply in the different countries concerned, labelling shall be in accordance with the certificate of the country of origin of design.

#### **5.2.2.2 Provisions for labels**

- 5.2.2.2.1 Labels shall satisfy the provisions below and conform, in terms of colour, symbols and general format, to the models shown in 5.2.2.2.2. Corresponding models required for other modes of transport, with minor variations which do not affect the obvious meaning of the label, are also acceptable.

**NOTE:** Where appropriate, labels in 5.2.2.2.2 are shown with a dotted outer boundary as provided for in 5.2.2.2.1.1. This is not required when the label is applied on a background of contrasting colour.

- 5.2.2.2.1.1 Labels shall be in the form of a square set at an angle of 45° (diamond-shaped) with minimum dimensions of 100 mm by 100 mm. They shall have a line 5 mm inside the edge and running parallel with it. In the upper half of a label the line shall have the same colour as the symbol and in the lower half it shall have the same colour as the figure in the bottom corner. Labels shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line. If the size of the package so requires, the dimensions of the labels may be reduced, provided that they remain clearly visible.

- 5.2.2.2.1.2 Cylinders for Class 2 may, on account of their shape, orientation and securing mechanisms for carriage, bear labels representative of those specified in this section, which have been reduced in size, according to the dimensions outlined in ISO 7225:2005, "Gas cylinders - Precautionary labels", for display on the non-cylindrical part (shoulder) of such cylinders.

Notwithstanding the provisions of 5.2.2.1.6, labels may overlap to the extent provided for by ISO 7225:2005. However, in all cases, the primary risk label and the figures appearing on any label shall remain fully visible and the symbols recognizable.

Empty uncleaned pressure receptacles for gases of Class 2 may be carried with obsolete or damaged labels for the purposes of refilling or inspection as appropriate and the application of a new label in conformity with current regulations or for the disposal of the pressure receptacle.

- 5.2.2.2.1.3 With the exception of labels for Divisions 1.4, 1.5 and 1.6 of Class 1, the upper half of the label shall contain the pictorial symbol and the lower half shall contain:
- (a) For Classes 1, 2, 3, 5.1, 5.2, 7, 8 and 9, the class number;
  - (b) For Classes 4.1, 4.2 and 4.3, the figure "4";
  - (c) For Classes 6.1 and 6.2, the figure "6".

The labels may include text such as the UN number or words describing the hazard (e.g. "flammable") in accordance with 5.2.2.2.1.5 provided the text does not obscure or detract from the other required label elements.

- 5.2.2.2.1.4 In addition, except for Divisions 1.4, 1.5 and 1.6, labels for Class 1 shall show in the lower half, above the class number, the division number and the compatibility group letter for the substance or article. Labels for Divisions 1.4, 1.5 and 1.6 shall show in the upper half the division number, and in the lower half the class number and the compatibility group letter.
- 5.2.2.2.1.5 On labels other than those for material of Class 7, the optional insertion of any text (other than the class number) in the space below the symbol shall be confined to particulars indicating the nature of the risk and precautions to be taken in handling.
- 5.2.2.2.1.6 The symbols, text and numbers shall be clearly legible and indelible and shall be shown in black on all labels except for:
- (a) the Class 8 label, where the text (if any) and class number shall appear in white;
  - (b) labels with entirely green, red or blue backgrounds where they may be shown in white;
  - (c) the Class 5.2 label, where the symbol may be shown in white; and
  - (d) labels conforming to model No. 2.1 displayed on cylinders and gas cartridges for gases of UN Nos. 1011, 1075, 1965 and 1978, where they may be shown in the background colour of the receptacle if adequate contrast is provided.
- 5.2.2.2.1.7 All labels shall be able to withstand open weather exposure without a substantial reduction in effectiveness.

## 5.2.2.2.2 Specimen labels

**CLASS 1 HAZARD****Explosive substances or articles**

(No. 1)

Divisions 1.1, 1.2 and 1.3

Symbol (exploding bomb): black; Background: orange; Figure '1' in bottom corner



(No. 1.4)

Division 1.4



(No. 1.5)

Division 1.5



(No. 1.6)

Division 1.6

Background: orange; Figures: black; Numerals shall be about 30 mm in height and be about 5 mm thick (for a label measuring 100 mm x 100 mm); Figure '1' in bottom corner

\*\* Place for division - to be left blank if explosive is the subsidiary risk

\* Place for compatibility group - to be left blank if explosive is the subsidiary risk

**CLASS 2 HAZARD****Gases**

(No. 2.1)

Flammable gases

Symbol (flame): black or white;  
(except as provided for in 5.2.2.2.1.6 (d))  
Background: red; Figure '2' in bottom corner

(No. 2.2)

Non flammable, non-toxic gases

Symbol (gas cylinder): black or white;  
Background: green; Figure '2' in bottom corner**CLASS 3 HAZARD****Flammable liquids**

(No. 2.3)

Toxic gases

Symbol (skull and crossbones): black;  
Background: white; Figure '2' in bottom corner

(No. 3)

Symbol (flame): black or white;  
Background: red; Figure '3' in bottom corner

**CLASS 4.1 HAZARD**  
Flammable solids, self-reactive  
substances and desensitized explosives



(No. 4.1)  
Symbol (flame): black;  
Background: white with  
seven vertical red stripes;  
Figure '4' in bottom corner

**CLASS 4.2 HAZARD**  
Substances liable to  
spontaneous combustion



(No. 4.2)  
Symbol (flame): black;  
Background: upper half white,  
lower half red;  
Figure '4' in bottom corner

**CLASS 4.3 HAZARD**  
Substances which, in contact with water,  
emit flammable gases



(No. 4.3)  
Symbol (flame): black or white;  
Background: blue;  
Figure '4' in bottom corner



**CLASS 5.1 HAZARD**  
Oxidizing substances



(No. 5.1)  
Symbol (flame over circle): black;  
Background: yellow;  
Figure '5.1' in bottom corner

**CLASS 5.2 HAZARD**  
Organic peroxides



(No. 5.2)  
Symbol (flame): black or white;  
Background: upper half red; lower half yellow;  
Figure '5.2' in bottom corner



**CLASS 6.1 HAZARD**  
Toxic substances



(No. 6.1)  
Symbol (skull and crossbones): black;  
Background: white; Figure '6' in bottom corner

**CLASS 6.2 HAZARD**  
Infectious substances



(No. 6.2)  
The lower half of the label may bear the inscriptions: 'INFECTIOUS SUBSTANCE'  
and 'In the case of damage or leakage immediately notify Public Health Authority';  
Symbol (three crescents superimposed on a circle) and inscriptions: black;  
Background: white; Figure '6' in bottom corner

# **CLASS 7 HAZARD** **Radioactive material**



(No. 7A)

Category I - White  
 Symbol (trefoil): black;  
 Background: white;  
 Text (mandatory): black in lower half of label:  
 'RADIOACTIVE'  
 'CONTENTS .....'  
 'ACTIVITY .....'  
 One red bar shall  
 follow the word 'RADIOACTIVE';  
 Figure '7' in bottom corner.



(No. 7B)

Category II - Yellow  
 Symbol (trefoil): black;  
 Background: upper half yellow with white border, lower half white;  
 Text (mandatory): black in lower half of label:  
 'RADIOACTIVE'  
 'CONTENTS .....'  
 'ACTIVITY .....'  
 In a black outlined box: 'TRANSPORT INDEX';  
 Two red vertical bars shall  
 follow the word 'RADIOACTIVE';  
 Figure '7' in bottom corner.



(No. 7C)

Category III - Yellow

Symbol (trefoil): black;

Background: upper half yellow with white border, lower half white;

Text (mandatory): black in lower half of label:

'RADIOACTIVE'

'CONTENTS .....'

'ACTIVITY .....'

In a black outlined box: 'TRANSPORT INDEX';

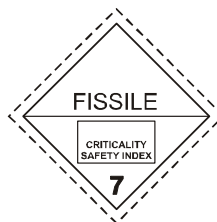
Two red vertical bars shall

Three red vertical bars shall

follow the word 'RADIOACTIVE';

follow the word 'RADIOACTIVE';

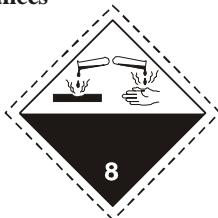
Figure '7' in bottom corner.



(No. 7E)

Class 7 fissile material  
 Background: white;  
 Text (mandatory): black in upper half of label: 'FISSILE';  
 In a black outlined box in the lower half of the label:  
 'CRITICALITY SAFETY INDEX'  
 Figure '7' in bottom corner.

# **CLASS 8 HAZARD** **Corrosive substances**

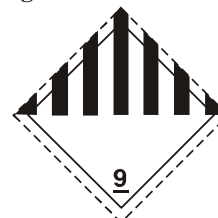


(No. 8)

Symbol (liquids, spilling from two glass vessels  
 and attacking a hand and a metal): black;  
 Background: upper half white;  
 lower half black with white border;  
 Figure '8' in bottom corner

# **CLASS 9 HAZARD**

**Miscellaneous dangerous substances and articles**



(No. 9)

Symbol (seven vertical stripes in upper half): black;  
 Background: white;  
 Figure '9' underlined in bottom corner

## CHAPTER 5.3

### PLACARDING AND MARKING OF CONTAINERS, MEGCs, MEMUs, TANK-CONTAINERS, PORTABLE TANKS AND VEHICLES

**NOTE:** *For marking and placarding of containers, MEGCs, tank-containers and portable tanks for carriage in a transport chain including a maritime journey, see also 1.1.4.2.1. If the provisions of 1.1.4.2.1 (c) are applied, only 5.3.1.3 and 5.3.2.1.1 of this Chapter are applicable.*

#### 5.3.1 Placarding

##### 5.3.1.1 General provisions

5.3.1.1.1 As and when required in this section, placards shall be affixed to the exterior surface of containers, MEGCs, MEMUs, tank-containers, portable tanks and vehicles. Placards shall correspond to the labels required in Column (5) and, where appropriate, Column (6) of Table A of Chapter 3.2 for the dangerous goods contained in the container, MEGC, MEMU, tank-container, portable tank or vehicle and shall conform to the specifications given in 5.3.1.7. Placards shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line.

5.3.1.1.2 For Class 1, compatibility groups shall not be indicated on placards if the vehicle, container or special compartments of MEMUs are carrying substances or articles belonging to two or more compatibility groups. Vehicles, containers or special compartments of MEMUs carrying substances or articles of different divisions shall bear only placards conforming to the model of the most dangerous division in the order:

1.1 (most dangerous), 1.5, 1.2, 1.3, 1.6, 1.4 (least dangerous).

When 1.5 D substances are carried with substances or articles of Division 1.2, the vehicle or container shall be placarded as Division 1.1.

Placards are not required for the carriage of explosives of Division 1.4, compatibility group S.

5.3.1.1.3 For Class 7, the primary risk placard shall conform to model No. 7D as specified in 5.3.1.7.2. This placard is not required for vehicles or containers carrying excepted packages and for small containers.

Where both Class 7 labels and placards would be required to be affixed to vehicles, containers, MEGCs, tank-containers or portable tanks, an enlarged label corresponding to the label required may be displayed instead of placard No.7D to serve both purposes.

5.3.1.1.4 Containers, MEGCs, MEMUs, tank-containers, portable tanks or vehicles containing goods of more than one class need not bear a subsidiary risk placard if the hazard represented by that placard is already indicated by a primary or subsidiary risk placard.

5.3.1.1.5 Placards which do not relate to the dangerous goods being carried, or residues thereof, shall be removed or covered.

5.3.1.1.6 When the placarding is affixed to folding panels, they shall be designed and secured so that they cannot unfold or come loose from the holder during carriage (especially as a result of impacts or unintentional actions).



**5.3.1.2 Placarding of containers, MEGCs, tank-containers and portable tanks**

**NOTE:** This sub-section does not apply to swap-bodies, except tank swap bodies or swap-bodies carried in combined road/rail transport.

The placards shall be affixed to both sides and at each end of the container, MEGC, tank-container or portable tank.

When the tank-container or portable tank has multiple compartments and carries two or more dangerous goods, the appropriate placards shall be displayed along each side at the position of the relevant compartments and one placard of each model shown on each side at both ends.

**5.3.1.3 Placarding of vehicles carrying containers, MEGCs, tank-containers or portable tanks**

**NOTE:** This sub-section does not apply to the placarding of vehicles carrying swap-bodies other than tank swap-bodies or than swap-bodies carried in combined road/rail transport; for such vehicles, see 5.3.1.5.

If the placards affixed to the containers, MEGCs, tank-containers or portable tanks are not visible from outside the carrying vehicles, the same placards shall also be affixed to both sides and at the rear of the vehicle. Otherwise, no placard need be affixed on the carrying vehicle.

**5.3.1.4 Placarding of vehicles for carriage in bulk, tank-vehicles, battery-vehicles, MEMUs and vehicles with demountable tanks****5.3.1.4.1 Placards shall be affixed to both sides and at the rear of the vehicle.**

When the tank-vehicle or the demountable tank carried on the vehicle has multiple compartments and carries two or more dangerous goods, the appropriate placards shall be displayed along each side at the position of the relevant compartments and one placard of each model shown on each side at the rear of the vehicle. However, in such case, if all compartments have to bear the same placards, these placards need be displayed only once along each side and at the rear of the vehicle.

Where more than one placard is required for the same compartment, these placards shall be displayed adjacent to each other.

**NOTE:** When, in the course of an ADR journey or at the end of an ADR journey, a tank semi-trailer is separated from its tractor to be loaded on board a ship or an inland navigation vessel, placards shall also be displayed at the front of the semi-trailer.

**5.3.1.4.2 MEMUs with tanks and bulk containers shall be placarded in accordance with 5.3.1.4.1 for the substances contained therein. For tanks with a capacity of less than 1 000 litres placards may be replaced by labels conforming to 5.2.2.2.****5.3.1.4.3 For MEMUs carrying packages containing substances or articles of Class 1 (other than of Division 1.4, Compatibility group S), placards shall be affixed to both sides and at the rear of the MEMU.**

Special compartments for explosives shall be placarded in accordance with the provisions of 5.3.1.1.2. The last sentence of 5.3.1.1.2 does not apply.

**5.3.1.5** *Placarding of vehicles carrying packages only*

**NOTE:** This sub-section applies also to vehicles carrying swap-bodies loaded with packages, except for combined road/rail transport; for combined road/rail transport, see 5.3.1.2 and 5.3.1.3.

5.3.1.5.1 For vehicles carrying packages containing substances or articles of Class 1 (other than of Division 1.4, compatibility group S), placards shall be affixed to both sides and at the rear of the vehicle.

5.3.1.5.2 For vehicles carrying radioactive material of Class 7 in packagings or IBCs (other than excepted packages), placards shall be affixed to both sides and at the rear of the vehicle.

**5.3.1.6** *Placarding of empty tank-vehicles, battery-vehicles, MEGCs, MEMUs, tank-containers, portable tanks and empty vehicles and containers for carriage in bulk*

5.3.1.6.1 Empty tank-vehicles, vehicles with demountable tanks, battery-vehicles, MEGCs, MEMUs, tank-containers and portable tanks uncleaned and not degassed, and empty vehicles and containers for carriage in bulk, uncleaned, shall continue to display the placards required for the previous load.

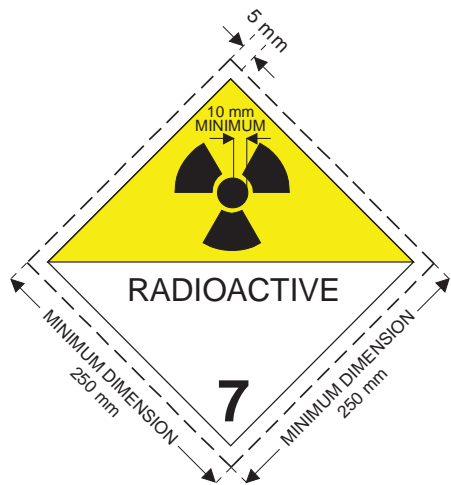
**5.3.1.7** *Specifications for placards*

5.3.1.7.1 Except as provided in 5.3.1.7.2 for the Class 7 placard, a placard shall:

- (a) Be not less than 250 mm by 250 mm and have a line 12.5 mm inside the edge and running parallel with it. In the upper half the line shall have the same colour as the symbol and in the lower half it shall have the same colour as the figure in the bottom corner;
- (b) Correspond to the label required for the dangerous goods in question with respect to colour and symbol (see 5.2.2.2); and
- (c) Display the numbers (and for goods of Class 1, the compatibility group letter) prescribed for the dangerous goods in question in 5.2.2.2 for the corresponding label, in digits not less than 25 mm high.

5.3.1.7.2 The Class 7 placard shall be not less than 250 mm by 250 mm with a black line running 5 mm inside the edge and parallel with it and is otherwise as shown below (Model No. 7D). The number "7" shall not be less than 25 mm high. The background colour of the upper half of the placard shall be yellow and of the lower half white, the colour of the trefoil and the printing shall be black. The use of the word "RADIOACTIVE" in the bottom half is optional to allow the use of this placard to display the appropriate UN number for the consignment.

## Placard for radioactive material of Class 7



(No.7D)

Symbol (trefoil): black; Background: upper half yellow with white border, lower half white;

The lower half shall show the word "RADIOACTIVE" or alternatively, when required, the appropriate UN Number (see 5.3.2.1.2) and the figure "7" in the bottom corner.

- 5.3.1.7.3 For tanks with a capacity of not more than 3 m<sup>3</sup> and for small containers, placards may be replaced by labels conforming to 5.2.2.2.
- 5.3.1.7.4 For Classes 1 and 7, if the size and construction of the vehicle are such that the available surface area is insufficient to affix the prescribed placards, their dimensions may be reduced to 100 mm on each side.

## 5.3.2 Orange-coloured plate marking

### 5.3.2.1 General orange-coloured plate marking provisions

- 5.3.2.1.1 Transport units carrying dangerous goods shall display two rectangular orange-coloured plates conforming to 5.3.2.2.1, set in a vertical plane. They shall be affixed one at the front and the other at the rear of the transport unit, both perpendicular to the longitudinal axis of the transport unit. They shall be clearly visible.
- 5.3.2.1.2 When a hazard identification number is indicated in Column (20) of table A of Chapter 3.2, tank-vehicles, battery vehicles or transport units having one or more tanks carrying dangerous goods shall in addition display on the sides of each tank, each tank compartment or each element of battery vehicles, clearly visible and parallel to the longitudinal axis of the vehicle, orange-coloured plates identical with those prescribed in 5.3.2.1.1. These orange-coloured plates shall bear the hazard identification number and the UN number prescribed respectively in Columns (20) and (1) of table A of Chapter 3.2 for each of the substances carried in the tank, in a compartment of the tank or in an element of a battery vehicle. For MEMUs these requirements shall only apply to tanks with a capacity of 1 000 litres or more and bulk containers.

- 5.3.2.1.3 For tank-vehicles or transport units having one or more tanks carrying substances with UN Nos. 1202, 1203 or 1223, or aviation fuel classed under UN Nos. 1268 or 1863, but no other dangerous substance, the orange-coloured plates prescribed in 5.3.2.1.2 need not be affixed if the plates affixed to the front and rear in accordance with 5.3.2.1.1 bear the hazard identification number and the UN number prescribed for the most hazardous substance carried, i.e. the substance with the lowest flash-point.
- 5.3.2.1.4 When a hazard identification number is indicated in Column (20) of Table A of Chapter 3.2, transport units and containers carrying unpackaged solids or articles or packaged radioactive material with a single UN number under exclusive use and no other dangerous goods shall in addition display on the sides of each transport unit or container, clearly visible and parallel to the longitudinal axis of the vehicle, orange-coloured plates identical with those prescribed in 5.3.2.1.1. These orange-coloured plates shall bear the hazard identification number and the UN number prescribed respectively in Columns (20) and (1) of table A of Chapter 3.2 for each of the substances carried in bulk in the transport unit or in the container or for the packaged radioactive material carried under exclusive use in the transport unit or in the container.
- 5.3.2.1.5 If the orange-coloured plates prescribed in 5.3.2.1.2 and 5.3.2.1.4 affixed to the containers, tank-containers, MEGCs or portable tanks are not clearly visible from outside the carrying vehicle, the same plates shall also be affixed to both sides of the vehicle.
- NOTE: This paragraph need not be applied to the marking with orange coloured plates of closed and sheeted vehicles, carrying tanks with a maximum capacity of 3 000 litres.*
- 5.3.2.1.6 For transport units carrying only one dangerous substance and no non-dangerous substance, the orange-coloured plates prescribed in 5.3.2.1.2, 5.3.2.1.4 and 5.3.2.1.5 shall not be necessary provided that those displayed at the front and rear in accordance with 5.3.2.1.1 bear the hazard identification number and the UN number for that substance prescribed respectively in Columns (20) and (1) of Table A of Chapter 3.2.
- 5.3.2.1.7 The requirements of 5.3.2.1.1 to 5.3.2.1.5 are also applicable to empty fixed or demountable tanks, battery-vehicles, tank-containers, portable tanks and MEGCs, uncleaned, not degassed or not decontaminated, MEMUs, uncleaned as well as to empty vehicles and containers for carriage in bulk, uncleaned or not decontaminated.
- 5.3.2.1.8 Orange-coloured marking which does not relate to dangerous goods carried, or residues thereof, shall be removed or covered. If plates are covered, the covering shall be total and remain effective after 15 minute' engulfment in fire.

### 5.3.2.2 *Specifications for the orange-coloured plates*

- 5.3.2.2.1 The orange-coloured plates shall be reflectorized and shall be of 40 cm base and of 30 cm high; they shall have a black border of 15 mm wide. The material used shall be weather-resistant and ensure durable marking. The plate shall not become detached from its mount in the event of 15 minutes' engulfment in fire. It shall remain affixed irrespective of the orientation of the vehicle. The orange-coloured plates may be separated in their middle with a black horizontal line of 15 mm thickness.

If the size and construction of the vehicle are such that the available surface area is insufficient to affix these orange-coloured plates, their dimensions may be reduced to 300 mm for the base, 120 mm for the height and 10 mm for the black border. In that case, for a packaged radioactive material carried under exclusive use, only the UN number is required, and the size of the digits stipulated in 5.3.2.2.2 may be reduced to 65 mm in height and 10 mm in stroke thickness.

For containers carrying dangerous solid substances in bulk and for tank-containers, MEGCs and portable tanks, the plates prescribed in 5.3.2.1.2, 5.3.2.1.4 and 5.3.2.1.5 may be replaced by a self-adhesive sheet, by paint or by any other equivalent process. This alternative marking shall conform to the specifications set in this sub-section except for the provisions concerning resistance to fire mentioned in 5.3.2.2.1 and 5.3.2.2.2.

**NOTE:** The colour of the orange plates in conditions of normal use should have chromaticity co-ordinates lying within the area on the chromaticity diagram formed by joining the following co-ordinates:

| <i>Chromaticity co-ordinates of points at the corners of the area on the chromaticity diagram</i> |      |      |       |       |
|---|------|------|-------|-------|
| <i>x</i>  | 0.52 | 0.52 | 0.578 | 0.618 |
| <i>y</i>  | 0.38 | 0.40 | 0.422 | 0.38  |

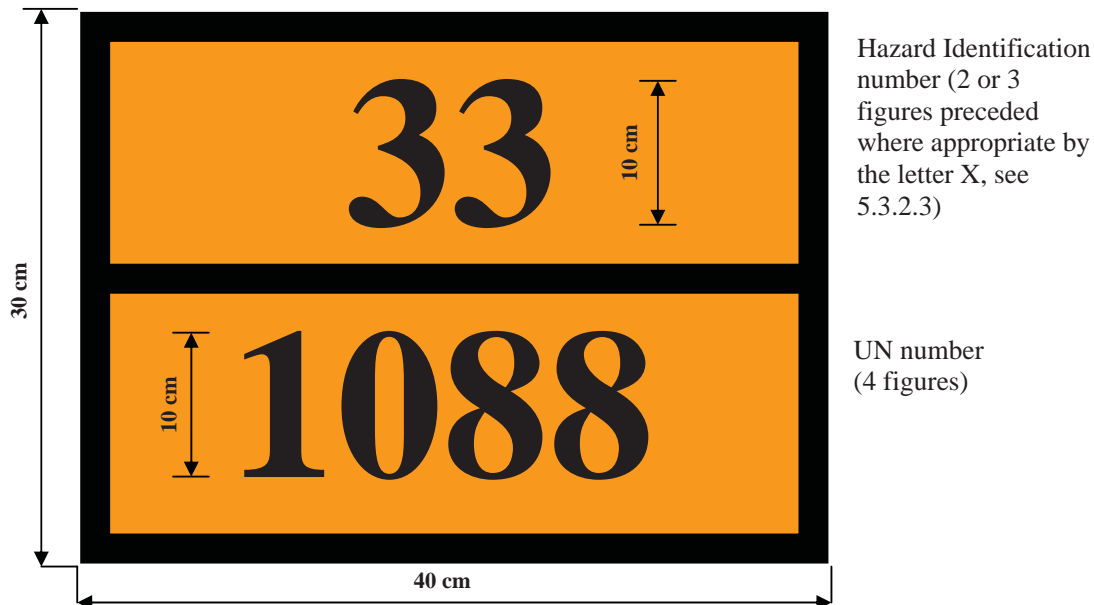
*Luminance factor of reflectorized colour:  $\beta > 0.12$ .*

*Reference centre E, standard illuminant C, normal incidence 45°, viewed at 0°.*

*Co-efficient of reflex luminous intensity at an angle of illumination of 5°, viewed at 0.2°: not less than 20 candelas per lux per m<sup>2</sup>.*

- 5.3.2.2.2 The hazard identification number and the UN number shall consist of black digits 100 mm high and of 15 mm stroke thickness. The hazard-identification number shall be inscribed in the upper part of the plate and the UN number in the lower part; they shall be separated by a horizontal black line, 15 mm in stroke width, extending from side to side of the plate at mid-height (see 5.3.2.2.3). The hazard identification number and the UN number shall be indelible and shall remain legible after 15 minute' engulfment in fire. Interchangeable numbers and letters on plates presenting the hazard identification number and the UN number shall remain in place during carriage and irrespective of the orientation of the vehicle.

5.3.2.2.3 *Example of orange-coloured plate with hazard identification number and UN number*



Background orange.  
Border, horizontal line and figures black, 15 mm thickness.

5.3.2.2.4 The permitted tolerances for dimensions specified in this sub-section are  $\pm 10\%$ .

5.3.2.2.5 When the orange-coloured plate is affixed to folding panels, they shall be designed and secured so that they cannot unfold or come loose from the holder during carriage (especially as a result of impacts or unintentional actions).

**5.3.2.3** *Meaning of hazard identification numbers*

5.3.2.3.1 The hazard identification number consists of two or three figures. In general, the figures indicate the following hazards:

- 2 Emission of gas due to pressure or to chemical reaction
- 3 Flammability of liquids (vapours) and gases or self-heating liquid
- 4 Flammability of solids or self-heating solid
- 5 Oxidizing (fire-intensifying) effect
- 6 Toxicity or risk of infection
- 7 Radioactivity
- 8 Corrosivity
- 9 Risk of spontaneous violent reaction

**NOTE:** The risk of spontaneous violent reaction within the meaning of figure 9 include the possibility following from the nature of a substance of a risk of explosion, disintegration and polymerization reaction following the release of considerable heat or flammable and/or toxic gases.

Doubling of a figure indicates an intensification of that particular hazard.

Where the hazard associated with a substance can be adequately indicated by a single figure, this is followed by zero.

The following combinations of figures, however, have a special meaning: 22, 323, 333, 362, 382, 423, 44, 446, 462, 482, 539, 606, 623, 642, 823, 842, 90 and 99, see 5.3.2.3.2 below.

If a hazard identification number is prefixed by the letter "X", this indicates that the substance will react dangerously with water. For such substances, water may only be used by approval of experts.

For substances of Class 1, the classification code in accordance with Column (3 b) of Table A of Chapter 3.2, shall be used as the hazard identification number. The classification code consists of:

- the division number in accordance with 2.2.1.1.5; and
- the compatibility group letter in accordance with 2.2.1.1.6.

5.3.2.3.2 The hazard identification numbers listed in Column (20) of table A of Chapter 3.2 have the following meanings:

|      |  |
|------|--|
| 20   | asphyxiant gas or gas with no subsidiary risk  |
| 22   | refrigerated liquefied gas, asphyxiant   |
| 223  | refrigerated liquefied gas, flammable  |
| 225  | refrigerated liquefied gas, oxidizing (fire-intensifying)  |
| 23   | flammable gas  |
| 239  | flammable gas, which can spontaneously lead to violent reaction  |
| 25   | oxidizing (fire-intensifying) gas  |
| 26   | toxic gas  |
| 263  | toxic gas, flammable   |
| 265  | toxic gas, oxidizing (fire-intensifying)   |
| 268  | toxic gas, corrosive   |
| 30   | flammable liquid (flash-point between 23 °C and 60 °C, inclusive) or flammable liquid or solid in the molten state with a flash-point above 60 °C, heated to a temperature equal to or above its flash-point, or self-heating liquid |
| 323  | flammable liquid which reacts with water, emitting flammable gases   |
| X323 | flammable liquid which reacts dangerously with water, emitting flammable gases <sup>1</sup>  |
| 33   | highly flammable liquid (flash-point below 23 °C)  |
| 333  | pyrophoric liquid  |
| X333 | pyrophoric liquid which reacts dangerously with water <sup>1</sup>   |
| 336  | highly flammable liquid, toxic   |
| 338  | highly flammable liquid, corrosive   |
| X338 | highly flammable liquid, corrosive, which reacts dangerously with water <sup>1</sup>   |
| 339  | highly flammable liquid which can spontaneously lead to violent reaction   |
| 36   | flammable liquid (flash-point between 23 °C and 60 °C, inclusive), slightly toxic, or self-heating liquid, toxic   |
| 362  | flammable liquid, toxic, which reacts with water, emitting flammable gases   |
| X362 | flammable liquid toxic, which reacts dangerously with water, emitting flammable gases <sup>1</sup>   |
| 368  | flammable liquid, toxic, corrosive   |
| 38   | flammable liquid (flash-point between 23 °C and 60 °C, inclusive), slightly corrosive or self-heating liquid, corrosive  |
| 382  | flammable liquid, corrosive, which reacts with water, emitting flammable gases   |
| X382 | flammable liquid, corrosive, which reacts dangerously with water, emitting flammable gases <sup>1</sup>  |
| 39   | flammable liquid, which can spontaneously lead to violent reaction   |

<sup>1</sup> Water not to be used except by approval of experts.



|      |   |
|------|---|
| 40   | flammable solid, or self-reactive substance, or self-heating substance  |
| 423  | solid which reacts with water, emitting flammable gases, or flammable solid which reacts with water, emitting flammable gases or self-heating solid which reacts with water, emitting flammable gases   |
| X423 | solid which reacts dangerously with water, emitting flammable gases, or flammable solid which reacts dangerously with water, emitting flammable gases, or self-heating solid which reacts dangerously with water, emitting flammable gases <sup>1</sup> |
| 43   | spontaneously flammable (pyrophoric) solid  |
| X432 | spontaneously flammable (pyrophoric) solid which reacts dangerously with water, emitting flammable gases <sup>1</sup>   |
| 44   | flammable solid, in the molten state at an elevated temperature   |
| 446  | flammable solid, toxic, in the molten state, at an elevated temperature   |
| 46   | flammable or self-heating solid, toxic  |
| 462  | toxic solid which reacts with water, emitting flammable gases   |
| X462 | solid which reacts dangerously with water, emitting toxic gases <sup>1</sup>  |
| 48   | flammable or self-heating solid, corrosive  |
| 482  | corrosive solid which reacts with water, emitting flammable gases   |
| X482 | solid which reacts dangerously with water, emitting corrosive gases <sup>1</sup>  |
| 50   | oxidizing (fire-intensifying) substance   |
| 539  | flammable organic peroxide  |
| 55   | strongly oxidizing (fire-intensifying) substance  |
| 556  | strongly oxidizing (fire-intensifying) substance, toxic   |
| 558  | strongly oxidizing (fire-intensifying) substance, corrosive   |
| 559  | strongly oxidizing (fire-intensifying) substance, which can spontaneously lead to violent reaction  |
| 56   | oxidizing substance (fire-intensifying), toxic  |
| 568  | oxidizing substance (fire-intensifying), toxic, corrosive   |
| 58   | oxidizing substance (fire-intensifying), corrosive  |
| 59   | oxidizing substance (fire-intensifying) which can spontaneously lead to violent reaction  |
| 60   | toxic or slightly toxic substance   |
| 606  | infectious substance  |
| 623  | toxic liquid, which reacts with water, emitting flammable gases   |
| 63   | toxic substance, flammable (flash-point between 23 °C and 60 °C, inclusive)   |
| 638  | toxic substance, flammable (flash-point between 23 °C and 60 °C, inclusive), corrosive  |
| 639  | toxic substance, flammable (flash-point not above 60 °C) which can spontaneously lead to violent reaction   |
| 64   | toxic solid, flammable or self-heating  |
| 642  | toxic solid, which reacts with water, emitting flammable gases  |
| 65   | toxic substance, oxidizing (fire-intensifying)  |
| 66   | highly toxic substance  |
| 663  | highly toxic substance, flammable (flash-point not above 60 °C)   |
| 664  | highly toxic solid, flammable or self-heating   |
| 665  | highly toxic substance, oxidizing (fire-intensifying)   |
| 668  | highly toxic substance, corrosive   |
| 669  | highly toxic substance which can spontaneously lead to violent reaction   |
| 68   | toxic substance, corrosive  |
| 69   | toxic or slightly toxic substance, which can spontaneously lead to violent reaction   |

<sup>1</sup> Water not to be used except by approval of experts.



|      |   |
|------|---|
| 70   | radioactive material  |
| 78   | radioactive material, corrosive   |
| 80   | corrosive or slightly corrosive substance   |
| X80  | corrosive or slightly corrosive substance, which reacts dangerously with water <sup>1</sup>   |
| 823  | corrosive liquid which reacts with water, emitting flammable gases  |
| 83   | corrosive or slightly corrosive substance, flammable (flash-point between 23 °C and 60 °C, inclusive)   |
| X83  | corrosive or slightly corrosive substance, flammable, (flash-point between 23 °C and 60 °C, inclusive), which reacts dangerously with water <sup>1</sup>  |
| 839  | corrosive or slightly corrosive substance, flammable (flash-point between 23 °C and 60 °C inclusive) which can spontaneously lead to violent reaction   |
| X839 | corrosive or slightly corrosive substance, flammable (flash-point between 23 °C and 60 °C inclusive), which can spontaneously lead to violent reaction and which reacts dangerously with water <sup>1</sup> |
| 84   | corrosive solid, flammable or self-heating  |
| 842  | corrosive solid which reacts with water, emitting flammable gases   |
| 85   | corrosive or slightly corrosive substance, oxidizing (fire-intensifying)  |
| 856  | corrosive or slightly corrosive substance, oxidizing (fire-intensifying) and toxic  |
| 86   | corrosive or slightly corrosive substance, toxic  |
| 88   | highly corrosive substance  |
| X88  | highly corrosive substance, which reacts dangerously with water <sup>1</sup>  |
| 883  | highly corrosive substance, flammable (flash-point between 23 °C and 60 °C inclusive)   |
| 884  | highly corrosive solid, flammable or self-heating   |
| 885  | highly corrosive substance, oxidizing (fire-intensifying)   |
| 886  | highly corrosive substance, toxic   |
| X886 | highly corrosive substance, toxic, which reacts dangerously with water <sup>1</sup>   |
| 89   | corrosive or slightly corrosive substance, which can spontaneously lead to violent reaction   |
| 90   | environmentally hazardous substance; miscellaneous dangerous substances   |
| 99   | miscellaneous dangerous substance carried at an elevated temperature.   |

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<sup>1</sup> Water not to be used except by approval of experts.

### 5.3.3 Mark for elevated temperature substances

Tank-vehicles, tank-containers, portable tanks, special vehicles or containers or especially equipped vehicles or containers for which a mark for elevated temperature substances is required according to special provision 580 in Column (6) of Table A of Chapter 3.2 shall bear on both sides and at the rear for vehicles, and on both sides and at each end for containers, tank-containers and portable tanks, a triangular shaped mark with sides of at least 250 mm, to be shown in red, as reproduced below.



5.3.4 *(Reserved)*

5.3.5 *(Reserved)*

### 5.3.6 Environmentally hazardous substance mark

When a placard is required to be displayed in accordance with the provisions of section 5.3.1, containers, MEGCs, tank-containers, portable tanks and vehicles containing environmentally hazardous substances meeting the criteria of 2.2.9.1.10 shall be marked with the environmentally hazardous substance mark shown in 5.2.1.8.3. The provisions of section 5.3.1 concerning placards shall apply mutatis mutandis to the mark.

## CHAPTER 5.4

### DOCUMENTATION

- 5.4.0 Any carriage of goods governed by ADR shall be accompanied by the documentation prescribed in this Chapter, as appropriate, unless exempted under 1.1.3.1 to 1.1.3.5.

**NOTE 1:** For the list of documentation to be carried on board transport units, see 8.1.2.

**NOTE 2:** The use of electronic data processing (EDP) or electronic data interchange (EDI) techniques as an aid to or instead of paper documentation is permitted, provided that the procedures used for the capture, storage and processing of electronics data meet the legal requirements as regards the evidential value and availability of data during transport in a manner at least equivalent to that of paper documentation.

#### 5.4.1 Dangerous goods transport document and related information

##### 5.4.1.1 General information required in the transport document

- 5.4.1.1.1 The transport document(s) shall contain the following information for each dangerous substance, material or article offered for carriage:

- (a) the UN number preceded by the letters "UN";
- (b) the proper shipping name supplemented, when applicable (see 3.1.2.8.1) with the technical name in brackets (see 3.1.2.8.1.1), as determined in accordance with 3.1.2;
- (c) - for substances and articles of Class 1: the classification code given in Column (3b) of Table A in Chapter 3.2.

When, in Column (5) of Table A in Chapter 3.2, label model numbers other than 1, 1.4, 1.5 and 1.6 are given, these label model numbers, in brackets, shall follow the classification code;

- for radioactive material of Class 7: the Class number: "7";

**NOTE:** For radioactive material with a subsidiary risk, see also special provision 172 in Chapter 3.3.

- for substances and articles of other classes: the label model numbers given in Column (5) of Table A in Chapter 3.2 or applicable according to a special provision referred to in Column (6). When more than one label model numbers are given, the numbers following the first one shall be given in brackets. For substances and articles for which no label model is given in Column (5) of Table A in Chapter 3.2, their class according to Column (3a) shall be given instead;
- (d) where assigned, the packing group for the substance which may be preceded by the letters "PG" (e.g. "PG II"), or the initials corresponding to the words "Packing Group" in the languages used according to 5.4.1.4.1;

**NOTE:** For radioactive material of Class 7 with subsidiary risks, see special provision 172 (b) in Chapter 3.3.

- (e) the number and a description of the packages when applicable. UN packaging codes may only be used to supplement the description of the kind of package (e.g. one box (4G));
- (f) the total quantity of each item of dangerous goods bearing a different UN number, proper shipping name or, when applicable, packing group (as a volume or as a gross mass, or as a net mass as appropriate);

**NOTE 1:** *In the case of intended application of 1.1.3.6, the total quantity of dangerous goods for each transport category shall be indicated in the transport document in accordance with 1.1.3.6.3.*

**NOTE 2:** *For dangerous goods in machinery or equipment specified in this Annex, the quantity indicated shall be the total quantity of dangerous goods contained therein in kilograms or litres as appropriate.*

- (g) the name and address of the consignor;
- (h) the name and address of the consignee(s). With the agreement of the competent authorities of the countries concerned by the carriage, when dangerous goods are carried to be delivered to multiple consignees who cannot be identified at the start of the carriage, the words "Delivery Sale" may be given instead;
- (i) a declaration as required by the terms of any special agreement;
- (j) *(Reserved)*
- (k) where assigned, the tunnel restriction code given in Column (15) of Table A of Chapter 3.2, in capitals within parenthesis. The tunnel restriction code need not be added in the transport document where the carriage is known beforehand not to pass through a tunnel with restrictions for carriage of dangerous goods.

The location and order in which the elements of information required appear in the transport document is left optional, except that (a), (b), (c), (d) and (k) shall be shown in the order listed above (i.e. (a), (b), (c), (d), (k)) with no information interspersed, except as provided in ADR.

Examples of such permitted dangerous goods descriptions are:

**"UN 1098 ALLYL ALCOHOL, 6.1 (3), I, (C/D)" or  
"UN 1098, ALLYL ALCOHOL, 6.1 (3), PG I, (C/D)"**

5.4.1.1.2 The information required on a transport document shall be legible.

Although upper case is used in Chapter 3.1 and in Table A in Chapter 3.2 to indicate the elements which shall be part of the proper shipping name, and although upper and lower case are used in this Chapter to indicate the information required in the transport document, except for the provisions in 5.4.1.1.1 (k), the use of upper or of lower case for entering the information in the transport document is left optional.

5.4.1.1.3 *Special provisions for wastes*

If waste containing dangerous goods (other than radioactive wastes) is being carried, the UN number and the proper shipping name shall be preceded by the word "**WASTE**", unless this term is part of the proper shipping name, e.g.:

"**WASTE, UN 1230 METHANOL, 3 (6.1), II, (D/E)**", or  
"**WASTE, UN 1230 METHANOL, 3 (6.1), PG II, (D/E)**", or  
"**WASTE, UN 1993 FLAMMABLE LIQUID, N.O.S. (toluene and ethyl alcohol), 3, II, (D/E)**", or  
"**WASTE, UN 1993 FLAMMABLE LIQUID, N.O.S. (toluene and ethyl alcohol), 3, PG II, (D/E)**"

If the provision for waste as set out in 2.1.3.5.5 is applied, the following shall be added to the proper shipping name:

"WASTE IN ACCORDANCE WITH 2.1.3.5.5" (e.g. "UN 3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, II, (E), WASTE IN ACCORDANCE WITH 2.1.3.5.5").

The technical name, as prescribed in Chapter 3.3, special provision 274, need not be added.

5.4.1.1.4 *Special provisions for dangerous goods packed in limited quantities*

No information is required in the transport document, if any, for carriage of dangerous goods packed in limited quantities according to Chapter 3.4.

5.4.1.1.5 *Special provisions for salvage packagings*

When dangerous goods are carried in a salvage packaging, the words "**SALVAGE PACKAGE**" shall be added after the description of the goods in the transport document.

5.4.1.1.6 *Special provision for empty means of containment, uncleaned*

5.4.1.1.6.1 For empty means of containment, uncleaned, which contain the residue of dangerous goods of classes other than Class 7, the words "EMPTY, UNCLEANED" or "RESIDUE, LAST CONTAINED" shall be indicated before or after the proper shipping name required in 5.4.1.1.1 (b). Moreover, 5.4.1.1.1 (f) does not apply.

5.4.1.1.6.2 The special provision of 5.4.1.1.6.1 may be replaced with the provisions of 5.4.1.1.6.2.1, 5.4.1.1.6.2.2 or 5.4.1.1.6.2.3, as appropriate.

5.4.1.1.6.2.1 For empty packagings, uncleaned, which contain the residue of dangerous goods of classes other than Class 7, including empty uncleaned receptacles for gases with a capacity of not more than 1000 litres, the particulars according to 5.4.1.1.1 (a), (b), (c), (d), (e) and (f) are replaced with "EMPTY PACKAGING", "EMPTY RECEPTACLE", "EMPTY IBC" or "EMPTY LARGE PACKAGING", as appropriate, followed by the information of the goods last loaded, as described in 5.4.1.1.1 (c).

See example as follows: "EMPTY PACKAGING, 6.1 (3)".

In addition, in such a case, if the dangerous goods last loaded are goods of Class 2, the information prescribed in 5.4.1.1.1 (c) may be replaced by the number of the class "2".

5.4.1.1.6.2.2 For empty means of containment other than packagings, uncleaned, which contain the residue of dangerous goods of classes other than Class 7 and for empty uncleaned receptacles for gases with a capacity of more than 1000 litres, the particulars according to

5.4.1.1.1 (a) to (d) and (k) are preceded by "EMPTY TANK-VEHICLE", "EMPTY DEMOUNTABLE TANK", "EMPTY TANK-CONTAINER", "EMPTY PORTABLE TANK", "EMPTY BATTERY-VEHICLE", "EMPTY MEGC", "EMPTY MEMU", "EMPTY VEHICLE", "EMPTY CONTAINER" or "EMPTY RECEPTACLE", as appropriate, followed by the words "LAST LOAD:". Moreover, paragraph 5.4.1.1.1 (f) does not apply.

See examples as follows:

"EMPTY TANK-VEHICLE, LAST LOAD: UN 1098 ALLYL ALCOHOL, 6.1 (3), I, (C/D)" or

"EMPTY TANK-VEHICLE, LAST LOAD: UN 1098 ALLYL ALCOHOL, 6.1 (3), PG I, (C/D)".

5.4.1.1.6.2.3 When empty means of containment, uncleaned, which contain the residue of dangerous goods of classes other than Class 7, are returned to the consignor, the transport documents prepared for the full-capacity carriage of these goods may also be used. In such cases, the indication of the quantity is to be eliminated (by effacing it, striking it out or any other means) and replaced by the words "EMPTY, UNCLEARED RETURN".

5.4.1.1.6.3 (a) If empty tanks, battery- vehicles and MEGCs, uncleaned, are carried to the nearest place where cleaning or repair can be carried out in accordance with the provisions of 4.3.2.4.3, the following additional entry shall be made in the transport document: **"Carriage in accordance with 4.3.2.4.3"**.

(b) If empty vehicles and containers, uncleaned, are carried to the nearest place where cleaning or repair can be carried out in accordance with the provisions of 7.5.8.1, the following additional entry shall be made in the transport document: **"Carriage in accordance with 7.5.8.1"**.

5.4.1.1.6.4 For the carriage of fixed tanks (tank vehicles), demountable tanks, battery-vehicles, tank-containers and MEGCs under the conditions of 4.3.2.4.4, the following entry shall be included in the transport document: "Carriage in accordance with 4.3.2.4.4".

5.4.1.1.7 *Special provisions for carriage in a transport chain including maritime or air carriage*

For carriage in accordance with 1.1.4.2.1, a statement shall be included in the transport document, as follows: **"Carriage in accordance with 1.1.4.2.1"**.

5.4.1.1.8 *(Reserved)*

5.4.1.1.9 *(Reserved)*

5.4.1.1.10 *(Deleted)*

5.4.1.1.11 *Special provisions for the carriage of IBCs or portable tanks after the date of expiry of the last periodic test or inspection*

For carriage in accordance with 4.1.2.2 (b), 6.7.2.19.6 (b), 6.7.3.15.6 (b) or 6.7.4.14.6 (b), a statement to this effect shall be included in the transport document, as follows: **"Carriage in accordance with 4.1.2.2 (b)"**, **"Carriage in accordance with 6.7.2.19.6 (b)"**, **"Carriage in accordance with 6.7.3.15.6 (b)"** or **"Carriage in accordance with 6.7.4.14.6 (b)"** as appropriate.

5.4.1.1.12 *(Reserved)*

5.4.1.1.13 *Special provisions for carriage in multi-compartment tank-vehicles or transport units with more than one tank*

When by derogation from 5.3.2.1.2 a multi-compartment tank-vehicle or a transport unit with more than one tank is marked in accordance with 5.3.2.1.3, the substances contained in each tank or in each compartment of a tank shall be specified in the transport document.

5.4.1.1.14 *Special provisions for the carriage of substances carried under elevated temperature*

If the proper shipping name of a substance which is carried or offered for carriage in a liquid state at a temperature equal to or exceeding 100 °C, or in a solid state at a temperature equal to or exceeding 240 °C, does not convey the elevated temperature condition (for example, by using the term "MOLTEN" or "ELEVATED TEMPERATURE" as part of the proper shipping name), the word "**HOT**" shall immediately precede the proper shipping name.

5.4.1.1.15 *Special provisions for the carriage of substances stabilized by temperature control*

If the word "STABILIZED" is part of the proper shipping name (see also 3.1.2.6), when stabilization is by means of temperature control, the control and emergency temperatures (see 2.2.41.1.17) shall be indicated in the transport document, as follows:

**"Control temperature: ....°C Emergency temperature: .... °C"**

5.4.1.1.16 *Information required in accordance with special provision 640 in Chapter 3.3*

Where it is required by special provision 640 of Chapter 3.3, the transport document shall bear the inscription "**Special provision 640X**" where "X" is the capital letter appearing after the pertinent reference to special provision 640 in column (6) of Table A of Chapter 3.2.

5.4.1.1.17 *Special provisions for the carriage of solids in bulk containers conforming to 6.11.4*

When solid substances are carried in bulk containers conforming to 6.11.4, the following statement shall be shown on the transport document (see NOTE at the beginning of 6.11.4):

**"Bulk container BK(x) approved by the competent authority of..."**

**5.4.1.2** *Additional or special information required for certain classes*

5.4.1.2.1 *Special provisions for Class 1*

(a) The transport document shall indicate, in addition to the requirements in 5.4.1.1.1 (f):

- the total net mass, in kg, of explosive contents <sup>1</sup> for each substance or article bearing a different UN number;
- the total net mass, in kg, of explosive contents <sup>1</sup> for all substances and articles covered by the transport document;

(b) For mixed packing of two different goods, the description of the goods in the transport document shall include the UN numbers and names printed in capitals in Columns (1) and (2) of Table A of Chapter 3.2 of both substances or articles. If more than two different goods are contained in the same package in conformity with the mixed packing provisions given in 4.1.10 special provisions MP1, MP2 and MP20 to MP24, the transport document shall indicate under the description of the goods the UN numbers of all the substances and articles contained in the package, in the form, "**Goods of UN Nos...**";

<sup>1</sup> For articles, "explosive contents" means the explosive substance contained in the article.



- (c) For the carriage of substances and articles assigned to an n.o.s. entry or the entry "0190 SAMPLES, EXPLOSIVE" or packed conforming to packing instruction P101 of 4.1.4.1, a copy of the competent authority approval with the conditions of carriage shall be attached to the transport document. It shall be drafted in an official language of the forwarding country and also, if that language is not English, French or German, in English, French or German unless agreements, if any, concluded between the countries concerned in the transport operation provide otherwise;
- (d) If packages containing substances and articles of compatibility groups B and D are loaded together in the same vehicle in accordance with the requirements of 7.5.2.2, a copy of the competent authority approval of the protective compartment or containment system in accordance with 7.5.2.2, note <sup>a</sup> under the table, shall be attached to the transport document. It shall be drafted in an official language of the forwarding country and also, if that language is not English, French or German, in English, French or German unless agreements, if any, concluded between the countries concerned in the transport operation provide otherwise;
- (e) When explosive substances or articles are carried in packagings conforming to packing instruction P101, the transport document shall bear the inscription **"Packaging approved by the competent authority of ..."** (see 4.1.4.1, packing instruction P101);
- (f) *(Reserved)*
- (g) When fireworks of UN Nos. 0333, 0334, 0335, 0336 and 0337 are carried, the transport document shall bear the inscription: **"Classification recognized by the competent authority of ..."** (State referred to in special provision 645 of 3.3.1).

**NOTE:** *The commercial or technical name of the goods may be entered additionally to the proper shipping name in the transport document.*

#### 5.4.1.2.2 *Additional provisions for Class 2*

- (a) For the carriage of mixtures (see 2.2.2.1.1) in tanks (dismountable tanks, fixed tanks, portable tanks, tank-containers or elements of battery-vehicles or of MEGCs), the composition of the mixture as a percentage of the volume or as a percentage of the mass shall be given. Constituents below 1% need not be indicated (see also 3.1.2.8.1.2). The composition of the mixture need not be given when the technical names authorized by special provisions 581, 582 or 583 are used to supplement the proper shipping name;
- (b) For the carriage of cylinders, tubes, pressure drums, cryogenic receptacles and bundles of cylinders under the conditions of 4.1.6.10, the following entry shall be included in the transport document: **"Carriage in accordance with 4.1.6.10"**.

#### 5.4.1.2.3 *Additional provisions for self-reactive substances of Class 4.1 and organic peroxides of Class 5.2*

- 5.4.1.2.3.1 For self-reactive substances of Class 4.1 and for organic peroxides of Class 5.2 that require temperature control during carriage (for self-reactive substances see 2.2.41.1.17; for organic peroxides, see 2.2.52.1.15 to 2.2.52.1.17), the control and emergency temperatures shall be indicated in the transport document, as follows:

**"Control temperature: ... °C    Emergency temperature: ... °C"**.



- 5.4.1.2.3.2 When for certain self-reactive substances of Class 4.1 and certain organic peroxides of Class 5.2 the competent authority has permitted the label conforming to model No.1 to be dispensed with for a specific packaging (see 5.2.2.1.9), a statement to this effect shall be included in the transport document, as follows:

**"The label conforming to model No. 1 is not required".**

- 5.4.1.2.3.3 When organic peroxides and self-reactive substances are carried under conditions where approval is required (for organic peroxides see 2.2.52.1.8, 4.1.7.2.2 and special provision TA2 of 6.8.4; for self-reactive substances see 2.2.41.1.13 and 4.1.7.2.2, a statement to this effect shall be included in the transport document, e.g. **"Carriage in accordance with 2.2.52.1.8"**.

A copy of the competent authority approval with the conditions of carriage shall be attached to the transport document. It shall be drafted in an official language of the forwarding country and also, if that language is not English, French or German, in English, French or German unless agreements, if any, concluded between the countries concerned in the transport operation provide otherwise.

- 5.4.1.2.3.4 When a sample of an organic peroxide (see 2.2.52.1.9) or a self-reactive substance (see 2.2.41.1.15) is carried, a statement to this effect shall be included in the transport document, e.g. **"Carriage in accordance with 2.2.52.1.9"**.

- 5.4.1.2.3.5 When self-reactive substances type G (see Manual of Tests and Criteria, Part II, paragraph 20.4.2 (g)) are carried, the following statement may be given in the transport document: **"Not a self-reactive substance of Class 4.1"**.

When organic peroxides type G (see Manual of Tests and Criteria, Part II, paragraph 20.4.3 (g)) are carried, the following statement may be given in the transport document: **"Not a substance of Class 5.2"**.

- 5.4.1.2.4 *Additional provisions for Class 6.2*

In addition to the information concerning the consignee (see 5.4.1.1.1 (h)), the name and telephone number of a responsible person shall be indicated.

- 5.4.1.2.5 *Additional provisions for Class 7*

- 5.4.1.2.5.1 The following information shall be inserted in the transport document for each consignment of Class 7 material, as applicable, in the order given and immediately after the information required under 5.4.1.1.1 (a) to (c) and (k):

- (a) The name or symbol of each radionuclide or, for mixtures of radionuclides, an appropriate general description or a list of the most restrictive nuclides;
- (b) A description of the physical and chemical form of the material, or a notation that the material is special form radioactive material or low dispersible radioactive material. A generic chemical description is acceptable for chemical form. For radioactive material with a subsidiary risk, see last sentence of special provision 172 of Chapter 3.3;
- (c) The maximum activity of the radioactive contents during carriage expressed in becquerels (Bq) with an appropriate SI prefix symbol (see 1.2.2.1). For fissile material, the mass of fissile material in grams (g), or appropriate multiples thereof, may be used in place of activity;
- (d) The category of the package, i.e. I-WHITE, II-YELLOW, III-YELLOW;
- (e) The transport index (categories II-YELLOW and III-YELLOW only);

- (f) For consignments including fissile material other than consignments excepted under 6.4.11.2, the criticality safety index;
- (g) The identification mark for each competent authority approval certificate (special form radioactive material, low dispersible radioactive material, special arrangement, package design, or shipment) applicable to the consignment;
- (h) For consignments of more than one package, the information required in 5.4.1.1.1 and in (a) to (g) above shall be given for each package. For packages in an overpack, container, or vehicle, a detailed statement of the contents of each package within the overpack, container, or vehicle and, where appropriate, of each overpack, container, or vehicle shall be included. If packages are to be removed from the overpack, container, or vehicle at a point of intermediate unloading, appropriate transport documents shall be made available;
- (i) Where a consignment is required to be shipped under exclusive use, the statement "**EXCLUSIVE USE SHIPMENT**"; and
- (j) For LSA-II and LSA-III substances, SCO-I and SCO-II, the total activity of the consignment as a multiple of  $A_2$ .

5.4.1.2.5.2 The consignor shall provide in the transport documents a statement regarding actions, if any, that are required to be taken by the carrier. The statement shall be in the languages deemed necessary by the carrier or the authorities concerned, and shall include at least the following information:

- (a) Supplementary requirements for loading, stowage, carriage, handling and unloading of the package, overpack or container including any special stowage provisions for the safe dissipation of heat (see special provision CV33 (3.2) of 7.5.11), or a statement that no such requirements are necessary;
- (b) Restrictions on the mode of carriage or vehicle and any necessary routing instructions;
- (c) Emergency arrangements appropriate to the consignment.

5.4.1.2.5.3 In case of international carriage of packages requiring competent authority design or shipment approval, for which different approval types apply in the different countries concerned, the UN number and proper shipping name required in 5.4.1.1.1 shall be in accordance with the certificate of the country of origin of design.

5.4.1.2.5.4 The applicable competent authority certificates need not necessarily accompany the consignment. The consignor shall make them available to the carrier(s) before loading and unloading.

**5.4.1.3** *(Reserved)*

**5.4.1.4** *Format and language*

5.4.1.4.1 The document containing the information in 5.4.1.1 and 5.4.1.2 may be that already required by other regulations in force for carriage by another mode of carriage. In case of multiple consignees, the name and address of the consignees and the quantities delivered enabling the nature and quantities carried to be evaluated at any time, may be entered in other documents which are to be used or in any other documents made mandatory according to other specific regulations and which shall be on board the vehicle.

The particulars to be entered in the document shall be drafted in an official language of the forwarding country, and also, if that language is not English, French, or German, in English, French or German, unless international road carriage tariffs, if any, or agreements concluded between the countries concerned in the transport operation, provide otherwise.

- 5.4.1.4.2 If by reason of the size of the load, a consignment cannot be loaded in its entirety on a single transport unit, at least as many separate documents, or copies of the single document, shall be made out as transport units loaded. Furthermore, in all cases, separate transport documents shall be made out for consignments or parts of consignments which may not be loaded together on the same vehicle by reason of the prohibitions set forth in 7.5.2.

The information relative to the hazards of the goods to be carried (as indicated in 5.4.1.1) may be incorporated in, or combined with, an existing transport or cargo handling document. The layout of the information in the document (or the order of transmission of the corresponding data by electronic data processing (EDP) or electronic data interchange (EDI) techniques) shall be as provided in 5.4.1.1.1.

When an existing transport document or cargo handling document cannot be used for the purposes of dangerous goods documentation for multimodal transport, the use of documents corresponding to the example shown in 5.4.4 is considered advisable <sup>2</sup>.

#### 5.4.1.5 *Non-dangerous goods*

When goods mentioned by name in Table A of Chapter 3.2, are not subject to ADR because they are considered as non-dangerous according to Part 2, the consignor may enter in the transport document a statement to that effect, e.g.: "**Not goods of Class ...**"

**NOTE:** *This provision may be used in particular when the consignor considers that, due to the chemical nature of the goods (e.g. solutions and mixtures) carried or to the fact that such goods are deemed dangerous for other regulatory purposes the consignment might be subject to control during the journey.*

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<sup>2</sup> If used, the relevant recommendations of the UNECE United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) may be consulted, in particular Recommendation No. 1 (United Nations Layout Key for Trade Documents) (ECE/TRADE/137, edition 81.3), UN Layout Key for Trade Documents - Guidelines for Applications (ECE/TRADE/270, edition 2002), Recommendation No. 11 (Documentary Aspects of the International Transport of Dangerous Goods) (ECE/TRADE/204, edition 96.1 – currently under revision) and Recommendation No. 22 (Layout Key for Standard Consignment Instructions) (ECE/TRADE/168, edition 1989). Refer also to the UN/CEFACT Summary of Trade Facilitation Recommendations (ECE/TRADE/346, edition 2006) and the United Nations Trade Data Elements Directory (UNTDDED) (ECE/TRADE/362, edition 2005).

#### 5.4.2 Container packing certificate

If the carriage of dangerous goods in a large container precedes a voyage by sea, a container packing certificate conforming to section 5.4.2 of the IMDG Code<sup>3</sup> shall be provided with the transport document<sup>4</sup>.

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<sup>3</sup> Guidelines for use in practice and in training for loading goods in transport units have also been drawn up by the International Maritime Organization (IMO), the International Labour Organization (ILO) and the United Nations Economic Commission for Europe (UNECE) and have been published by IMO ("IMO/ILO/UNECE Guidelines for Packing of Cargo Transport Units (CTUs)").

<sup>4</sup> Section 5.4.2 of the IMDG Code requires the following:

##### **"5.4.2 Container/vehicle packing certificate"**

5.4.2.1 When dangerous goods are packed or loaded into any container or vehicle, those responsible for packing the container or vehicle shall provide a "container/vehicle packing certificate" specifying the container/vehicle identification number(s) and certifying that the operation has been carried out in accordance with the following conditions:

- .1 The container/vehicle was clean, dry and apparently fit to receive the goods;
- .2 Packages, which need to be segregated in accordance with applicable segregation requirements, have not been packed together onto or in the container/vehicle [unless approved by the competent authority concerned in accordance with 7.2.2.3 (of the IMDG Code)];
- .3 All packages have been externally inspected for damage, and only sound packages have been loaded;
- .4 Drums have been stowed in an upright position, unless otherwise authorized by the competent authority, and all goods have been properly loaded, and, where necessary, adequately braced with securing material to suit the mode(s) of transport for the intended journey;
- .5 Goods loaded in bulk have been evenly distributed within the container/vehicle;
- .6 For consignments including goods of class 1, other than division 1.4, the container/vehicle is structurally serviceable in conformity with 7.4.6 (of the IMDG Code);
- .7 The container/vehicle and packages are properly marked, labelled, and placarded, as appropriate;
- .8 When solid carbon dioxide (CO<sub>2</sub>-dry ice) is used for cooling purposes, the container/vehicle is externally marked or labelled in a conspicuous place, such as, at the door end, with the words: "DANGEROUS CO<sub>2</sub> GAS (DRY ICE) INSIDE. VENTILATE THOROUGHLY BEFORE ENTERING"; and
- .9 A dangerous goods transport document, as indicated in 5.4.1 (of the IMDG Code) has been received for each dangerous goods consignment loaded in the container/vehicle.

**NOTE:** The container/vehicle packing certificate is not required for tanks

5.4.2.2 The information required in the dangerous goods transport document and the container/vehicle packing certificate may be incorporated into a single document; if not, these documents shall be attached one to the other. If the information is incorporated into a single document, the document shall include a signed declaration such as "It is declared that the packing of the goods into the container/vehicle has been carried out in accordance with the applicable provisions". This declaration shall be dated and the person signing this declaration shall be identified on the document. Facsimile signatures are acceptable where applicable laws and regulations recognize the legal validity of facsimile signatures.

5.4.2.3 If the dangerous goods documentation is presented to the carrier by means of electronic data processing (EDP) or electronic data interchange (EDI) transmission techniques, the signature(s) may be replaced by the name(s) (in capitals) of the person(s) authorized to sign."

The functions of the transport document required under 5.4.1 and of the container packing certificate as provided above may be incorporated into a single document; if not, these documents shall be attached one to the other. If these functions are incorporated into a single document, the inclusion in the transport document of a statement that the loading of the container has been carried out in accordance with the applicable modal regulations together with the identification of the person responsible for the container packing certificate shall be sufficient.

**NOTE:** *The container packing certificate is not required for portable tanks, tank-containers and MEGCs.*










### **5.4.3 Instructions in writing**





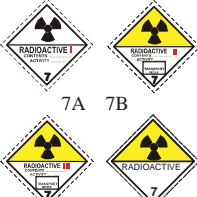



- 5.4.3.1 As an aid during an accident emergency situation that may occur or arise during carriage, instructions in writing in the form specified in 5.4.3.4 shall be carried in the vehicle crew's cab and shall be readily available.
- 5.4.3.2 These instructions shall be provided by the carrier to the vehicle crew in language(s) that each member can read and understand before the commencement of the journey. The carrier shall ensure that each member of the vehicle crew concerned understands and is capable of carrying out the instructions properly.
- 5.4.3.3 Before the start of the journey, the members of the vehicle crew shall inform themselves of the dangerous goods loaded and consult the instructions in writing for details on actions to be taken in the event of an accident or emergency.
- 5.4.3.4 The instructions in writing shall correspond to the following four page model as regards its form and contents.

**INSTRUCTIONS IN WRITING**Actions in the event of an accident or emergency

In the event of an accident or emergency that may occur or arise during carriage, the members of the vehicle crew shall take the following actions where safe and practicable to do so:

- Apply the braking system, stop the engine and isolate the battery by activating the master switch where available;
- Avoid sources of ignition, in particular, do not smoke or switch on any electrical equipment;
- Inform the appropriate emergency services, giving as much information about the incident or accident and substances involved as possible;
- Put on the warning vest and place the self-standing warning signs as appropriate;
- Keep the transport documents readily available for responders on arrival;
- Do not walk into or touch spilled substances and avoid inhalation of fumes, smoke, dusts and vapours by staying up wind;
- Where appropriate and safe to do so, use the fire extinguishers to put out small/initial fires in tyres, brakes and engine compartments;
- Fires in load compartments shall not be tackled by members of the vehicle crew;
- Where appropriate and safe to do so, use on-board equipment to prevent leakages into the aquatic environment or the sewage system and to contain spillages;
- Move away from the vicinity of the accident or emergency, advise other persons to move away and follow the advice of the emergency services;
- Remove any contaminated clothing and used contaminated protective equipment and dispose of it safely.

| Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods by class and on actions subject to prevailing circumstances      |   |   |
|--|---|---|
| Danger labels and placards   | Hazard characteristics  | Additional guidance   |
| (1)  | (2)   | (3)   |
| Explosive substances and articles<br><br>1 1.5 1.6                                  | May have a range of properties and effects such as mass detonation; projection of fragments; intense fire/heat flux; formation of bright light, loud noise or smoke.<br>Sensitive to shocks and/or impacts and/or heat.   | Take cover but stay away from windows.  |
| Explosive substances and articles<br><br>1.4  | Slight risk of explosion and fire.  | Take cover.   |
| Flammable gases<br><br>2.1  | Risk of fire.<br>Risk of explosion.<br>May be under pressure.<br>Risk of asphyxiation.<br>May cause burns and/or frostbite.<br>Contents may explode when heated.  | Take cover.<br>Keep out of low areas.   |
| Non-flammable, non-toxic gases<br><br>2.2   | Risk of asphyxiation.<br>May be under pressure.<br>May cause frostbite.<br>Contents may explode when heated.  | Take cover.<br>Keep out of low areas.   |
| Toxic gases<br><br>2.3  | Risk of intoxication.<br>May be under pressure.<br>May cause burns and/or frostbite.<br>Contents may explode when heated.   | Use emergency escape mask.<br>Take cover.<br>Keep out of low areas.   |
| Flammable liquids<br><br>3  | Risk of fire.<br>Risk of explosion.<br>Contents may explode when heated.  | Take cover.<br>Keep out of low areas.<br>Prevent leaking substances from running into the aquatic environment or the sewage system. |
| Flammable solids, self-reactive substances and desensitized explosives<br><br>4.1 | Risk of fire. Flammable or combustible, may be ignited by heat, sparks or flames.<br>May contain self-reactive substances that are liable to exothermic decomposition in the case of heat supply, contact with other substances (such as acids, heavy-metal compounds or amines), friction or shock. This may result in the evolution of harmful and flammable gases or vapours.<br>Contents may explode when heated. | Prevent leaking substances from running into the aquatic environment or the sewage system.  |
| Substances liable to spontaneous combustion<br><br>4.2                            | Risk of spontaneous combustion if packages are damaged or contents are spilled.<br>May react vigorously with water  |   |
| Substances which, in contact with water, emit flammable gases<br><br>4.3          | Risk of fire and explosion in contact with water.   | Spilled substances should be kept dry by covering the spillages.  |

| Danger labels and placards  | Hazard characteristics  | Additional guidance  |
|---|---|--|
| (1)   | (2)   | (3)  |
| Oxidizing substances<br><br>5.1                            | Risk of ignition and explosion.<br>Risk of vigorous reaction in contact with flammable substances.  | Avoid mixing with flammable or combustible substances (e.g. sawdust).                        |
| Organic peroxides<br><br>5.2                               | Risk of exothermic decomposition at elevated temperatures, contact with other substances (such as acids, heavy-metal compounds or amines), friction or shock. This may result in the evolution of harmful and flammable gases or vapours. | Avoid mixing with flammable or combustible substances (e.g. sawdust).                        |
| Toxic substances<br><br>6.1                                | Risk of intoxication.<br>Risk to the aquatic environment and the sewerage system.   | Use emergency escape mask.   |
| Infectious substances<br><br>6.2                           | Risk of infection.<br>Risk to the aquatic environment and the sewerage system.  |  |
| Radioactive material<br><br>7A 7B<br>7C 7D                | Risk of intake and external radiation.  | Limit time of exposure.  |
| Fissile material<br><br>7E                               | Risk of nuclear chain reaction.   |  |
| Corrosive substances<br><br>8                            | Risk of burns.<br>May react vigorously with each other, with water and with other substances.<br>Risk to the aquatic environment and the sewerage system.   | Prevent leaking substances from running into the aquatic environment or the sewerage system. |
| Miscellaneous dangerous substances and articles<br><br>9 | Risk of burns.<br>Risk of fire.<br>Risk of explosion.<br>Risk to the aquatic environment and the sewerage system.   | Prevent leaking substances from running into the aquatic environment or the sewerage system. |

**NOTE 1:** For dangerous goods with multiple risks and for mixed loads, each applicable entry shall be observed.

**NOTE 2:** Additional guidance shown above may be adapted to reflect the classes of dangerous goods to be carried and their means of transport.



**Equipment for personal and general protection**  
**to carry out general actions and hazard specific emergency actions**  
**to be carried on board the vehicle in accordance with section 8.1.5 of ADR**

The following equipment shall be carried on board the transport unit for all danger label numbers:

- for each vehicle, a wheel chock of a size suited to the maximum mass of the vehicle and to the diameter of the wheel;
- two self-standing warning signs;
- eye rinsing liquid<sup>a</sup>; and

for each member of the vehicle crew

- a warning vest (e.g. as described in the EN 471 standard);
- portable lighting apparatus;
- a pair of protective gloves; and
- eye protection (e.g. protective goggles).

Additional equipment required for certain classes:

- an emergency escape mask<sup>b</sup> for each member of the vehicle crew shall be carried on board the vehicle for danger label numbers 2.3 or 6.1;
- a shovel<sup>c</sup>;
- a drain seal<sup>c</sup>;
- a collecting container made of plastics<sup>c</sup>.

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<sup>a</sup> Not required for danger label numbers 1, 1.4, 1.5, 1.6, 2.1, 2.2 and 2.3.

<sup>b</sup> For example an emergency escape mask with a combined gas/dust filter of the A1B1E1K1-P1 or A2B2E2K2-P2 type which is similar to that described in the EN 141 standard.

<sup>c</sup> Only required for danger label numbers 3, 4.1, 4.3, 8 and 9.

**5.4.4      Example of a multimodal dangerous goods form**

Example of a form which may be used as a combined dangerous goods declaration and container packing certificate for multimodal carriage of dangerous goods.

[illegible]

FOR DANGEROUS GOODS: you must specify: UN no., proper shipping name, hazard class, packing group (where assigned) and any other element of information required under applicable national and international regulations

See 5.4.2.

# MULTIMODAL DANGEROUS GOODS FORM

## Continuation Sheet

|                                |  |   |  |                                  |  |          |  |                        |  |
|--------------------------------|--|---|--|----------------------------------|--|----------|--|------------------------|--|
| 1. Shipper / Consignor /Sender |  | 2. Transport document number                        |  |                                  |  |          |  |                        |  |
|                                |  | 3.<br>Page 1 of      Pages                          |  | 4. Shipper's reference           |  |          |  |                        |  |
|                                |  |   |  | 5. Freight Forwarder's reference |  |          |  |                        |  |
| 14. Shipping marks             |  | * Number and kind of packages; description of goods |  | Gross mass (kg)                  |  | Net mass |  | Cube (m <sup>3</sup> ) |  |
|                                |  |   |  |                                  |  |          |  |                        |  |
|                                |  |   |  |                                  |  |          |  |                        |  |

[illegible]

FOR DANGEROUS GOODS: you must specify: UN no., proper shipping name, hazard class, packing group (where assigned) and any other element of information required under applicable national and international regulations

**CHAPTER 5.5****SPECIAL PROVISIONS****5.5.1** *(Deleted)***5.5.2 Special provisions for fumigated vehicles, containers and tanks**

5.5.2.1 For the carriage of UN No. 3359 fumigated unit (vehicle, container or tank) the transport document shall show the information required in 5.4.1.1.1, the date of fumigation and the type and amount of the fumigant used. These particulars shall be drafted in an official language of the forwarding country and also, if the language is not English, French or German, in English, French or German, unless agreements, if any, concluded between the countries concerned in the transport operation provide otherwise. In addition, instructions for disposal of any residual fumigant including fumigation devices (if used) shall be provided.

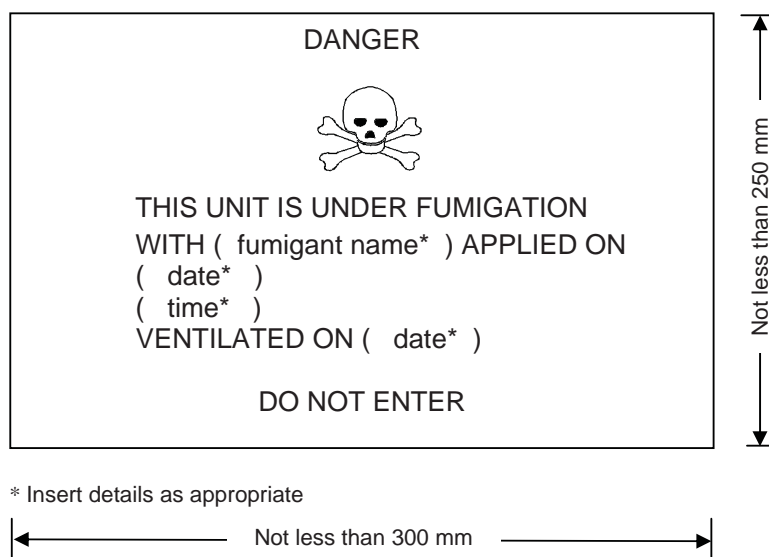
5.5.2.2 A warning sign as specified in 5.5.2.3 shall be placed on each fumigated vehicle, container or tank in a location where it will be easily seen by persons attempting to enter the interior of vehicle, container or tank. The particulars concerning the warning sign shall be drafted in a language considered appropriate by the consignor.

The warning sign, as required by this sub-section, shall remain on the vehicle, container or tank until the following provisions are met:

- (a) The fumigated vehicle, container or tank has been ventilated to remove harmful concentrations of fumigant gas; and
- (b) The fumigated goods or materials have been unloaded.

5.5.2.3 The fumigation warning sign shall be rectangular and shall not be less than 300 mm wide and not less than 250 mm high. The markings shall be black print on a white background with lettering not less than 25 mm high. An illustration of this sign is given in the figure below.

**Fumigation warning sign**



## **PART 6**

**Requirements  
for the construction and testing  
of packagings, intermediate bulk  
containers (IBCs), large packagings,  
tanks and bulk containers**

## CHAPTER 6.1

### REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF PACKAGINGS

#### 6.1.1 General

6.1.1.1 The requirements of this Chapter do not apply to:

- (a) Packages containing radioactive material of Class 7, unless otherwise provided (see 4.1.9);
- (b) Packages containing infectious substances of Class 6.2, unless otherwise provided (see Chapter 6.3, Note and packing instruction P621 of 4.1.4.1);
- (c) Pressure receptacles containing gases of Class 2;
- (d) Packages whose net mass exceeds 400 kg;
- (e) Packagings with a capacity exceeding 450 litres.

6.1.1.2 The requirements for packagings in 6.1.4 are based on packagings currently used. In order to take into account progress in science and technology, there is no objection to the use of packagings having specifications different from those in 6.1.4, provided that they are equally effective, acceptable to the competent authority and able successfully to withstand the tests described in 6.1.1.3 and 6.1.5. Methods of testing other than those described in this Chapter are acceptable, provided they are equivalent, and are recognized by the competent authority.

6.1.1.3 Every packaging intended to contain liquids shall successfully undergo a suitable leakproofness test, and be capable of meeting the appropriate test level indicated in 6.1.5.4.3:

- (a) Before it is first used for carriage;
- (b) After remanufacturing or reconditioning, before it is re-used for carriage;

For this test, packagings need not have their own closures fitted.

The inner receptacle of composite packagings may be tested without the outer packaging provided the test results are not affected.

This test is not necessary for:

- Inner packagings of combination packagings;
- Inner receptacles of composite packagings (glass, porcelain or stoneware), marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii);
- Light gauge metal packagings, marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii).

6.1.1.4 Packagings shall be manufactured, reconditioned and tested under a quality assurance programme which satisfies the competent authority in order to ensure that each packaging meets the requirements of this Chapter.

**NOTE:** ISO 16106:2006 "Packaging – Transport packages for dangerous goods – Dangerous goods packagings, intermediate bulk containers (IBCs) and large packagings – Guidelines for the application of ISO 9001" provides acceptable guidance on procedures which may be followed.

- 6.1.1.5 Manufacturers and subsequent distributors of packagings shall provide information regarding procedures to be followed and a description of the types and dimensions of closures (including required gaskets) and any other components needed to ensure that packages as presented for carriage are capable of passing the applicable performance tests of this Chapter.

## **6.1.2 Code for designating types of packagings**

- 6.1.2.1 The code consists of:

- (a) An Arabic numeral indicating the kind of packaging, e.g. drum, jerrican, etc., followed by;
- (b) A capital letter(s) in Latin characters indicating the nature of the material, e.g. steel, wood, etc., followed where necessary by;
- (c) An Arabic numeral indicating the category of packaging within the kind to which the packaging belongs.

- 6.1.2.2 In the case of composite packagings, two capital letters in Latin characters are used in sequence in the second position of the code. The first indicates the material of the inner receptacle and the second that of the outer packaging.

- 6.1.2.3 In the case of combination packagings only the code number for the outer packaging is used.

- 6.1.2.4 The letters "T", "V" or "W" may follow the packaging code. The letter "T" signifies a salvage packaging conforming to the requirements of 6.1.5.1.11. The letter "V" signifies a special packaging conforming to the requirements of 6.1.5.1.7. The letter "W" signifies that the packaging, although of the same type indicated by the code, is manufactured to a specification different to that in 6.1.4 and is considered equivalent under the requirements of 6.1.1.2.

- 6.1.2.5 The following numerals shall be used for the kinds of packaging:

1. Drum
2. (Reserved)
3. Jerrican
4. Box
5. Bag
6. Composite packaging
7. (Reserved)
0. Light gauge metal packagings

- 6.1.2.6 The following capital letters shall be used for the types of material:

- A. Steel (all types and surface treatments)
- B. Aluminium
- C. Natural wood
- D. Plywood
- F. Reconstituted wood
- G. Fibreboard
- H. Plastics material
- L. Textile
- M. Paper, multiwall
- N. Metal (other than steel or aluminium)
- P. Glass, porcelain or stoneware

**NOTE:** Plastics material is taken to include other polymeric materials such as rubber.



## 6.1.2.7

The following table indicates the codes to be used for designating types of packagings depending on the kind of packagings, the material used for their construction and their category; it also refers to the sub-sections to be consulted for the appropriate requirements:

| Kind          | Material                                | Category                       | Code | Sub-section |
|---------------|---|--------------------------------|------|-------------|
| 1. Drums      | A. Steel                                | non-removable head             | 1A1  | 6.1.4.1     |
|               |   | removable head                 | 1A2  |             |
|               | B. Aluminium                            | non-removable head             | 1B1  | 6.1.4.2     |
|               |   | removable head                 | 1B2  |             |
|               | D. Plywood                              |                                | 1D   | 6.1.4.5     |
|               | G. Fibre                                |                                | 1G   | 6.1.4.7     |
|               | H. Plastics                             | non-removable head             | 1H1  | 6.1.4.8     |
|               |   | removable head                 | 1H2  |             |
|               | N. Metal, other than steel or aluminium | non-removable head             | 1N1  | 6.1.4.3     |
|               |   | removable head                 | 1N2  |             |
| 2. (Reserved) |   |                                |      |             |
| 3. Jerricans  | A. Steel                                | non-removable head             | 3A1  | 6.1.4.4     |
|               |   | removable head                 | 3A2  |             |
|               | B. Aluminium                            | non-removable head             | 3B1  | 6.1.4.4     |
|               |   | removable head                 | 3B2  |             |
|               | H. Plastics                             | non-removable head             | 3H1  | 6.1.4.8     |
|               |   | removable head                 | 3H2  |             |
| 4. Boxes      | A. Steel                                |                                | 4A   | 6.1.4.14    |
|               | B. Aluminium                            |                                | 4B   | 6.1.4.14    |
|               | C. Natural wood                         | ordinary                       | 4C1  | 6.1.4.9     |
|               |   | with sift-proof walls          | 4C2  |             |
|               | D. Plywood                              |                                | 4D   | 6.1.4.10    |
|               | F. Reconstituted wood                   |                                | 4F   | 6.1.4.11    |
|               | G. Fibreboard                           |                                | 4G   | 6.1.4.12    |
|               | H. Plastics                             | expanded                       | 4H1  | 6.1.4.13    |
|               |   | solid                          | 4H2  |             |
| 5. Bags       | H. Woven plastics                       | without inner liner or coating | 5H1  | 6.1.4.16    |
|               |   | sift-proof                     | 5H2  |             |
|               |   | water resistant                | 5H3  |             |
|               | H. Plastics film                        |                                | 5H4  | 6.1.4.17    |
|               | L. Textile                              | without inner liner or coating | 5L1  | 6.1.4.15    |
|               |   | sift-proof                     | 5L2  |             |
|               |   | water resistant                | 5L3  |             |
|               | M. Paper                                | multiwall                      | 5M1  | 6.1.4.18    |
|               |   | multiwall, water resistant     | 5M2  |             |

| Kind                            | Material                                    | Category                               | Code | Sub-section |
|---------------------------------|---|--|------|-------------|
| 6. Composite packagings         | H. Plastics receptacle                      | with outer steel drum                  | 6HA1 | 6.1.4.19    |
|                                 |   | with outer steel crate or box          | 6HA2 |             |
|                                 |   | with outer aluminium drum              | 6HB1 |             |
|                                 |   | with outer aluminium crate or box      | 6HB2 |             |
|                                 |   | with outer wooden box                  | 6HC  |             |
|                                 |   | with outer plywood drum                | 6HD1 |             |
|                                 |   | with outer plywood box                 | 6HD2 |             |
|                                 |   | with outer fibre drum                  | 6HG1 |             |
|                                 |   | with outer fibreboard box              | 6HG2 |             |
|                                 |   | with outer plastics drum               | 6HH1 |             |
|                                 |   | with outer solid plastics box          | 6HH2 |             |
|                                 | P. Glass, porcelain or stoneware receptacle | with outer steel drum                  | 6PA1 | 6.1.4.20    |
|                                 |   | with outer steel crate or box          | 6PA2 |             |
|                                 |   | with outer aluminium drum              | 6PB1 |             |
|                                 |   | with outer aluminium crate or box      | 6PB2 |             |
|                                 |   | with outer wooden box                  | 6PC  |             |
|                                 |   | with outer plywood drum                | 6PD1 |             |
|                                 |   | with outer wickerwork hamper           | 6PD2 |             |
|                                 |   | with outer fibre drum                  | 6PG1 |             |
|                                 |   | with outer fibreboard box              | 6PG2 |             |
|                                 |   | with outer expanded plastics packaging | 6PH1 |             |
|                                 |   | with outer solid plastics packaging    | 6PH2 |             |
| 7. (Reserved)                   |   |  |      |             |
| 0. Light gauge metal packagings | A. Steel                                    | non-removable head                     | 0A1  | 6.1.4.22    |
|                                 |   | removable head                         | 0A2  |             |

### 6.1.3 Marking

**NOTE 1:** The marking indicates that the packaging which bears it corresponds to a successfully tested design type and that it complies with the requirements of this Chapter which are related to the manufacture, but not to the use, of the packaging. In itself, therefore, the mark does not necessarily confirm that the packaging may be used for any substance: generally the type of packaging (e.g. steel drum), its maximum capacity and/or mass, and any special requirements are specified for each substance in Table A of Chapter 3.2.

**NOTE 2:** The marking is intended to be of assistance to packaging manufacturers, reconditioners, packaging users, carriers and regulatory authorities. In relation to the use of a new packaging, the original marking is a means for its manufacturer(s) to identify the type and to indicate those performance test regulations that have been met.

**NOTE 3:** The marking does not always provide full details of the test levels, etc., and these may need to be taken further into account, e.g. by reference to a test certificate, to test

reports or to a register of successfully tested packagings. For example, a packaging having an X or Y marking may be used for substances to which a packing group having a lesser degree of danger has been assigned with the relevant maximum permissible value of the relative density<sup>1</sup> determined by taking into account the factor 1.5 or 2.25 indicated in the packaging test requirements in 6.1.5 as appropriate, i.e. packing group I packaging tested for products of relative density 1.2 could be used as a packing group II packaging for products of relative density 1.8 or a packing group III packaging for products of relative density 2.7, provided of course that all the performance criteria can still be met with the higher relative density product.

- 6.1.3.1 Each packaging intended for use according to the ADR shall bear markings which are durable, legible and placed in a location and of such a size relative to the packaging as to be readily visible. For packages with a gross mass of more than 30 kg, the markings or a duplicate thereof shall appear on the top or on a side of the packaging. Letters, numerals and symbols shall be at least 12 mm high, except for packagings of 30 litres or 30 kg capacity or less, when they shall be at least 6 mm in height and for packagings of 5 litres or 5 kg or less when they shall be of an appropriate size.

The marking shall show:

- (a) (i) The United Nations packaging symbol



This symbol shall not be used for any purpose other than certifying that a packaging complies with the relevant requirements in Chapter 6.1, 6.2, 6.3, 6.5 or 6.6. This symbol shall not be used for packagings which comply with the simplified conditions of 6.1.1.3, 6.1.5.3.1 (e), 6.1.5.3.5 (c), 6.1.5.4, 6.1.5.5.1 and 6.1.5.6 (see also (ii) below). For embossed metal packagings, the capital letters "UN" may be applied instead of the symbol; or

- (ii) The symbol "RID/ADR" for composite packagings (glass, porcelain or stoneware) and light gauge metal packagings conforming to simplified conditions (see 6.1.1.3, 6.1.5.3.1 (e), 6.1.5.3.5 (c), 6.1.5.4, 6.1.5.5.1 and 6.1.5.6);

**NOTE:** Packagings bearing this symbol are approved for rail, road and inland waterways transport operations which are subject to the provisions of RID, ADR and ADN respectively. They are not necessarily accepted for carriage by other modes of transport or for transport operations by road, rail or inland waterways which are governed by other regulations.

- (b) The code designating the type of packaging according to 6.1.2;
- (c) A code in two parts:
- (i) a letter designating the packing group(s) for which the design type has been successfully tested:
- X for packing groups I, II and III;  
Y for packing groups II and III;  
Z for packing group III only;

<sup>1</sup> Relative density (*d*) is considered to be synonymous with Specific Gravity (*SG*) and is used throughout this text.

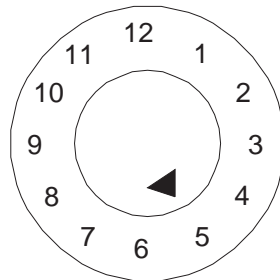
- (ii) the relative density, rounded off to the first decimal, for which the design type has been tested for packagings without inner packagings intended to contain liquids; this may be omitted when the relative density does not exceed 1.2. For packagings intended to contain solids or inner packagings, the maximum gross mass in kilograms.

For light-gauge metal packagings, marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii) intended to contain liquids having a viscosity at 23 °C exceeding 200 mm<sup>2</sup>/s, the maximum gross mass in kg;

- (d) Either the letter "S" denoting that the packaging is intended for the carriage of solids or inner packagings or, for packagings (other than combination packagings) intended to contain liquids, the hydraulic test pressure which the packaging was shown to withstand in kPa rounded down to the nearest 10 kPa.

For light-gauge metal packagings, marked with the symbol "RID/ADR, according to 6.1.3.1(a) (ii) intended to contain liquids having a viscosity at 23 °C exceeding 200 mm<sup>2</sup>/s, the letter "S";

- (e) The last two digits of the year during which the packaging was manufactured. Packagings of types 1H and 3H shall also be appropriately marked with the month of manufacture; this may be marked on the packaging in a different place from the remainder of the marking. An appropriate method is:



- (f) The State authorizing the allocation of the mark, indicated by the distinguishing sign for motor vehicles in international traffic <sup>2</sup>;
- (g) The name of the manufacturer or other identification of the packaging specified by the competent authority.

#### 6.1.3.2

In addition to the durable markings prescribed in 6.1.3.1, every new metal drum of a capacity greater than 100 litres shall bear the marks described in 6.1.3.1 (a) to (e) on the bottom, with an indication of the nominal thickness of at least the metal used in the body (in mm, to 0.1 mm), in permanent form (e.g. embossed). When the nominal thickness of either head of a metal drum is thinner than that of the body, the nominal thickness of the top head, body, and bottom head shall be marked on the bottom in permanent form (e.g. embossed), for example "1.0-1.2-1.0" or "0.9-1.0-1.0". Nominal thickness of metal shall be determined according to the appropriate ISO standard, for example ISO 3574:1999 for steel. The marks indicated in 6.1.3.1 (f) and (g) shall not be applied in a permanent form except as provided in 6.1.3.5.






<sup>2</sup> Distinguishing sign for motor vehicles in international traffic prescribed in Vienna Convention on Road Traffic (1968).

- 6.1.3.3 Every packaging other than those referred to in 6.1.3.2 liable to undergo a reconditioning process shall bear the marks indicated in 6.1.3.1 (a) to (e) in a permanent form. Marks are permanent if they are able to withstand the reconditioning process (e.g. embossed). For packagings other than metal drums of a capacity greater than 100 litres, these permanent marks may replace the corresponding durable markings prescribed in 6.1.3.1.
- 6.1.3.4 For remanufactured metal drums, if there is no change to the packaging type and no replacement or removal of integral structural components, the required markings need not be permanent. Every other remanufactured metal drum shall bear the markings in 6.1.3.1 (a) to (e) in a permanent form (e.g. embossed) on the top head or side.
- 6.1.3.5 Metal drums made from materials (e.g. stainless steel) designed to be reused repeatedly may bear the markings indicated in 6.1.3.1 (f) and (g) in a permanent form (e.g. embossed).
- 6.1.3.6 The marking in accordance with 6.1.3.1 is valid for only one design type or series of design types. Different surface treatments may fall within the same design type.
- A "series of design types" means packagings of the same structural design, wall thickness, material and cross-section, which differ only in their lesser design heights from the design type approved.
- The closures of receptacles shall be identifiable as those referred to in the test report.
- 6.1.3.7 Marking shall be applied in the sequence of the sub-paragraphs in 6.1.3.1; each element of the marking required in these sub-paragraphs and when appropriate sub-paragraphs (h) to (j) of 6.1.3.8 shall be clearly separated, e.g. by a slash or space, so as to be easily identifiable. For examples, see 6.1.3.11.
- Any additional markings authorized by a competent authority shall still enable the parts of the mark to be correctly identified with reference to 6.1.3.1.
- 6.1.3.8 After reconditioning a packaging, the reconditioner shall apply to it a durable marking showing, in the following sequence:
- (h) The State in which the reconditioning was carried out, indicated by the distinguishing sign for motor vehicles in international traffic <sup>2</sup>;
  - (i) The name of the reconditioner or other identification of the packaging specified by the competent authority;
  - (j) The year of reconditioning; the letter "R"; and, for every packaging successfully passing the leakproofness test in 6.1.1.3, the additional letter "L".
- 6.1.3.9 When, after reconditioning, the markings required by 6.1.3.1 (a) to (d) no longer appear on the top head or the side of a metal drum, the reconditioner also shall apply them in a durable form followed by 6.1.3.8 (h), (i) and (j). These markings shall not identify a greater performance capability than that for which the original design type had been tested and marked.
- 6.1.3.10 Packagings manufactured with recycled plastics material as defined in 1.2.1 shall be marked "REC". This mark shall be placed near the mark prescribed in 6.1.3.1.



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<sup>2</sup> *Distinguishing sign for motor vehicles in international traffic prescribed in Vienna Convention on Road Traffic (1968).*


**6.1.3.11 Examples of markings for NEW packagings**

|   |                                  |  |   |
|---|----------------------------------|--|---|
|  | 4G/Y145/S/02<br>NL/VL823         | as in 6.1.3.1 (a) (i), (b), (c), (d) and (e)<br>as in 6.1.3.1 (f) and (g)  | For a new fibreboard box  |
|  | 1A1/Y1.4/150/98<br>NL/VL824      | as in 6.1.3.1 (a) (i), (b), (c), (d) and (e)<br>as in 6.1.3.1 (f) and (g)  | For a new steel drum to contain liquids   |
|  | 1A2/Y150/S/01<br>NL/VL825        | as in 6.1.3.1 (a) (i), (b), (c), (d) and (e)<br>as in 6.1.3.1 (f) and (g)  | For a new steel drum to contain solids, or inner packagings   |
|  | 4HW/Y136/S/98<br>NL/VL826        | as in 6.1.3.1 (a) (i), (b), (c), (d) and (e)<br>as in 6.1.3.1 (f) and (g)  | For a new plastics box of equivalent specification  |
|  | 1A2/Y/100/01<br>USA/MM5          | as in 6.1.3.1 (a) (i), (b), (c), (d) and (e)<br>as in 6.1.3.1 (f) and (g)  | For a remanufactured steel drum to contain liquids  |
|   | RID/ADR/0A1/Y100/89<br>NL/VL123  | as in 6.1.3.1 (a) (ii), (b), (c), (d) and (e)<br>as in 6.1.3.1 (f) and (g) | For a new light gauge metal packaging, non-removable head   |
|   | RID/ADR/0A2/Y20/S/04<br>NL/VL124 | as in 6.1.3.1 (a) (ii), (b), (c), (d) and (e)<br>as in 6.1.3.1 (f) and (g) | For a new light gauge metal packaging, removable head, intended to contain solids, or liquids with a viscosity at 23 °C exceeding 200 mm <sup>2</sup> /s. |

**6.1.3.12 Examples of markings for RECONDITIONED packagings**

|   |                                |  |
|---|--------------------------------|--|
|  | 1A1/Y1.4/150/97<br>NL/RB/01 RL | as in 6.1.3.1 (a) (i), (b), (c), (d) and (e)<br>as in 6.1.3.8 (h), (i) and (j) |
|  | 1A2/Y150/S/99<br>USA/RB/00 R   | as in 6.1.3.1 (a) (i), (b), (c), (d) and (e)<br>as in 6.1.3.8 (h), (i) and (j) |

**6.1.3.13 Example of marking for SALVAGE packagings**

|   |                           |   |
|---|---------------------------|---|
|  | 1A2T/Y300/S/01<br>USA/abc | as in 6.1.3.1 (a) (i), (b), (c), (d) and (e)<br>as in 6.1.3.1 (f) and (g) |
|---|---------------------------|---|

**NOTE:** The markings, for which examples are given in 6.1.3.11, 6.1.3.12 and 6.1.3.13 may be applied in a single line or in multiple lines provided the correct sequence is respected.

**6.1.3.14 Certification**

By affixing marking in accordance with 6.1.3.1, it is certified that mass-produced packagings correspond to the approved design type and that the requirements referred to in the approval have been met.

**6.1.4 Requirements for packagings****6.1.4.1 Steel drums**

1A1 non-removable head

1A2 removable head

- 6.1.4.1.1 Body and heads shall be constructed of steel sheet of a suitable type and of adequate thickness in relation to the capacity of the drum and to its intended use.

*NOTE: In the case of carbon steel drums, "suitable" steels are identified in ISO 3573:1999 "Hot rolled carbon steel sheet of commercial and drawing qualities" and ISO 3574:1999 "Cold-reduced carbon steel sheet of commercial and drawing qualities". For carbon steel drums below 100 litres "suitable" steels in addition to the above standards are also identified in ISO 11949:1995 "Cold-reduced electrolytic tinplate", ISO 11950:1995 "Cold-reduced electrolytic chromium/chromium oxide-coated steel" and ISO 11951:1995 "Cold-reduced blackplate in coil form for the production of tinplate or electrolytic chromium/chromium-oxide coated steel".*

- 6.1.4.1.2 Body seams shall be welded on drums intended to contain more than 40 litres of liquid. Body seams shall be mechanically seamed or welded on drums intended to contain solids or 40 litres or less of liquids.

- 6.1.4.1.3 Chimes shall be mechanically seamed or welded. Separate reinforcing rings may be applied.

- 6.1.4.1.4 The body of a drum of a capacity greater than 60 litres shall, in general, have at least two expanded rolling hoops or, alternatively, at least two separate rolling hoops. If there are separate rolling hoops they shall be fitted tightly on the body and so secured that they cannot shift. Rolling hoops shall not be spot welded.

- 6.1.4.1.5 Openings for filling, emptying and venting in the bodies or heads of non-removable head (1A1) drums shall not exceed 7 cm in diameter. Drums with larger openings are considered to be of the removable head type (1A2). Closures for openings in the bodies and heads of drums shall be so designed and applied that they will remain secure and leakproof under normal conditions of carriage. Closure flanges may be mechanically seamed or welded in place. Gaskets or other sealing elements shall be used with closures, unless the closure is inherently leakproof.

- 6.1.4.1.6 Closure devices for removable head (1A2) drums shall be so designed and applied that they will remain secure and drums will remain leakproof under normal conditions of carriage. Gaskets or other sealing elements shall be used with all removable heads.

- 6.1.4.1.7 If materials used for body, heads, closures and fittings are not in themselves compatible with the contents to be carried, suitable internal protective coatings or treatments shall be applied. These coatings or treatments shall retain their protective properties under normal conditions of carriage.

- 6.1.4.1.8 Maximum capacity of drum: 450 litres.

- 6.1.4.1.9 Maximum net mass: 400 kg.



**6.1.4.2      *Aluminium drums***

- 1B1 non-removable head
- 1B2 removable head

- 6.1.4.2.1 Body and heads shall be constructed of aluminium at least 99% pure or of an aluminium base alloy. Material shall be of a suitable type and of adequate thickness in relation to the capacity of the drum and to its intended use.
- 6.1.4.2.2 All seams shall be welded. Chime seams, if any, shall be reinforced by the application of separate reinforcing rings.
- 6.1.4.2.3 The body of a drum of a capacity greater than 60 litres shall, in general, have at least two expanded rolling hoops or, alternatively, at least two separate rolling hoops. If there are separate rolling hoops they shall be fitted tightly on the body and so secured that they cannot shift. Rolling hoops shall not be spot welded.
- 6.1.4.2.4 Openings for filling, emptying and venting in the bodies or heads of non-removable head (1B1) drums shall not exceed 7 cm in diameter. Drums with larger openings are considered to be of the removable head type (1B2). Closures for openings in the bodies and heads of drums shall be so designed and applied that they will remain secure and leakproof under normal conditions of carriage. Closure flanges shall be welded in place so that the weld provides a leakproof seam. Gaskets or other sealing elements shall be used with closures, unless the closure is inherently leakproof.
- 6.1.4.2.5 Closure devices for removable head (1B2) drums shall be so designed and applied that they will remain secure and drums will remain leakproof under normal conditions of carriage. Gaskets or other sealing elements shall be used with all removable heads.
- 6.1.4.2.6 Maximum capacity of drum: 450 litres.
- 6.1.4.2.7 Maximum net mass: 400 kg.

**6.1.4.3      *Drums of metal other than aluminium or steel***

- 1N1 non-removable head
- 1N2 removable head

- 6.1.4.3.1 The body and heads shall be constructed of a metal or of a metal alloy other than steel or aluminium. Material shall be of a suitable type and of adequate thickness in relation to the capacity of the drum and to its intended use.
- 6.1.4.3.2 Chime seams, if any, shall be reinforced by the application of separate reinforcing rings. All seams, if any, shall be joined (welded, soldered, etc.) in accordance with the technical state of the art for the used metal or metal alloy.
- 6.1.4.3.3 The body of a drum of a capacity greater than 60 litres shall, in general, have at least two expanded rolling hoops or, alternatively, at least two separate rolling hoops. If there are separate rolling hoops they shall be fitted tightly on the body and so secured that they cannot shift. Rolling hoops shall not be spot welded.
- 6.1.4.3.4 Openings for filling, emptying and venting in the bodies or heads of non-removable head (1N1) drums shall not exceed 7 cm in diameter. Drums with larger openings are considered to be of the removable head type (1N2). Closures for openings in the bodies and heads of drums shall be so designed and applied that they will remain secure and leakproof under normal conditions of carriage. Closure flanges shall be joined in place (welded, soldered, etc.)



in accordance with the technical state of the art for the used metal or metal alloy so that the seam join is leakproof. Gaskets or other sealing elements shall be used with closures, unless the closure is inherently leakproof.

6.1.4.3.5 Closure devices for removable head (1N2) drums shall be so designed and applied that they will remain secure and drums will remain leakproof under normal conditions of carriage. Gaskets or other sealing elements shall be used with all removable heads.

6.1.4.3.6 Maximum capacity of drum: 450 litres.

6.1.4.3.7 Maximum net mass: 400 kg.

#### **6.1.4.4     *Steel or aluminium jerricans***

3A1   steel, non-removable head  
3A2   steel, removable head  
3B1   aluminium, non-removable head  
3B2   aluminium, removable head

6.1.4.4.1 Body and heads shall be constructed of steel sheet, of aluminium at least 99% pure or of an aluminium base alloy. Material shall be of a suitable type and of adequate thickness in relation to the capacity of the jerrican and to its intended use.

6.1.4.4.2 Chimes of steel jerricans shall be mechanically seamed or welded. Body seams of steel jerricans intended to contain more than 40 litres of liquid shall be welded. Body seams of steel jerricans intended to contain 40 litres or less shall be mechanically seamed or welded. For aluminium jerricans, all seams shall be welded. Chime seams, if any, shall be reinforced by the application of a separate reinforcing ring.

6.1.4.4.3 Openings in non-removable head jerricans (3A1 and 3B1) shall not exceed 7 cm in diameter. Jerricans with larger openings are considered to be of the removable head type (3A2 and 3B2). Closures shall be so designed that they will remain secure and leakproof under normal conditions of carriage. Gaskets or other sealing elements shall be used with closures, unless the closure is inherently leakproof.

6.1.4.4.4 If materials used for body, heads, closures and fittings are not in themselves compatible with the contents to be carried, suitable internal protective coatings or treatments shall be applied. These coatings or treatments shall retain their protective properties under normal conditions of carriage.

6.1.4.4.5 Maximum capacity of jerrican: 60 litres.

6.1.4.4.6 Maximum net mass: 120 kg.

#### **6.1.4.5     *Plywood drums***

1D

6.1.4.5.1 The wood used shall be well seasoned, commercially dry and free from any defect likely to lessen the effectiveness of the drum for the purpose intended. If a material other than plywood is used for the manufacture of the heads, it shall be of a quality equivalent to the plywood.

6.1.4.5.2 At least two-ply plywood shall be used for the body and at least three-ply plywood for the heads; the plies shall be firmly glued together by a water resistant adhesive with their grain crosswise.

- 6.1.4.5.3 The body and heads of the drum and their joins shall be of a design appropriate to the capacity of the drum and to its intended use.
- 6.1.4.5.4 In order to prevent sifting of the contents, lids shall be lined with kraft paper or some other equivalent material which shall be securely fastened to the lid and extend to the outside along its full circumference.
- 6.1.4.5.5 Maximum capacity of drum: 250 litres.
- 6.1.4.5.6 Maximum net mass: 400 kg.

**6.1.4.6** *(Deleted)*

**6.1.4.7** *Fibre drums*

1G

- 6.1.4.7.1 The body of the drum shall consist of multiple plies of heavy paper or fibreboard (without corrugations) firmly glued or laminated together and may include one or more protective layers of bitumen, waxed kraft paper, metal foil, plastics material, etc.
- 6.1.4.7.2 Heads shall be of natural wood, fibreboard, metal, plywood, plastics or other suitable material and may include one or more protective layers of bitumen, waxed kraft paper, metal foil, plastics material, etc.
- 6.1.4.7.3 The body and heads of the drum and their joins shall be of a design appropriate to the capacity of the drum and to its intended use.
- 6.1.4.7.4 The assembled packaging shall be sufficiently water resistant so as not to delaminate under normal conditions of carriage.
- 6.1.4.7.5 Maximum capacity of drum: 450 litres.
- 6.1.4.7.6 Maximum net mass: 400 kg.

**6.1.4.8** *Plastics drums and jerricans*

- 1H1 drums, non-removable head
- 1H2 drums, removable head
- 3H1 jerricans, non-removable head
- 3H2 jerricans, removable head

- 6.1.4.8.1 The packaging shall be manufactured from suitable plastics material and be of adequate strength in relation to its capacity and intended use. Except for recycled plastics material as defined in 1.2.1, no used material other than production residues or regrind from the same manufacturing process may be used. The packaging shall be adequately resistant to ageing and to degradation caused either by the substance contained or by ultra-violet radiation. Any permeation of the substance contained in the package, or recycled plastics material used to produce new packaging, shall not constitute a danger under normal conditions of carriage.
- 6.1.4.8.2 If protection against ultra-violet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the packaging. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, retesting may be waived if the carbon black content does not exceed 2%

by mass or if the pigment content does not exceed 3% by mass; the content of inhibitors of ultra-violet radiation is not limited.

- |           |   |
|-----------|---|
| 6.1.4.8.3 | Additives serving purposes other than protection against ultra-violet radiation may be included in the composition of the plastics material provided that they do not adversely affect the chemical and physical properties of the material of the packaging. In such circumstances, retesting may be waived.   |
| 6.1.4.8.4 | The wall thickness at every point of the packaging shall be appropriate to its capacity and intended use, taking into account the stresses to which each point is liable to be exposed.   |
| 6.1.4.8.5 | Openings for filling, emptying and venting in the bodies or heads of non-removable head drums (1H1) and jerricans (3H1) shall not exceed 7 cm in diameter. Drums and jerricans with larger openings are considered to be of the removable head type (1H2 and 3H2). Closures for openings in the bodies or heads of drums and jerricans shall be so designed and applied that they will remain secure and leakproof under normal conditions of carriage. Gaskets or other sealing elements shall be used with closures unless the closure is inherently leakproof.   |
| 6.1.4.8.6 | Closure devices for removable head drums and jerricans (1H2 and 3H2) shall be so designed and applied that they will remain secure and leakproof under normal conditions of carriage. Gaskets shall be used with all removable heads unless the drum or jerrican design is such that, where the removable head is properly secured, the drum or jerrican is inherently leakproof.   |
| 6.1.4.8.7 | The maximum permissible permeability for flammable liquids shall be 0.008 g/l.h at 23 °C (see 6.1.5.7).   |
| 6.1.4.8.8 | Where recycled plastics material is used for production of new packaging, the specific properties of the recycled material shall be assured and documented regularly as part of a quality assurance programme recognised by the competent authority. The quality assurance programme shall include a record of proper pre-sorting and verification that each batch of recycled plastics material has the proper melt flow rate, density, and tensile yield strength, consistent with that of the design type manufactured from such recycled material. This necessarily includes knowledge about the packaging material from which the recycled plastics have been derived, as well as the awareness of the prior contents of those packagings if those prior contents might reduce the capability of new packaging produced using that material. In addition, the packaging manufacturer's quality assurance programme under 6.1.1.4 shall include performance of the mechanical design type test in 6.1.5 on packagings manufactured from each batch of recycled plastics material. In this testing, stacking performance may be verified by appropriate dynamic compression testing rather than static load testing. |

**NOTE:** ISO 16103:2005 – "Packaging – Transport packaging for dangerous goods - Recycled plastics material" provides additional guidance on procedures to be followed in approving the use of recycled plastics material.

- |            |  |  |
|------------|--|--|
| 6.1.4.8.9  | Maximum capacity of drums and jerricans: | 1H1, 1H2: 450 litres<br>3H1, 3H2: 60 litres. |
| 6.1.4.8.10 | Maximum net mass:                        | 1H1, 1H2: 400 kg<br>3H1, 3H2: 120 kg.        |

**6.1.4.9      *Boxes of natural wood***

- 4C1   ordinary
- 4C2   with sift-proof walls

- 6.1.4.9.1      The wood used shall be well seasoned, commercially dry and free from defects that would materially lessen the strength of any part of the box. The strength of the material used and the method of construction shall be appropriate to the capacity and intended use of the box. The tops and bottoms may be made of water resistant reconstituted wood such as hardboard, particle board or other suitable type.
- 6.1.4.9.2      Fastenings shall be resistant to vibration experienced under normal conditions of carriage. End grain nailing shall be avoided whenever practicable. Joins which are likely to be highly stressed shall be made using clenched or annular ring nails or equivalent fastenings.
- 6.1.4.9.3      Box 4C2: each part shall consist of one piece or be equivalent thereto. Parts are considered equivalent to one piece when one of the following methods of glued assembly is used: Lindermann joint, tongue and groove joint, ship lap or rabbet joint or butt joint with at least two corrugated metal fasteners at each joint.
- 6.1.4.9.4      Maximum net mass: 400 kg.

**6.1.4.10     *Plywood boxes***

4D

- 6.1.4.10.1      Plywood used shall be at least 3-ply. It shall be made from well seasoned rotary cut, sliced or sawn veneer, commercially dry and free from defects that would materially lessen the strength of the box. The strength of the material used and the method of construction shall be appropriate to the capacity and intended use of the box. All adjacent plies shall be glued with water resistant adhesive. Other suitable materials may be used together with plywood in the construction of boxes. Boxes shall be firmly nailed or secured to corner posts or ends or be assembled by equally suitable devices.
- 6.1.4.10.2      Maximum net mass: 400 kg.

**6.1.4.11     *Reconstituted wood boxes***

4F

- 6.1.4.11.1      The walls of boxes shall be made of water resistant reconstituted wood such as hardboard, particle board or other suitable type. The strength of the material used and the method of construction shall be appropriate to the capacity of the boxes and to their intended use.
- 6.1.4.11.2      Other parts of the boxes may be made of other suitable material.
- 6.1.4.11.3      Boxes shall be securely assembled by means of suitable devices.
- 6.1.4.11.4      Maximum net mass: 400 kg.

**6.1.4.12     *Fibreboard boxes***

4G

- 6.1.4.12.1      Strong and good quality solid or double-faced corrugated fibreboard (single or multiwall) shall be used, appropriate to the capacity of the box and to its intended use. The water

resistance of the outer surface shall be such that the increase in mass, as determined in a test carried out over a period of 30 minutes by the Cobb method of determining water absorption, is not greater than 155 g/m<sup>2</sup> - see ISO 535:1991. It shall have proper bending qualities. Fibreboard shall be cut, creased without scoring, and slotted so as to permit assembly without cracking, surface breaks or undue bending. The fluting of corrugated fibreboard shall be firmly glued to the facings.

- 6.1.4.12.2 The ends of boxes may have a wooden frame or be entirely of wood or other suitable material. Reinforcements of wooden battens or other suitable material may be used.
- 6.1.4.12.3 Manufacturing joins in the body of boxes shall be taped, lapped and glued, or lapped and stitched with metal staples. Lapped joins shall have an appropriate overlap.
- 6.1.4.12.4 Where closing is effected by gluing or taping, a water resistant adhesive shall be used.
- 6.1.4.12.5 Boxes shall be designed so as to provide a good fit to the contents.
- 6.1.4.12.6 Maximum net mass: 400 kg.

**6.1.4.13**     *Plastics boxes*

- 4H1   expanded plastics boxes
- 4H2   solid plastics boxes

- 6.1.4.13.1 The box shall be manufactured from suitable plastics material and be of adequate strength in relation to its capacity and intended use. The box shall be adequately resistant to ageing and to degradation caused either by the substance contained or by ultra-violet radiation.
- 6.1.4.13.2 An expanded plastics box shall comprise two parts made of a moulded expanded plastics material, a bottom section containing cavities for the inner packagings and a top section covering and interlocking with the bottom section. The top and bottom sections shall be designed so that the inner packagings fit snugly. The closure cap for any inner packaging shall not be in contact with the inside of the top section of this box.
- 6.1.4.13.3 For dispatch, an expanded plastics box shall be closed with a self-adhesive tape having sufficient tensile strength to prevent the box from opening. The adhesive tape shall be weather resistant and its adhesive compatible with the expanded plastics material of the box. Other closing devices at least equally effective may be used.
- 6.1.4.13.4 For solid plastics boxes, protection against ultra-violet radiation, if required, shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the box. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, retesting may be waived if the carbon black content does not exceed 2% by mass or if the pigment content does not exceed 3% by mass; the content of inhibitors of ultra-violet radiation is not limited.
- 6.1.4.13.5 Additives serving purposes other than protection against ultra-violet radiation may be included in the composition of the plastics material provided that they do not adversely affect the chemical or physical properties of the material of the box. In such circumstances, retesting may be waived.
- 6.1.4.13.6 Solid plastics boxes shall have closure devices made of a suitable material of adequate strength and so designed as to prevent the box from unintentional opening.



6.1.4.15.3      Bags, water resistant, 5L3: to prevent the entry of moisture the bag shall be made waterproof, for example by the use of:

- (a)    separate inner liners of water resistant paper (e.g. waxed kraft paper, tarred paper or plastics-coated kraft paper); or
- (b)    plastics film bonded to the inner surface of the bag; or
- (c)    one or more inner liners made of plastics material.

6.1.4.15.4      Maximum net mass: 50 kg.

**6.1.4.16      *Woven plastics bags***

5H1    without inner liner or coating  
5H2    sift-proof  
5H3    water resistant

6.1.4.16.1      Bags shall be made from stretched tapes or monofilaments of a suitable plastics material. The strength of the material used and the construction of the bag shall be appropriate to the capacity of the bag and to its intended use.

6.1.4.16.2      If the fabric is woven flat, the bags shall be made by sewing or some other method ensuring closure of the bottom and one side. If the fabric is tubular, the bag shall be closed by sewing, weaving or some other equally strong method of closure.

6.1.4.16.3      Bags, sift-proof, 5H2: the bag shall be made sift-proof, for example by means of:

- (a)    paper or a plastics film bonded to the inner surface of the bag; or
- (b)    one or more separate inner liners made of paper or plastics material.

6.1.4.16.4      Bags, water resistant, 5H3: to prevent the entry of moisture, the bag shall be made waterproof, for example by means of:

- (a)    separate inner liners of water resistant paper (e.g. waxed kraft paper, double-tarred kraft paper or plastics-coated kraft paper); or
- (b)    plastics film bonded to the inner or outer surface of the bag; or
- (c)    one or more inner plastics liners.

6.1.4.16.5      Maximum net mass: 50 kg.

**6.1.4.17      *Plastics film bags***

5H4

6.1.4.17.1      Bags shall be made of a suitable plastics material. The strength of the material used and the construction of the bag shall be appropriate to the capacity of the bag and to its intended use. Joins and closures shall withstand pressures and impacts liable to occur under normal conditions of carriage.

6.1.4.17.2      Maximum net mass: 50 kg.



**6.1.4.18**      *Paper bags*

- 5M1    multiwall  
5M2    multiwall, water resistant

- 6.1.4.18.1      Bags shall be made of a suitable kraft paper or of an equivalent paper with at least three plies, the middle ply of which may be net-cloth and adhesive bonding to the outer paper plies. The strength of the paper and the construction of the bags shall be appropriate to the capacity of the bag and to its intended use. Joins and closures shall be sift-proof.
- 6.1.4.18.2      Bags 5M2: to prevent the entry of moisture, a bag of four plies or more shall be made waterproof by the use of either a water resistant ply as one of the two outermost plies or a water resistant barrier made of a suitable protective material between the two outermost plies; a bag of three plies shall be made waterproof by the use of a water resistant ply as the outermost ply. Where there is a danger of the substance contained reacting with moisture or where it is packed damp, a waterproof ply or barrier, such as double-tarred kraft paper, plastics-coated kraft paper, plastics film bonded to the inner surface of the bag, or one or more inner plastics liners, shall also be placed next to the substance. Joins and closures shall be waterproof.
- 6.1.4.18.3      Maximum net mass: 50 kg.

**6.1.4.19**      *Composite packagings (plastics material)*

- 6HA1    plastics receptacle with outer steel drum  
6HA2    plastics receptacle with outer steel crate or box  
6HB1    plastics receptacle with outer aluminium drum  
6HB2    plastics receptacle with outer aluminium crate or box  
6HC    plastics receptacle with outer wooden box  
6HD1    plastics receptacle with outer plywood drum  
6HD2    plastics receptacle with outer plywood box  
6HG1    plastics receptacle with outer fibre drum  
6HG2    plastics receptacle with outer fibreboard box  
6HH1    plastics receptacle with outer plastics drum  
6HH2    plastics receptacle with outer solid plastics box

**6.1.4.19.1**      *Inner receptacle*

- 6.1.4.19.1.1      The requirements of 6.1.4.8.1 and 6.1.4.8.4 to 6.1.4.8.7 apply to plastics inner receptacles.
- 6.1.4.19.1.2      The plastics inner receptacle shall fit snugly inside the outer packaging, which shall be free of any projection that might abrade the plastics material.
- 6.1.4.19.1.3      Maximum capacity of inner receptacle:
- |                                    |            |
|------------------------------------|------------|
| 6HA1, 6HB1, 6HD1, 6HG1, 6HH1:      | 250 litres |
| 6HA2, 6HB2, 6HC, 6HD2, 6HG2, 6HH2: | 60 litres. |
- 6.1.4.19.1.4      Maximum net mass:
- |                                    |        |
|------------------------------------|--------|
| 6HA1, 6HB1, 6HD1, 6HG1, 6HH1:      | 400 kg |
| 6HA2, 6HB2, 6HC, 6HD2, 6HG2, 6HH2: | 75 kg. |



**6.1.4.19.2      *Outer packaging***

- 6.1.4.19.2.1      Plastics receptacle with outer steel or aluminium drum 6HA1 or 6HB1; the relevant requirements of 6.1.4.1 or 6.1.4.2, as appropriate, apply to the construction of the outer packaging.
- 6.1.4.19.2.2      Plastics receptacle with outer steel or aluminium crate or box 6HA2 or 6HB2; the relevant requirements of 6.1.4.14 apply to the construction of the outer packaging.
- 6.1.4.19.2.3      Plastics receptacle with outer wooden box 6HC; the relevant requirements of 6.1.4.9 apply to the construction of the outer packaging.
- 6.1.4.19.2.4      Plastics receptacle with outer plywood drum 6HD1; the relevant requirements of 6.1.4.5 apply to the construction of the outer packaging.
- 6.1.4.19.2.5      Plastics receptacle with outer plywood box 6HD2; the relevant requirements of 6.1.4.10 apply to the construction of the outer packaging.
- 6.1.4.19.2.6      Plastics receptacle with outer fibre drum 6HG1; the requirements of 6.1.4.7.1 to 6.1.4.7.4 apply to the construction of the outer packaging.
- 6.1.4.19.2.7      Plastics receptacle with outer fibreboard box 6HG2; the relevant requirements of 6.1.4.12 apply to the construction of the outer packaging.
- 6.1.4.19.2.8      Plastics receptacle with outer plastics drum 6HH1; the requirements of 6.1.4.8.1 to 6.1.4.8.6 apply to the construction of the outer packaging.
- 6.1.4.19.2.9      Plastics receptacles with outer solid plastics box (including corrugated plastics material) 6HH2; the requirements of 6.1.4.13.1 and 6.1.4.13.4 to 6.1.4.13.6 apply to the construction of the outer packaging.

**6.1.4.20      *Composite packagings (glass, porcelain or stoneware)***

- 6PA1      receptacle with outer steel drum
- 6PA2      receptacle with outer steel crate or box
- 6PB1      receptacle with outer aluminium drum
- 6PB2      receptacle with outer aluminium crate or box
- 6PC      receptacle with outer wooden box
- 6PD1      receptacle with outer plywood drum
- 6PD2      receptacle with outer wickerwork hamper
- 6PG1      receptacle with outer fibre drum
- 6PG2      receptacle with outer fibreboard box
- 6PH1      receptacle with outer expanded plastics packaging
- 6PH2      receptacle with outer solid plastics packaging

**6.1.4.20.1      *Inner receptacle***

- 6.1.4.20.1.1      Receptacles shall be of a suitable form (cylindrical or pear-shaped) and be made of good quality material free from any defect that could impair their strength. The walls shall be sufficiently thick at every point and free from internal stresses.
- 6.1.4.20.1.2      Screw-threaded plastics closures, ground glass stoppers or closures at least equally effective shall be used as closures for receptacles. Any part of the closure likely to come into contact with the contents of the receptacle shall be resistant to those contents. Care shall be taken to ensure that the closures are so fitted as to be leakproof and are suitably secured to prevent

any loosening during carriage. If vented closures are necessary, they shall comply with 4.1.1.8.

- 6.1.4.20.1.3 The receptacle shall be firmly secured in the outer packaging by means of cushioning and/or absorbent materials.
- 6.1.4.20.1.4 Maximum capacity of receptacle: 60 litres.
- 6.1.4.20.1.5 Maximum net mass: 75 kg.
- 6.1.4.20.2 *Outer packaging*
- 6.1.4.20.2.1 Receptacle with outer steel drum 6PA1; the relevant requirements of 6.1.4.1 apply to the construction of the outer packaging. The removable lid required for this type of packaging may nevertheless be in the form of a cap.
- 6.1.4.20.2.2 Receptacle with outer steel crate or box 6PA2; the relevant requirements of 6.1.4.14 apply to the construction of the outer packaging. For cylindrical receptacles the outer packaging shall, when upright, rise above the receptacle and its closure. If the crate surrounds a pear-shaped receptacle and is of matching shape, the outer packaging shall be fitted with a protective cover (cap).
- 6.1.4.20.2.3 Receptacle with outer aluminium drum 6PB1; the relevant requirements of 6.1.4.2 apply to the construction of the outer packaging.
- 6.1.4.20.2.4 Receptacle with outer aluminium crate or box 6PB2; the relevant requirements of 6.1.4.14 apply to the construction of the outer packaging.
- 6.1.4.20.2.5 Receptacle with outer wooden box 6PC; the relevant requirements of 6.1.4.9 apply to the construction of the outer packaging.
- 6.1.4.20.2.6 Receptacle with outer plywood drum 6PD1; the relevant requirements of 6.1.4.5 apply to the construction of the outer packaging.
- 6.1.4.20.2.7 Receptacle with outer wickerwork hamper 6PD2. The wickerwork hamper shall be properly made with material of good quality. It shall be fitted with a protective cover (cap) so as to prevent damage to the receptacle.
- 6.1.4.20.2.8 Receptacle with outer fibre drum 6PG1; the relevant requirements of 6.1.4.7.1 to 6.1.4.7.4 apply to the construction of the outer packaging.
- 6.1.4.20.2.9 Receptacle with outer fibreboard box 6PG2; the relevant requirements of 6.1.4.12 apply to the construction of the outer packaging.
- 6.1.4.20.2.10 Receptacle with outer expanded plastics or solid plastics packaging (6PH1 or 6PH2); the materials of both outer packagings shall meet the relevant requirements of 6.1.4.13. Outer solid plastics packaging shall be manufactured from high density polyethylene or some other comparable plastics material. The removable lid for this type of packaging may nevertheless be in the form of a cap.

**6.1.4.21      *Combination packagings***

The relevant requirements of section 6.1.4 for the outer packagings to be used, are applicable.

*NOTE: For the inner and outer packagings to be used, see the relevant packing instructions in Chapter 4.1.*

**6.1.4.22      *Light gauge metal packagings***

0A1      non-removable-head  
0A2      removable-head

6.1.4.22.1      The sheet metal for the body and ends shall be of suitable steel, and of a gauge appropriate to the capacity and intended use of the packaging.

6.1.4.22.2      The joints shall be welded, at least double-seamed by welting or produced by a method ensuring a similar degree of strength and leakproofness.

6.1.4.22.3      Inner coatings of zinc, tin, lacquer, etc. shall be tough and shall adhere to the steel at every point, including the closures.

6.1.4.22.4      Openings for filling, emptying and venting in the bodies or heads of non-removable head (0A1) packagings shall not exceed 7 cm in diameter. Packagings with larger openings shall be considered to be of the removable-head type (0A2).

6.1.4.22.5      The closures of non-removable-head packagings (0A1) shall either be of the screw-threaded type or be capable of being secured by a screwable device or a device at least equally effective. The closures of removable-head packagings (0A2) shall be so designed and fitted that they stay firmly closed and the packagings remain leakproof in normal conditions of carriage.

6.1.4.22.6      Maximum capacity of packagings: 40 litres.

6.1.4.22.7      Maximum net mass: 50 kg.

**6.1.5            *Test requirements for packagings*****6.1.5.1        *Performance and frequency of tests***

6.1.5.1.1      The design type of each packaging shall be tested as provided in 6.1.5 in accordance with procedures established by the competent authority allowing the allocation of the mark and shall be approved by this competent authority.

6.1.5.1.2      Each packaging design type shall successfully pass the tests prescribed in this Chapter before being used. A packaging design type is defined by the design, size, material and thickness, manner of construction and packing, but may include various surface treatments. It also includes packagings which differ from the design type only in their lesser design height.

6.1.5.1.3      Tests shall be repeated on production samples at intervals established by the competent authority. For such tests on paper or fibreboard packagings, preparation at ambient conditions is considered equivalent to the requirements of 6.1.5.2.3.

6.1.5.1.4      Tests shall also be repeated after each modification which alters the design, material or manner of construction of a packaging.

6.1.5.1.5 The competent authority may permit the selective testing of packagings that differ only in minor respects from a tested type, e.g. smaller sizes of inner packagings or inner packagings of lower net mass; and packagings such as drums, bags and boxes which are produced with small reductions in external dimension(s).

6.1.5.1.6 *(Reserved)*

**NOTE:** *For the conditions for assembling different inner packagings in an outer packaging and permissible variations in inner packagings, see 4.1.1.5.1.*

6.1.5.1.7 Articles or inner packagings of any type for solids or liquids may be assembled and carried without testing in an outer packaging under the following conditions:

- (a) The outer packaging shall have been successfully tested in accordance with 6.1.5.3 with fragile (e.g. glass) inner packagings containing liquids using the packing group I drop height;
- (b) The total combined gross mass of inner packagings shall not exceed one half the gross mass of inner packagings used for the drop test in (a) above;
- (c) The thickness of cushioning material between inner packagings and between inner packagings and the outside of the packaging shall not be reduced below the corresponding thicknesses in the originally tested packaging; and if a single inner packaging was used in the original test, the thicknesses of cushioning between inner packagings shall not be less than the thickness of cushioning between the outside of the packaging and the inner packaging in the original test. If either fewer or smaller inner packagings are used (as compared to the inner packagings used in the drop test), sufficient additional cushioning material shall be used to take up void spaces;
- (d) The outer packaging shall have passed successfully the stacking test in 6.1.5.6 while empty. The total mass of identical packages shall be based on the combined mass of inner packagings used for the drop test in (a) above;
- (e) Inner packagings containing liquids shall be completely surrounded with a sufficient quantity of absorbent material to absorb the entire liquid contents of the inner packagings;
- (f) If the outer packaging is intended to contain inner packagings for liquids and is not leakproof, or is intended to contain inner packagings for solids and is not siftproof, a means of containing any liquid or solid contents in the event of leakage shall be provided in the form of a leakproof liner, plastics bag or other equally efficient means of containment. For packagings containing liquids, the absorbent material required in (e) above shall be placed inside the means of containing the liquid contents;
- (g) Packagings shall be marked in accordance with 6.1.3 as having been tested to packing group I performance for combination packagings. The marked gross mass in kilograms shall be the sum of the mass of the outer packaging plus one half of the mass of the inner packaging(s) as used for the drop test referred to in (a) above. Such a package mark shall also contain a letter "V" as described in 6.1.2.4.

6.1.5.1.8 The competent authority may at any time require proof, by tests in accordance with this section, that serially-produced packagings meet the requirements of the design type tests. For verification purposes records of such tests shall be maintained.

6.1.5.1.9 If an inner treatment or coating is required for safety reasons, it shall retain its protective properties even after the tests.

6.1.5.1.10 Provided the validity of the test results is not affected and with the approval of the competent authority, several tests may be made on one sample.

6.1.5.1.11 *Salvage packagings*

Salvage packagings (see 1.2.1) shall be tested and marked in accordance with the requirements applicable to packing group II packagings intended for the carriage of solids or inner packagings, except as follows:

- (a) The test substance used in performing the tests shall be water, and the packagings shall be filled to not less than 98% of their maximum capacity. It is permissible to use additives, such as bags of lead shot, to achieve the requisite total package mass so long as they are placed so that the test results are not affected. Alternatively, in performing the drop test, the drop height may be varied in accordance with 6.1.5.3.5 (b);
- (b) Packagings shall, in addition, have been successfully subjected to the leakproofness test at 30 kPa, with the results of this test reflected in the test report required by 6.1.5.8; and
- (c) Packagings shall be marked with the letter "T" as described in 6.1.2.4.

**6.1.5.2** *Preparation of packagings for testing*

6.1.5.2.1 Tests shall be carried out on packagings prepared as for carriage including, with respect to combination packagings, the inner packagings used. Inner or single receptacles or packagings other than bags shall be filled to not less than 98% of their maximum capacity for liquids or 95% for solids. Bags shall be filled to the maximum mass at which they may be used. For combination packagings where the inner packaging is designed to carry liquids and solids, separate testing is required for both liquid and solid contents. The substances or articles to be carried in the packagings may be replaced by other substances or articles except where this would invalidate the results of the tests. For solids, when another substance is used it shall have the same physical characteristics (mass, grain size, etc.) as the substance to be carried. It is permissible to use additives, such as bags of lead shot, to achieve the requisite total package mass, so long as they are placed so that the test results are not affected.

6.1.5.2.2 In the drop tests for liquids, when another substance is used, it shall be of similar relative density and viscosity to those of the substance being carried. Water may also be used for the liquid drop test under the conditions in 6.1.5.3.5.

6.1.5.2.3 Paper or fibreboard packagings shall be conditioned for at least 24 hours in an atmosphere having a controlled temperature and relative humidity (r.h.). There are three options, one of which shall be chosen. The preferred atmosphere is  $23 \pm 2$  °C and  $50\% \pm 2\%$  r.h. The two other options are  $20 \pm 2$  °C and  $65\% \pm 2\%$  r.h. or  $27 \pm 2$  °C and  $65\% \pm 2\%$  r.h.

**NOTE:** Average values shall fall within these limits. Short-term fluctuations and measurement limitations may cause individual measurements to vary by up to  $\pm 5\%$  relative humidity without significant impairment of test reproducibility.

6.1.5.2.4 (Reserved)

6.1.5.2.5 To check that their chemical compatibility with the liquids is sufficient, plastics drums and jerricans in accordance with 6.1.4.8 and if necessary composite packagings (plastics material) in accordance with 6.1.4.19 shall be subjected to storage at ambient temperature for six months, during which time the test samples shall be kept filled with the goods they are intended to carry.

For the first and last 24 hours of storage, the test samples shall be placed with the closure downwards. However, packagings fitted with a vent shall be so placed on each occasion for five minutes only. After this storage the test samples shall undergo the tests prescribed in 6.1.5.3 to 6.1.5.6.

When it is known that the strength properties of the plastics material of the inner receptacles of composite packagings (plastics material) are not significantly altered by the action of the filling substance, it shall not be necessary to check that the chemical compatibility is sufficient.

A significant alteration in strength properties means:

- (a) distinct embrittlement; or
- (b) a considerable decrease in elasticity, unless related to a not less than proportionate increase in the elongation under load.

Where the behaviour of the plastics material has been established by other means, the above compatibility test may be dispensed with. Such procedures shall be at least equivalent to the above compatibility test and be recognized by the competent authority.

**NOTE:** For plastics drums and jerricans and composite packagings (plastics material) made of polyethylene, see also 6.1.5.2.6 below.

6.1.5.2.6 For polyethylene drums and jerricans in accordance with 6.1.4.8 and if necessary, polyethylene composite packagings in accordance with 6.1.4.19, chemical compatibility with filling liquids assimilated in accordance with 4.1.1.19 may be verified as follows with standard liquids (see 6.1.6).

The standard liquids are representative for the processes of deterioration on polyethylene, as there are softening through swelling, cracking under stress, molecular degradation and combinations thereof. The sufficient chemical compatibility of the packagings may be verified by storage of the required test samples for three weeks at 40 °C with the appropriate standard liquid(s); where this standard liquid is water, storage in accordance with this procedure is not required. Storage is not required either for test samples which are used for the stacking test in case of the standard liquids "wetting solution" and "acetic acid".

For the first and last 24 hours of storage, the test samples shall be placed with the closure downwards. However, packagings fitted with a vent shall be so placed on each occasion for five minutes only. After this storage, the test samples shall undergo the tests prescribed in 6.1.5.3 to 6.1.5.6.

The compatibility test for tert-Butyl hydroperoxide with more than 40% peroxide content and peroxyacetic acids of Class 5.2 shall not be carried out using standard liquids. For these substances, sufficient chemical compatibility of the test samples shall be verified during a storage period of six months at ambient temperature with the substances they are intended to carry.

Results of the procedure in accordance with this paragraph from polyethylene packagings can be approved for an equal design type, the internal surface of which is fluorinated.

6.1.5.2.7 For packagings made of polyethylene, as specified in 6.1.5.2.6, which have passed the test in 6.1.5.2.6, filling substances other than those assimilated in accordance with 4.1.1.19 may also be approved. Such approval shall be based on laboratory tests verifying that the effect of such filling substances on the test specimens is less than that of the appropriate standard

liquid(s) taking into account the relevant processes of deterioration. The same conditions as those set out in 4.1.1.19.2 shall apply with respect to relative density and vapour pressure.

6.1.5.2.8 Provided that the strength properties of the plastics inner packagings of a combination packaging are not significantly altered by the action of the filling substance, proof of chemical compatibility is not necessary. A significant alteration in strength properties means:

- (a) distinct embrittlement;
- (b) a considerable decrease in elasticity, unless related to a not less than proportionate increase in elastic elongation.

### 6.1.5.3 *Drop test*<sup>3</sup>

6.1.5.3.1 *Number of test samples (per design type and manufacturer) and drop orientation*

For other than flat drops the centre of gravity shall be vertically over the point of impact.

Where more than one orientation is possible for a given drop test, the orientation most likely to result in failure of the packaging shall be used.

| Packaging   | No. of test samples            | Drop orientation   |
|---|--------------------------------|--|
| (a) Steel drums<br>Aluminium drums<br>Drums of metal other than steel or aluminium<br>Steel jerricans<br>Aluminium jerricans<br>Plywood drums<br>Fibre drums<br>Plastics drums and jerricans<br>Composite packagings which are in the shape of a drum<br>Light gauge metal packagings | Six<br>(three for each drop)   | First drop (using three samples): the packaging shall strike the target diagonally on the chime or, if the packaging has no chime, on a circumferential seam or an edge.<br><br>Second drop (using the other three samples): the packaging shall strike the target on the weakest part not tested by the first drop, for example a closure or, for some cylindrical drums, the welded longitudinal seam of the drum body |
| (b) Boxes of natural wood<br>Plywood boxes<br>Reconstituted wood boxes<br>Fibreboard boxes<br>Plastics boxes<br>Steel or aluminium boxes<br>Composite packagings which are in the shape of a box  | Five<br>(one for each drop)    | First drop: flat on the bottom<br>Second drop: flat on the top<br>Third drop: flat on the long side<br>Fourth drop: flat on the short side<br>Fifth drop: on a corner  |
| (c) Bags - single-ply with a side seam  | Three<br>(three drops per bag) | First drop: flat on a wide face<br>Second drop: flat on a narrow face<br>Third drop: on an end of the bag  |
| (d) Bags - single-ply without a side seam, or multi-ply   | Three<br>(two drops per bag)   | First drop: flat on a wide face<br>Second drop: on an end of the bag   |
| (e) Composite packagings (glass, stoneware or porcelain), marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii) and which are in the shape of a drum or box  | Three<br>(one for each drop)   | Diagonally on the bottom chime, or, if there is no chime, on a circumferential seam or the bottom edge   |

<sup>3</sup> See ISO Standard 2248.



#### 6.1.5.3.2 *Special preparation of test samples for the drop test*

The temperature of the test sample and its contents shall be reduced to  $-18^{\circ}\text{C}$  or lower for the following packagings:

- (a) Plastics drums (see 6.1.4.8);
- (b) Plastics jerricans (see 6.1.4.8);
- (c) Plastics boxes other than expanded plastics boxes (see 6.1.4.13);
- (d) Composite packagings (plastics material) (see 6.1.4.19); and
- (e) Combination packagings with plastics inner packagings, other than plastics bags intended to contain solids or articles.

Where test samples are prepared in this way, the conditioning in 6.1.5.2.3 may be waived. Test liquids shall be kept in the liquid state by the addition of anti-freeze if necessary.

6.1.5.3.3 Removable head packagings for liquids shall not be dropped until at least 24 hours after filling and closing to allow for any possible gasket relaxation.

#### 6.1.5.3.4 *Target*

The target shall be a non-resilient and horizontal surface and shall be:

- Integral and massive enough to be immovable;
- Flat with a surface kept free from local defects capable of influencing the test results;
- Rigid enough to be non-deformable under test conditions and not liable to become damaged by the tests; and
- Sufficiently large to ensure that the test package falls entirely upon the surface.

#### 6.1.5.3.5 *Drop height*

For solids and liquids, if the test is performed with the solid or liquid to be carried or with another substance having essentially the same physical characteristics:

| Packing Group I | Packing Group II | Packing Group III |
|-----------------|------------------|-------------------|
| 1.8 m           | 1.2 m            | 0.8 m             |

For liquids in single packagings and for inner packagings of combination packagings, if the test is performed with water:

**NOTE:** The term water includes water/antifreeze solutions with a minimum specific gravity of 0.95 for testing at  $-18^{\circ}\text{C}$ .

- (a) where the substances to be carried have a relative density not exceeding 1.2:

| Packing Group I | Packing Group II | Packing Group III |
|-----------------|------------------|-------------------|
| 1.8 m           | 1.2 m            | 0.8 m             |



- (b) where the substances to be carried have a relative density exceeding 1.2, the drop height shall be calculated on the basis of the relative density (d) of the substance to be carried, rounded up to the first decimal, as follows:

| Packing Group I    | Packing Group II   | Packing Group III   |
|--------------------|--------------------|---------------------|
| $d \times 1.5$ (m) | $d \times 1.0$ (m) | $d \times 0.67$ (m) |

- (c) for light-gauge metal packagings, marked with symbol "RID/ADR" according to 6.1.3.1(a) (ii) intended for the carriage of substances having a viscosity at 23 °C greater than 200 mm<sup>2</sup>/s (corresponding to a flow time of 30 seconds with an ISO flow cup having a jet orifice of 6 mm diameter in accordance with ISO Standard 2431:1993)

- (i) if the relative density does not exceed 1.2:

| Packing group II | Packing group III |
|------------------|-------------------|
| 0.6 m            | 0.4 m             |

- (ii) where the substances to be carried have a relative density (d) exceeding 1.2 the drop height shall be calculated on the basis of the relative density (d) of the substance to be carried, rounded up to the first decimal place, as follows:

| Packing group II | Packing group III |
|------------------|-------------------|
| $d \times 0.5$ m | $d \times 0.33$ m |

#### 6.1.5.3.6 *Criteria for passing the test*

- 6.1.5.3.6.1 Each packaging containing liquid shall be leakproof when equilibrium has been reached between the internal and external pressures, however for inner packagings of combination packagings and except for inner receptacles of composite packagings (glass, porcelain or stoneware), marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii) it is not necessary that the pressures be equalized.
- 6.1.5.3.6.2 Where a packaging for solids undergoes a drop test and its upper face strikes the target, the test sample passes the test if the entire contents are retained by an inner packaging or inner receptacle (e.g. a plastics bag), even if the closure while retaining its containment function, is no longer sift-proof.
- 6.1.5.3.6.3 The packaging or outer packaging of a composite or combination packaging shall not exhibit any damage liable to affect safety during carriage. There shall be no leakage of the filling substance from the inner receptacle or inner packaging(s).
- 6.1.5.3.6.4 Neither the outermost ply of a bag nor an outer packaging may exhibit any damage liable to affect safety during carriage.
- 6.1.5.3.6.5 A slight discharge from the closure(s) upon impact is not considered to be a failure of the packaging provided that no further leakage occurs.
- 6.1.5.3.6.6 No rupture is permitted in packagings for goods of Class 1 which would permit the spillage of loose explosive substances or articles from the outer packaging.

**6.1.5.4 Leakproofness test**

The leakproofness test shall be performed on all design types of packagings intended to contain liquids; however, this test is not required for

- inner packagings of combination packagings;
- inner receptacles of composite packagings (glass, porcelain or stoneware), marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii);
- light gauge metal packagings, marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii) intended for substances with a viscosity at 23 °C exceeding 200 mm<sup>2</sup>/s.

6.1.5.4.1 *Number of test samples:* three test samples per design type and manufacturer.

6.1.5.4.2 *Special preparation of test samples for the test:* either vented closures shall be replaced by similar non-vented closures or the vent shall be sealed.

6.1.5.4.3 *Test method and pressure to be applied:* the packagings including their closures shall be restrained under water for 5 minutes while an internal air pressure is applied, the method of restraint shall not affect the results of the test.

The air pressure (gauge) to be applied shall be:

| Packing Group I                   | Packing Group II                  | Packing Group III                 |
|-----------------------------------|-----------------------------------|-----------------------------------|
| Not less than 30 kPa<br>(0.3 bar) | Not less than 20 kPa<br>(0.2 bar) | Not less than 20 kPa<br>(0.2 bar) |

Other methods at least equally effective may be used.

6.1.5.4.4 *Criterion for passing the test:* there shall be no leakage.

**6.1.5.5 Internal pressure (hydraulic) test**

6.1.5.5.1 *Packagings to be tested*

The internal pressure (hydraulic) test shall be carried out on all design types of metal, plastics and composite packagings intended to contain liquids. This test is not required for:

- Inner packagings of combination packagings;
- Inner receptacles of composite packagings (glass, porcelain or stoneware), marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii);
- Light gauge metal packagings, marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii) intended for substances with a viscosity at 23 °C exceeding 200 mm<sup>2</sup>/s.

6.1.5.5.2 *Number of test samples:* three test samples per design type and manufacturer.

6.1.5.5.3 *Special preparation of packagings for testing:* either vented closures shall be replaced by similar non-vented closures or the vent shall be sealed.

6.1.5.5.4 *Test method and pressure to be applied:* metal packagings and composite packagings (glass, porcelain or stoneware), including their closures, shall be subjected to the test pressure for 5 minutes. Plastics packagings and composite packagings (plastics material) including their closures shall be subjected to the test pressure for 30 minutes. This pressure is the one to be included in the marking required by 6.1.3.1 (d). The manner in which the packagings are supported shall not invalidate the test. The test pressure shall be applied continuously and evenly; it shall be kept constant throughout the test period. The hydraulic pressure (gauge) applied, as determined by any one of the following methods, shall be:

- (a) not less than the total gauge pressure measured in the packaging (i.e. the vapour pressure of the filling liquid and the partial pressure of the air or other inert gases, minus 100 kPa) at 55 °C, multiplied by a safety factor of 1.5; this total gauge pressure shall be determined on the basis of a maximum degree of filling in accordance with 4.1.1.4 and a filling temperature of 15 °C; or
- (b) not less than 1.75 times the vapour pressure at 50 °C of the liquid to be carried, minus 100 kPa but with a minimum test pressure of 100 kPa; or
- (c) not less than 1.5 times the vapour pressure at 55 °C of the liquid to be carried, minus 100 kPa but with a minimum test pressure of 100 kPa.

6.1.5.5.5 In addition, packagings intended to contain liquids of packing group I shall be tested to a minimum test pressure of 250 kPa (gauge) for a test period of 5 or 30 minutes depending upon the material of construction of the packaging.

6.1.5.5.6 *Criterion for passing the test:* no packaging may leak.

#### **6.1.5.6 Stacking test**

All design types of packagings other than bags, and other than non-stackable composite packagings (glass, porcelain, or stoneware) marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii), shall be subjected to a stacking test.

6.1.5.6.1 *Number of test samples:* three test samples per design type and manufacturer.

6.1.5.6.2 *Test method:* the test sample shall be subjected to a force applied to the top surface of the test sample equivalent to the total weight of identical packages which might be stacked on it during carriage; where the contents of the test sample are liquids with relative density different from that of the liquid to be carried, the force shall be calculated in relation to the latter. The minimum height of the stack including the test sample shall be 3 metres. The duration of the test shall be 24 hours except that plastics drums, jerricans, and composite packagings 6HH1 and 6HH2 intended for liquids shall be subjected to the stacking test for a period of 28 days at a temperature of not less than 40 °C.

For the test in accordance with 6.1.5.2.5, the original filling substance shall be used. For the test in accordance with 6.1.5.2.6, a stacking test shall be carried out with a standard liquid.

6.1.5.6.3 *Criteria for passing the test:* no test sample shall leak. In composite packagings or combination packagings, there shall be no leakage of the filling substance from the inner receptacle or inner packaging. No test sample shall show any deterioration which could adversely affect transport safety or any distortion liable to reduce its strength or cause instability in stacks of packages. Plastics packagings shall be cooled to ambient temperature before the assessment.

**6.1.5.7** *Supplementary permeability test for plastics drums and jerricans in accordance with 6.1.4.8 and for composite packagings (plastics material) in accordance with 6.1.4.19 intended for the carriage of liquids having a flash-point  $\leq 60$  °C, other than 6HA1 packagings*

Polyethylene packagings need be subjected to this test only if they are to be approved for the carriage of benzene, toluene, xylene or mixtures and preparations containing those substances.

6.1.5.7.1 *Number of test samples:* three packagings per design type and manufacturer.

6.1.5.7.2 *Special preparation of the test sample for the test:* the test samples are to be pre-stored with the original filling substance in accordance with 6.1.5.2.5, or, for polyethylene packagings, with the standard liquid mixture of hydrocarbons (white spirit) in accordance with 6.1.5.2.6.

6.1.5.7.3 *Test method:* the test samples filled with the substance for which the packaging is to be approved shall be weighed before and after storage for 28 days at 23 °C and 50% relative atmospheric humidity. For polyethylene packagings, the test may be carried out with the standard liquid mixture of hydrocarbons (white spirit) in place of benzene, toluene or xylene.

6.1.5.7.4 *Criterion for passing the test:* permeability shall not exceed 0.008 g/l.h.

**6.1.5.8** *Test Report*

6.1.5.8.1 A test report containing at least the following particulars shall be drawn up and shall be available to the users of the packaging:

1. Name and address of the test facility;
2. Name and address of applicant (where appropriate);
3. A unique test report identification;
4. Date of the test report;
5. Manufacturer of the packaging;
6. Description of the packaging design type (e.g. dimensions, materials, closures, thickness, etc.), including method of manufacture (e.g. blow moulding) and which may include drawing(s) and/or photograph(s);
7. Maximum capacity;
8. Characteristics of test contents, e.g. viscosity and relative density for liquids and particle size for solids;
9. Test descriptions and results;
10. The test report shall be signed with the name and status of the signatory.

6.1.5.8.2 The test report shall contain statements that the packaging prepared as for carriage was tested in accordance with the appropriate requirements of this section and that the use of other packaging methods or components may render it invalid. A copy of the test report shall be available to the competent authority.

**6.1.6 Standard liquids for verifying the chemical compatibility testing of polyethylene packagings, including IBCs, in accordance with 6.1.5.2.6 and 6.5.6.3.5, respectively**

6.1.6.1 The following standard liquids shall be used for this plastics material.

- (a) **Wetting Solution** for substances causing severe cracking in polyethylene under stress, in particular for all solutions and preparations containing wetting agents.

An aqueous solution of 1% of alkyl benzene sulphonate, or an aqueous solution of 5% nonylphenol ethoxylate which has been preliminary stored for at least 14 days at a temperature of 40 °C before being used for the first time for the tests, shall be used. The surface tension of this solution shall be 31 to 35 mN/m at 23 °C.

The stacking test shall be carried out on the basis of a relative density of not less than 1.20.

A compatibility test with acetic acid is not required if adequate chemical compatibility is proved with a wetting solution.

For filling substances causing cracking in polyethylene under stress which is resistant to the wetting solution, adequate chemical compatibility may be proved after preliminary storing for three weeks at 40 °C in accordance with 6.1.5.2.6, but with the original filling matter;

- (b) **Acetic acid** for substances and preparations causing cracking in polyethylene under stress, in particular for monocarboxylic acids and monovalent alcohols.

Acetic acid in 98 to 100% concentration shall be used.  
Relative density = 1.05.

The stacking test shall be carried out on the basis of a relative density not less than 1.1.

In the case of filling substances causing polyethylene to swell more than acetic acid and to such an extent that the polyethylene mass is increased by up to 4%, adequate chemical compatibility may be proved after preliminary storing for three weeks at 40 °C, in accordance with 6.1.5.2.6 but with the original filling matter;

- (c) **Normal butyl acetate/normal butyl acetate-saturated wetting solution** for substances and preparations causing polyethylene to swell to such an extent that the polyethylene mass is increased by about 4% and at the same time causing cracking under stress, in particular for phyto-sanitary products, liquid paints and esters. Normal butyl acetate in 98 to 100% concentration shall be used for preliminary storage in accordance with 6.1.5.2.6.

For the stacking test in accordance with 6.1.5.6, a test liquid consisting of a 1 to 10% aqueous wetting solution mixed with 2% normal butyl acetate conforming to (a) above shall be used.

The stacking test shall be carried out on the basis of a relative density not less than 1.0.

In the case of filling substances causing polyethylene to swell more than normal butyl acetate and to such an extent that the polyethylene mass is increased by up to 7.5%, adequate chemical compatibility may be proved after preliminary storing for three weeks at 40 °C, in accordance with 6.1.5.2.6 but with the original filling matter;

- (d) **Mixture of hydrocarbons (white spirit)** for substances and preparations causing polyethylene to swell, in particular for hydrocarbons, esters and ketones.

A mixture of hydrocarbons having a boiling range 160 °C to 220 °C, relative density 0.78-0.80, flash-point > 50 °C and an aromatic content 16% to 21% shall be used.

The stacking test shall be carried out on the basis of a relative density not less than 1.0.

In the case of filling substances causing polyethylene to swell to such an extent that the polyethylene mass is increased by more than 7.5%, adequate chemical compatibility may be proved after preliminary storing for three weeks at 40 °C, in accordance with 6.1.5.2.6 but with the original filling matter;

- (e) **Nitric acid** for all substances and preparations having an oxidizing effect on polyethylene and causing molecular degradation identical to or less than 55% nitric acid.

Nitric acid in a concentration of not less than 55% shall be used.

The stacking test shall be carried out on the basis of a relative density of not less than 1.4.

In the case of filling substances more strongly oxidizing than 55% nitric acid or causing degradation of the molecular mass proceed in accordance with 6.1.5.2.5.

The period of use shall be determined in such cases by observing the degree of damage (e.g. two years for nitric acid in not less than 55% concentration);

- (f) **Water** for substances which do not attack polyethylene in any of the cases referred to under (a) to (e), in particular for inorganic acids and lyes, aqueous saline solutions, polyvalent alcohols and organic substances in aqueous solution.

The stacking test shall be carried out on the basis of a relative density of not less than 1.2.

A design type test with water is not required if adequate chemical compatibility is proved with wetting solution or nitric acid.

## CHAPTER 6.2

### REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF PRESSURE RECEPTACLES, AEROSOL DISPENSERS, SMALL RECEPTACLES CONTAINING GAS (GAS CARTRIDGES) AND FUEL CELL CARTRIDGES CONTAINING LIQUEFIED FLAMMABLE GAS

#### 6.2.1 General requirements

**NOTE:** *Aerosol dispensers, small receptacles containing gas (gas cartridges) and fuel cell cartridges containing liquefied flammable gas are not subject to the requirements of 6.2.1 to 6.2.5.*

##### 6.2.1.1 Design and construction

6.2.1.1.1 Pressure receptacles and their closures shall be designed, manufactured, tested and equipped in such a way as to withstand all conditions, including fatigue, to which they will be subjected during normal conditions of carriage and use.

6.2.1.1.2 *(Reserved)*

6.2.1.1.3 In no case shall the minimum wall thickness be less than that specified in the design and construction technical standards.

6.2.1.1.4 For welded pressure receptacles, only metals of weldable quality shall be used.

6.2.1.1.5 The test pressure of cylinders, tubes, pressure drums and bundles of cylinders shall be in accordance with packing instruction P200 of 4.1.4.1. The test pressure for closed cryogenic receptacles shall be in accordance with packing instruction P203 of 4.1.4.1.

6.2.1.1.6 Pressure receptacles assembled in bundles shall be structurally supported and held together as a unit. Pressure receptacles shall be secured in a manner that prevents movement in relation to the structural assembly and movement that would result in the concentration of harmful local stresses. Manifold assemblies (e.g. manifold, valves, and pressure gauges) shall be designed and constructed such that they are protected from impact damage and forces normally encountered in carriage. Manifolds shall have at least the same test pressure as the cylinders. For toxic liquefied gases, each pressure receptacle shall have an isolation valve to ensure that each pressure receptacle can be filled separately and that no interchange of pressure receptacle contents can occur during carriage.

**NOTE:** *Toxic liquefied gases have the classification codes 2T, 2TF, 2TC, 2TO, 2TFC or 2TOC.*

6.2.1.1.7 Contact between dissimilar metals which could result in damage by galvanic action shall be avoided.

6.2.1.1.8 *Additional requirements for the construction of closed cryogenic receptacles for refrigerated liquefied gases*

6.2.1.1.8.1 The mechanical properties of the metal used shall be established for each pressure receptacle, including the impact strength and the bending coefficient.

**NOTE:** *With regard to the impact strength, sub-section 6.8.5.3 gives details of test requirements which may be used.*



6.2.1.1.8.2 The pressure receptacles shall be thermally insulated. The thermal insulation shall be protected against impact by means of a jacket. If the space between the pressure receptacle and the jacket is evacuated of air (vacuum-insulation), the jacket shall be designed to withstand without permanent deformation an external pressure of at least 100 kPa (1 bar) calculated in accordance with a recognised technical code or a calculated critical collapsing pressure of not less than 200 kPa (2 bar) gauge pressure. If the jacket is so closed as to be gas-tight (e.g. in the case of vacuum-insulation), a device shall be provided to prevent any dangerous pressure from developing in the insulating layer in the event of inadequate gas-tightness of the pressure receptacle or its fittings. The device shall prevent moisture from penetrating into the insulation.

6.2.1.1.8.3 Closed cryogenic receptacles intended for the carriage of refrigerated liquefied gases having a boiling point below  $-182^{\circ}\text{C}$  at atmospheric pressure shall not include materials which may react with oxygen or oxygen enriched atmospheres in a dangerous manner, when located in parts of the thermal insulation where there is a risk of contact with oxygen or with oxygen enriched liquid.

6.2.1.1.8.4 Closed cryogenic receptacles shall be designed and constructed with suitable lifting and securing arrangements.

6.2.1.1.9 *Additional requirements for the construction of pressure receptacles for acetylene*

Pressure receptacles for UN 1001 acetylene, dissolved, and UN 3374 acetylene, solvent free, shall be filled with a porous material, uniformly distributed, of a type that conforms to the requirements and testing specified by the competent authority and which:

- (a) Is compatible with the pressure receptacle and does not form harmful or dangerous compounds either with the acetylene or with the solvent in the case of UN 1001; and
- (b) Is capable of preventing the spread of decomposition of the acetylene in the porous material.

In the case of UN 1001, the solvent shall be compatible with the pressure receptacle.

**6.2.1.2** *Materials*

6.2.1.2.1 Construction materials of pressure receptacles and their closures which are in direct contact with dangerous goods shall not be affected or weakened by the dangerous goods intended to be carried and shall not cause a dangerous effect e.g. catalysing a reaction or reacting with the dangerous goods.

6.2.1.2.2 Pressure receptacles and their closures shall be made of the materials specified in the design and construction technical standards and the applicable packing instruction for the substances intended for carriage in the pressure receptacle. The materials shall be resistant to brittle fracture and to stress corrosion cracking as indicated in the design and construction technical standards.

**6.2.1.3** *Service equipment*

6.2.1.3.1 Valves, piping and other fittings subjected to pressure, excluding pressure relief devices, shall be designed and constructed so that the burst pressure is at least 1.5 times the test pressure of the pressure receptacle.

6.2.1.3.2 Service equipment shall be configured or designed to prevent damage that could result in the release of the pressure receptacle contents during normal conditions of handling and carriage. Manifold piping leading to shut-off valves shall be sufficiently flexible to protect



the valves and the piping from shearing or releasing the pressure receptacle contents. The filling and discharge valves and any protective caps shall be capable of being secured against unintended opening. Valves shall be protected as specified in 4.1.6.8.

- 6.2.1.3.3 Pressure receptacles which are not capable of being handled manually or rolled, shall be fitted with devices (skids, rings, straps) ensuring that they can be safely handled by mechanical means and so arranged as not to impair the strength of, nor cause undue stresses in, the pressure receptacle.
- 6.2.1.3.4 Individual pressure receptacles shall be equipped with pressure relief devices as specified in packing provision P200 (2) of 4.1.4.1 or in 6.2.1.3.6.4 and 6.2.1.3.6.5. Pressure-relief devices shall be designed to prevent the entry of foreign matter, the leakage of gas and the development of any dangerous excess pressure. When fitted, pressure relief devices on manifolded horizontal pressure receptacles filled with flammable gas shall be arranged to discharge freely to the open air in such a manner as to prevent any impingement of escaping gas upon the pressure receptacle itself under normal conditions of carriage.
- 6.2.1.3.5 Pressure receptacles whose filling is measured by volume shall be provided with a level indicator.
- 6.2.1.3.6 *Additional requirements for closed cryogenic receptacles*
  - 6.2.1.3.6.1 Each filling and discharge opening in a closed cryogenic receptacle used for the carriage of flammable refrigerated liquefied gases shall be fitted with at least two mutually independent shut-off devices in series, the first being a stop-valve, the second being a cap or equivalent device.
  - 6.2.1.3.6.2 For sections of piping which can be closed at both ends and where liquid product can be trapped, a method of automatic pressure-relief shall be provided to prevent excess pressure build-up within the piping.
  - 6.2.1.3.6.3 Each connection on a closed cryogenic receptacle shall be clearly marked to indicate its function (e.g. vapour or liquid phase).
  - 6.2.1.3.6.4 Pressure-relief devices
    - 6.2.1.3.6.4.1 Every closed cryogenic receptacle shall be provided with at least one pressure-relief device. The pressure-relief device shall be of the type that will resist dynamic forces including surge.
    - 6.2.1.3.6.4.2 Closed cryogenic receptacles may, in addition, have a frangible disc in parallel with the spring loaded device(s) in order to meet the requirements of 6.2.1.3.6.5.
    - 6.2.1.3.6.4.3 Connections to pressure-relief devices shall be of sufficient size to enable the required discharge to pass unrestricted to the pressure-relief device.
    - 6.2.1.3.6.4.4 All pressure-relief device inlets shall under maximum filling conditions be situated in the vapour space of the closed cryogenic receptacle and the devices shall be so arranged as to ensure that the escaping vapour is discharged unrestrictedly.
  - 6.2.1.3.6.5 Capacity and setting of pressure-relief devices

**NOTE:** *In relation to pressure-relief devices of closed cryogenic receptacles, maximum allowable working pressure (MAWP) means the maximum effective gauge pressure permissible at the top of a loaded closed cryogenic receptacle in its operating position including the highest effective pressure during filling and discharge.*

- 6.2.1.3.6.5.1 The pressure-relief device shall open automatically at a pressure not less than the MAWP and be fully open at a pressure equal to 110% of the MAWP. It shall, after discharge, close at a pressure not lower than 10% below the pressure at which discharge starts and shall remain closed at all lower pressures.
- 6.2.1.3.6.5.2 Frangible discs shall be set to rupture at a nominal pressure which is the lower of either the test pressure or 150% of the MAWP.
- 6.2.1.3.6.5.3 In the case of the loss of vacuum in a vacuum-insulated closed cryogenic receptacle the combined capacity of all pressure-relief devices installed shall be sufficient so that the pressure (including accumulation) inside the closed cryogenic receptacle does not exceed 120% of the MAWP.
- 6.2.1.3.6.5.4 The required capacity of the pressure-relief devices shall be calculated in accordance with an established technical code recognized by the competent authority<sup>1</sup>.

#### **6.2.1.4** *Approval of pressure receptacles*

- 6.2.1.4.1 The conformity of pressure receptacles shall be assessed at time of manufacture as required by the competent authority. Pressure receptacles shall be inspected, tested and approved by an inspection body. The technical documentation shall include full specifications on design and construction, and full documentation on the manufacturing and testing.
- 6.2.1.4.2 Quality assurance systems shall conform to the requirements of the competent authority.

#### **6.2.1.5** *Initial inspection and test*

- 6.2.1.5.1 New pressure receptacles, other than closed cryogenic receptacles, shall be subjected to testing and inspection during and after manufacture in accordance with the applicable design standards including the following:

On an adequate sample of pressure receptacles:

- (a) Testing of the mechanical characteristics of the material of construction;
- (b) Verification of the minimum wall thickness;
- (c) Verification of the homogeneity of the material for each manufacturing batch;
- (d) Inspection of the external and internal conditions of the pressure receptacles;
- (e) Inspection of the neck threads;
- (f) Verification of the conformance with the design standard;

For all pressure receptacles:

- (g) A hydraulic pressure test. Pressure receptacles shall withstand the test pressure without expansion greater than that allowed in the design specification;

**NOTE:** *With the agreement of the competent authority, the hydraulic pressure test may be replaced by a test using a gas, where such an operation does not entail any danger.*

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<sup>1</sup> See for example CGA Publications S-1.2-2003 "Pressure Relief Device Standards-Part 2-Cargo and Portable Tanks for Compressed Gases" and S-1.1-2003 "Pressure Relief Device Standards-Part 1-Cylinders for Compressed Gases".

- (h) Inspection and assessment of manufacturing defects and either repairing them or rendering the pressure receptacles unserviceable. In the case of welded pressure receptacles, particular attention shall be paid to the quality of the welds;
- (i) An inspection of the markings on the pressure receptacles;
- (j) In addition, pressure receptacles intended for the carriage of UN No. 1001 acetylene, dissolved, and UN No. 3374 acetylene, solvent free, shall be inspected to ensure proper installation and condition of the porous material and, if applicable, the quantity of solvent.

6.2.1.5.2 On an adequate sample of closed cryogenic receptacles, the inspections and tests specified in 6.2.1.5.1 (a), (b), (d) and (f) shall be performed. In addition, welds shall be inspected by radiographic, ultrasonic or another suitable non-destructive test method on a sample of closed cryogenic receptacles according to the applicable design and construction standard. This weld inspection does not apply to the jacket.

Additionally, all closed cryogenic receptacles shall undergo the initial inspections and tests specified in 6.2.1.5.1 (g), (h) and (i), as well as a leakproofness test and a test of the satisfactory operation of the service equipment after assembly.

#### **6.2.1.6      *Periodic inspection and test***

6.2.1.6.1 Refillable pressure receptacles, other than cryogenic receptacles, shall be subjected to periodic inspections and tests by a body authorised by the competent authority, in accordance with the following:

- (a) Check of the external conditions of the pressure receptacle and verification of the equipment and the external markings;
- (b) Check of the internal conditions of the pressure receptacle (e.g. internal inspection, verification of minimum wall thickness);
- (c) Checking of the threads if there is evidence of corrosion or if the fittings are removed;
- (d) A hydraulic pressure test and, if necessary, verification of the characteristics of the material by suitable tests;
- (e) Check of service equipment, other accessories and pressure-relief devices, if to be reintroduced into service.

**NOTE 1:**    *With the agreement of the competent authority, the hydraulic pressure test may be replaced by a test using a gas, where such an operation does not entail any danger.*

**NOTE 2:**    *With the agreement of the competent authority, the hydraulic pressure test of cylinders or tubes may be replaced by an equivalent method based on acoustic emission testing, ultrasonic examination or a combination of acoustic emission testing and ultrasonic examination.*

**NOTE 3:**    *For the periodic inspection and test frequencies, see packing instruction P200 in 4.1.4.1.*

- 6.2.1.6.2 Pressure receptacles intended for the carriage of UN No. 1001 acetylene, dissolved and UN No. 3374 acetylene, solvent free, shall be examined only as specified in 6.2.1.6.1 (a), (c) and (e). In addition the condition of the porous material (e.g. cracks, top clearance, loosening, settlement) shall be examined.

#### **6.2.1.7 Requirements for manufacturers**

- 6.2.1.7.1 The manufacturer shall be technically able and shall possess all resources required for the satisfactory manufacture of pressure receptacles; this relates in particular to qualified personnel:

- (a) To supervise the entire manufacturing process;
- (b) To carry out joining of materials; and
- (c) To carry out the relevant tests.

- 6.2.1.7.2 The proficiency test of a manufacturer shall in all instances be carried out by an inspection body approved by the competent authority of the country of approval.

#### **6.2.1.8 Requirements for inspection bodies**

- 6.2.1.8.1 Inspection bodies shall be independent from manufacturing enterprises and competent to perform the tests, inspections and approvals required.

### **6.2.2 Requirements for UN pressure receptacles**

In addition to the general requirements of section 6.2.1, UN pressure receptacles shall comply with the requirements of this section, including the standards, as applicable.

#### **6.2.2.1 Design, construction and initial inspection and test**

- 6.2.2.1.1 The following standards apply for the design, construction, and initial inspection and test of UN cylinders, except that inspection requirements related to the conformity assessment system and approval shall be in accordance with 6.2.2.5:

|                  |  |
|------------------|--|
| ISO 9809-1:1999  | Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 1: Quenched and tempered steel cylinders with tensile strength less than 1 100 MPa<br><i>NOTE: The note concerning the F factor in section 7.3 of this standard shall not be applied for UN cylinders.</i> |
| ISO 9809-2:2000  | Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 2: Quenched and tempered steel cylinders with tensile strength greater than or equal to 1 100 MPa  |
| ISO 9809-3:2000  | Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 3: Normalized steel cylinders  |
| ISO 7866:1999    | Gas cylinders – Refillable seamless aluminium alloy gas cylinders – Design, construction and testing<br><i>NOTE: The note concerning the F factor in section 7.2 of this standard shall not be applied for UN cylinders. Aluminium alloy 6351A – T6 or equivalent shall not be authorised.</i>               |
| ISO 11118:1999   | Gas cylinders – Non-refillable metallic gas cylinders – Specification and test methods   |
| ISO 11119-1:2002 | Gas cylinders of composite construction – Specification and test methods – Part 1: Hoop wrapped composite gas cylinders  |

|                  |   |
|------------------|---|
| ISO 11119-2:2002 | Gas cylinders of composite construction – Specification and test methods – Part 2: Fully wrapped fibre reinforced composite gas cylinders with load-sharing metal liners                        |
| ISO 11119-3:2002 | Gas cylinders of composite construction – Specification and test methods – Part 3: Fully wrapped fibre reinforced composite gas cylinders with non-load-sharing metallic or non-metallic liners |

**NOTE 1:** In the above referenced standards composite cylinders shall be designed for unlimited service life.

**NOTE 2:** After the first 15 years of service, composite cylinders manufactured according to these standards, may be approved for extended service by the competent authority which was responsible for the original approval of the cylinders and which will base its decision on the test information supplied by the manufacturer or owner or user.

- 6.2.2.1.2 The following standard apply for the design, construction, and initial inspection and test of UN tubes, except that inspection requirements related to the conformity assessment system and approval shall be in accordance with 6.2.2.5:

|                |   |
|----------------|---|
| ISO 11120:1999 | Gas cylinders – Refillable seamless steel tubes for compressed gas transport, of water capacity between 150 l and 3 000 l – Design, construction and testing<br><b>NOTE:</b> The note concerning the <i>F</i> factor in section 7.1 of this standard shall not be applied for UN tubes. |
|----------------|---|

- 6.2.2.1.3 The following standards apply for the design, construction and initial inspection and test of UN acetylene cylinders, except that inspection requirements related to the conformity assessment system and approval shall be in accordance with 6.2.2.5:

For the cylinder shell:

|                 |   |
|-----------------|---|
| ISO 9809-1:1999 | Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 1: Quenched and tempered steel cylinders with tensile strength less than 1 100 MPa<br><b>NOTE:</b> The note concerning the <i>F</i> factor in section 7.3 of this standard shall not be applied for UN cylinders. |
| ISO 9809-3:2000 | Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 3: Normalized steel cylinders   |

For the porous material in the cylinder:

|                 |  |
|-----------------|--|
| ISO 3807-1:2000 | Cylinders for acetylene – Basic requirements – Part 1: Cylinders without fusible plugs |
| ISO 3807-2:2000 | Cylinders for acetylene – Basic requirements – Part 2: Cylinders with fusible plugs    |

- 6.2.2.1.4 The following standard apply for the design, construction, and initial inspection and test of UN cryogenic receptacles, except that inspection requirements related to the conformity assessment system and approval shall be in accordance with 6.2.2.5:

|                  |  |
|------------------|--|
| ISO 21029-1:2004 | Cryogenic vessels – Transportable vacuum insulated vessels of not more than 1 000 l volume – Part 1: Design, fabrication, inspection and tests |
|------------------|--|

**6.2.2.2 Materials**

In addition to the material requirements specified in the pressure receptacle design and construction standards, and any restrictions specified in the applicable packing instruction for the gas(es) to be carried (e.g. packing instruction P200 of 4.1.4.1), the following standards apply to material compatibility:

|                  |  |
|------------------|--|
| ISO 11114-1:1997 | Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 1: Metallic materials     |
| ISO 11114-2:2000 | Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 2: Non-metallic materials |

**NOTE:** The limitations imposed in ISO 11114-1 on high strength steel alloys at ultimate tensile strength levels up to 1 100 MPa do not apply to UN No. 2203 silane.

**6.2.2.3 Service equipment**

The following standards apply to closures and their protection:

|                |   |
|----------------|---|
| ISO 11117:1998 | Gas cylinders – Valve protection caps and valve guards for industrial and medical gas cylinders – Design, construction and tests  |
| ISO 10297:2006 | Transportable gas cylinders – Cylinder valves – Specification and type testing<br><b>NOTE:</b> The EN version of this ISO standard fulfils the requirements and may also be used. |

**6.2.2.4 Periodic inspection and test**

The following standards apply to the periodic inspection and testing of UN cylinders:

|                          |   |
|--------------------------|---|
| ISO 6406:2005            | Periodic inspection and testing of seamless steel gas cylinders                                       |
| ISO 10461:2005 + A1:2006 | Seamless aluminium-alloy gas cylinders – Periodic inspection and testing                              |
| ISO 10462:2005           | Gas cylinders – Transportable cylinders for dissolved acetylene – Periodic inspection and maintenance |
| ISO 11623:2002           | Transportable gas cylinders – Periodic inspection and testing of composite gas cylinders              |

**6.2.2.5 Conformity assessment system and approval for manufacture of pressure receptacles****6.2.2.5.1 Definitions**

For the purposes of this sub-section:

*Conformity assessment system* means a system for competent authority approval of a manufacturer, by pressure receptacle design type approval, approval of manufacturer's quality system and approval of inspection bodies;

*Design type* means a pressure receptacle design as specified by a particular pressure receptacle standard;

*Verify* means confirm by examination or provision of objective evidence that specified requirements have been fulfilled.

#### 6.2.2.5.2 *General requirements*

##### Competent authority

- 6.2.2.5.2.1 The competent authority that approves the pressure receptacle shall approve the conformity assessment system for the purpose of ensuring that pressure receptacles conform to the requirements of ADR. In instances where the competent authority that approves a pressure receptacle is not the competent authority in the country of manufacture, the marks of the approval country and the country of manufacture shall be indicated in the pressure receptacle marking (see 6.2.2.7 and 6.2.2.8).

The competent authority of the country of approval shall supply, upon request, evidence demonstrating compliance to this conformity assessment system to its counterpart in a country of use.

- 6.2.2.5.2.2 The competent authority may delegate its functions in this conformity assessment system in whole or in part.

- 6.2.2.5.2.3 The competent authority shall ensure that a current list of approved inspection bodies and their identity marks and approved manufacturers and their identity marks is available.

##### *Inspection body*

- 6.2.2.5.2.4 The inspection body shall be approved by the competent authority for the inspection of pressure receptacles and shall:

- (a) Have a staff with an organisational structure, capable, trained, competent, and skilled, to satisfactorily perform its technical functions;
- (b) Have access to suitable and adequate facilities and equipment;
- (c) Operate in an impartial manner and be free from any influence which could prevent it from doing so;
- (d) Ensure commercial confidentiality of the commercial and proprietary activities of the manufacturer and other bodies;
- (e) Maintain clear demarcation between actual inspection body functions and unrelated functions;
- (f) Operate a documented quality system;
- (g) Ensure that the tests and inspections specified in the relevant pressure receptacle standard and ADR are performed; and
- (h) Maintain an effective and appropriate report and record system in accordance with 6.2.2.5.6.

- 6.2.2.5.2.5 The inspection body shall perform design type approval, pressure receptacle production testing and inspection, and certification to verify conformity with the relevant pressure receptacle standard (see 6.2.2.5.4 and 6.2.2.5.5).



*Manufacturer*

6.2.2.5.2.6 The manufacturer shall:

- (a) Operate a documented quality system in accordance with 6.2.2.5.3;
- (b) Apply for design type approvals in accordance with 6.2.2.5.4;
- (c) Select an inspection body from the list of approved inspection bodies maintained by the competent authority in the country of approval; and
- (d) Maintain records in accordance with 6.2.2.5.6.

*Testing laboratory*

6.2.2.5.2.7 The testing laboratory shall have:

- (a) Staff with an organisational structure, sufficient in number, competence, and skill; and
- (b) Suitable and adequate facilities and equipment to perform the tests required by the manufacturing standard to the satisfaction of the inspection body.

6.2.2.5.3 *Manufacturer's quality system*

6.2.2.5.3.1 The quality system shall contain all the elements, requirements, and provisions adopted by the manufacturer. It shall be documented in a systematic and orderly manner in the form of written policies, procedures and instructions.

The contents shall in particular include adequate descriptions of:

- (a) The organisational structure and responsibilities of personnel with regard to design and product quality;
- (b) The design control and design verification techniques, processes, and procedures that will be used when designing the pressure receptacles;
- (c) The relevant pressure receptacle manufacturing, quality control, quality assurance and process operation instructions that will be used;
- (d) Quality records, such as inspection reports, test data and calibration data;
- (e) Management reviews to ensure the effective operation of the quality system arising from the audits in accordance with 6.2.2.5.3.2;
- (f) The process describing how customer requirements are met;
- (g) The process for control of documents and their revision;
- (h) The means for control of non-conforming pressure receptacles, purchased components, in-process and final materials; and
- (i) Training programmes and qualification procedures for relevant personnel.



#### 6.2.2.5.3.2      Audit of the quality system

The quality system shall be initially assessed to determine whether it meets the requirements in 6.2.2.5.3.1 to the satisfaction of the competent authority.

The manufacturer shall be notified of the results of the audit. The notification shall contain the conclusions of the audit and any corrective actions required.

Periodic audits shall be carried out, to the satisfaction of the competent authority, to ensure that the manufacturer maintains and applies the quality system. Reports of the periodic audits shall be provided to the manufacturer.

#### 6.2.2.5.3.3      Maintenance of the quality system

The manufacturer shall maintain the quality system as approved in order that it remains adequate and efficient.

The manufacturer shall notify the competent authority that approved the quality system, of any intended changes. The proposed changes shall be evaluated in order to determine whether the amended quality system will still satisfy the requirements in 6.2.2.5.3.1.

#### 6.2.2.5.4      *Approval process*

##### *Initial design type approval*

6.2.2.5.4.1      The initial design type approval shall consist of approval of the manufacturer's quality system and approval of the pressure receptacle design to be produced. An application for an initial design type approval shall meet the requirements of 6.2.2.5.4.2 to 6.2.2.5.4.6 and 6.2.2.5.4.9.

6.2.2.5.4.2      A manufacturer desiring to produce pressure receptacles in accordance with a pressure receptacle standard and ADR shall apply for, obtain, and retain a design type approval certificate issued by the competent authority in the country of approval for at least one pressure receptacle design type in accordance with the procedure given in 6.2.2.5.4.9. This certificate shall, on request, be submitted to the competent authority of the country of use.

6.2.2.5.4.3      An application shall be made for each manufacturing facility and shall include:

- (a)      The name and registered address of the manufacturer and in addition, if the application is submitted by an authorised representative, its name and address;
- (b)      The address of the manufacturing facility (if different from the above);
- (c)      The name and title of the person(s) responsible for the quality system;
- (d)      The designation of the pressure receptacle and the relevant pressure receptacle standard;
- (e)      Details of any refusal of approval of a similar application by any other competent authority;
- (f)      The identity of the inspection body for design type approval;
- (g)      Documentation on the manufacturing facility as specified under 6.2.2.5.3.1; and

- (h) The technical documentation required for design type approval, which shall enable verification of the conformity of the pressure receptacles with the requirements of the relevant pressure receptacle design standard. The technical documentation shall cover the design and method of manufacture and shall contain, as far as is relevant for assessment, at least the following:
  - (i) pressure receptacle design standard, design and manufacturing drawings, showing components and subassemblies, if any;
  - (ii) descriptions and explanations necessary for the understanding of the drawings and intended use of the pressure receptacles;
  - (iii) a list of the standards necessary to fully define the manufacturing process;
  - (iv) design calculations and material specifications; and
  - (v) design type approval test reports, describing the results of examinations and tests carried out in accordance with 6.2.2.5.4.9.

6.2.2.5.4.4 An initial audit in accordance with 6.2.2.5.3.2 shall be performed to the satisfaction of the competent authority.

6.2.2.5.4.5 If the manufacturer is denied approval, the competent authority shall provide written detailed reasons for such denial.

6.2.2.5.4.6 Following approval, changes to the information submitted under 6.2.2.5.4.3 relating to the initial approval shall be provided to the competent authority.

*Subsequent design type approvals*

6.2.2.5.4.7 An application for a subsequent design type approval shall meet the requirements of 6.2.2.5.4.8 and 6.2.2.5.4.9, provided a manufacturer is in the possession of an initial design type approval. In such a case, the manufacturer's quality system according to 6.2.2.5.3 shall have been approved during the initial design type approval and shall be applicable for the new design.

6.2.2.5.4.8 The application shall include:

- (a) The name and address of the manufacturer and in addition, if the application is submitted by an authorised representative, its name and address;
- (b) Details of any refusal of approval of a similar application by any other competent authority;
- (c) Evidence that initial design type approval has been granted; and
- (d) The technical documentation, as described in 6.2.2.5.4.3 (h).

*Procedure for design type approval*

6.2.2.5.4.9 The inspection body shall:

- (a) Examine the technical documentation to verify that:
  - (i) the design is in accordance with the relevant provisions of the standard, and

- (ii) the prototype lot has been manufactured in conformity with the technical documentation and is representative of the design;
- (b) Verify that the production inspections have been carried out as required in accordance with 6.2.2.5.5;
- (c) Select pressure receptacles from a prototype production lot and supervise the tests of these pressure receptacles as required for design type approval;
- (d) Perform or have performed the examinations and tests specified in the pressure receptacle standard to determine that:
  - (i) the standard has been applied and fulfilled, and
  - (ii) the procedures adopted by the manufacturer meet the requirements of the standard; and
- (e) Ensure that the various type approval examinations and tests are correctly and competently carried out.

After prototype testing has been carried out with satisfactory results and all applicable requirements of 6.2.2.5.4 have been satisfied, a design type approval certificate shall be issued, which shall include the name and address of the manufacturer, results and conclusions of the examination, and the necessary data for identification of the design type.

If the manufacturer is denied a design type approval, the competent authority shall provide written detailed reasons for such denial.

#### 6.2.2.5.4.10 Modifications to approved design types

The manufacturer shall either:

- (a) Inform the issuing competent authority of modifications to the approved design type, where such modifications do not constitute a new design, as specified in the pressure receptacle standard; or
- (b) Request a subsequent design type approval where such modifications constitute a new design according to the relevant pressure receptacle standard. This additional approval shall be given in the form of an amendment to the original design type approval certificate.

#### 6.2.2.5.4.11 Upon request, the competent authority shall communicate to any other competent authority, information concerning design type approval, modifications of approvals and withdrawn approvals.

#### 6.2.2.5.5 *Production inspection and certification*

##### *General requirements*

An inspection body, or its delegate, shall carry out the inspection and certification of each pressure receptacle. The inspection body selected by the manufacturer for inspection and testing during production may be different from the inspection body used for the design type approval testing.

Where it can be demonstrated to the satisfaction of the inspection body that the manufacturer has trained competent inspectors, independent of the manufacturing operations, inspection

may be performed by those inspectors. In such a case, the manufacturer shall maintain training records of the inspectors.

The inspection body shall verify that the inspections by the manufacturer, and tests performed on those pressure receptacles, fully conform to the standard and the requirements of ADR. Should non-conformance in conjunction with this inspection and testing be determined, the permission to have inspection performed by the manufacturer's inspectors may be withdrawn.

The manufacturer shall, after approval by the inspection body, make a declaration of conformity with the certified design type. The application of the pressure receptacle certification marking shall be considered a declaration that the pressure receptacle complies with the applicable pressure receptacle standards and the requirements of this conformity assessment system and ADR. The inspection body shall affix or delegate the manufacturer to affix the pressure receptacle certification marking and the registered mark of the inspection body to each approved pressure receptacle.

A certificate of compliance, signed by the inspection body and the manufacturer, shall be issued before the pressure receptacles are filled.

#### 6.2.2.5.6 *Records*

Design type approval and certificate of compliance records shall be retained by the manufacturer and the inspection body for not less than 20 years.

### 6.2.2.6 *Approval system for periodic inspection and test of pressure receptacles*

#### 6.2.2.6.1 *Definition*

For the purposes of this section:

*Approval system* means a system for competent authority approval of a body performing periodic inspection and test of pressure receptacles (hereinafter referred to as "periodic inspection and test body"), including approval of that body's quality system.

#### 6.2.2.6.2 *General requirements*

##### *Competent authority*

#### 6.2.2.6.2.1

The competent authority shall establish an approval system for the purpose of ensuring that the periodic inspection and test of pressure receptacles conform to the requirements of ADR. In instances where the competent authority that approves a body performing periodic inspection and test of a pressure receptacle is not the competent authority of the country approving the manufacture of the pressure receptacle, the marks of the approval country of periodic inspection and test shall be indicated in the pressure receptacle marking (see 6.2.2.7).

The competent authority of the country of approval for the periodic inspection and test shall supply, upon request, evidence demonstrating compliance to this approval system including the records of the periodic inspection and test to its counterpart in a country of use.

The competent authority of the country of approval may terminate the approval certificate referred to in 6.2.2.6.4.1, upon evidence demonstrating non-compliance with the approval system.

6.2.2.6.2.2      The competent authority may delegate its functions in this approval system, in whole or in part.

6.2.2.6.2.3      The competent authority shall ensure that a current list of approved periodic inspection and test bodies and their identity marks is available.

*Periodic inspection and test body*

6.2.2.6.2.4      The periodic inspection and test body shall be approved by the competent authority and shall:

- (a)      Have a staff with an organisational structure, capable, trained, competent, and skilled, to satisfactorily perform its technical functions;
- (b)      Have access to suitable and adequate facilities and equipment;
- (c)      Operate in an impartial manner and be free from any influence which could prevent it from doing so;
- (d)      Ensure commercial confidentiality;
- (e)      Maintain clear demarcation between actual periodic inspection and test body functions and unrelated functions;
- (f)      Operate a documented quality system accordance with 6.2.2.6.3;
- (g)      Apply for approval in accordance with 6.2.2.6.4;
- (h)      Ensure that the periodic inspections and tests are performed in accordance with 6.2.2.6.5; and
- (i)      Maintain an effective and appropriate report and record system in accordance with 6.2.2.6.6.

6.2.2.6.3      *Quality system and audit of the periodic inspection and test body*

6.2.2.6.3.1      Quality system

The quality system shall contain all the elements, requirements, and provisions adopted by the periodic inspection and test body. It shall be documented in a systematic and orderly manner in the form of written policies, procedures, and instructions.

The quality system shall include:

- (a)      A description of the organisational structure and responsibilities;
- (b)      The relevant inspection and test, quality control, quality assurance, and process operation instructions that will be used;
- (c)      Quality records, such as inspection reports, test data, calibration data and certificates;
- (d)      Management reviews to ensure the effective operation of the quality system arising from the audits performed in accordance with 6.2.2.6.3.2;
- (e)      A process for control of documents and their revision;
- (f)      A means for control of non-conforming pressure receptacles; and
- (g)      Training programmes and qualification procedures for relevant personnel.

#### 6.2.2.6.3.2 Audit

The periodic inspection and test body and its quality system shall be audited in order to determine whether it meets the requirements of ADR to the satisfaction of the competent authority.

An audit shall be conducted as part of the initial approval process (see 6.2.2.6.4.3). An audit may be required as part of the process to modify an approval (see 6.2.2.6.4.6).

Periodic audits shall be conducted, to the satisfaction of the competent authority, to ensure that the periodic inspection and test body continues to meet the requirements of ADR.

The periodic inspection and test body shall be notified of the results of any audit. The notification shall contain the conclusions of the audit and any corrective actions required.

#### 6.2.2.6.3.3 Maintenance of the quality system

The periodic inspection and test body shall maintain the quality system as approved in order that it remains adequate and efficient.

The periodic inspection and test body shall notify the competent authority that approved the quality system, of any intended changes, in accordance with the process for modification of an approval in 6.2.2.6.4.6.

#### 6.2.2.6.4 *Approval process for periodic inspection and test bodies*

##### *Initial approval*

#### 6.2.2.6.4.1 A body desiring to perform periodic inspection and test of pressure receptacles in accordance with a pressure receptacle standard and ADR shall apply for, obtain, and retain an approval certificate issued by the competent authority.

This written approval shall, on request, be submitted to the competent authority of a country of use.

#### 6.2.2.6.4.2 An application shall be made for each periodic inspection and test body and shall include:

- (a) The name and address of the periodic inspection and test body and, if the application is submitted by an authorised representative, its name and address;
- (b) The address of each facility performing periodic inspection and test;
- (c) The name and title of the person(s) responsible for the quality system;
- (d) The designation of the pressure receptacles, the periodic inspection and test methods, and the relevant pressure receptacle standards met by the quality system;
- (e) Documentation on each facility, the equipment, and the quality system as specified under 6.2.2.6.3.1;
- (f) The qualifications and training records of the periodic inspection and test personnel; and
- (g) Details of any refusal of approval of a similar application by any other competent authority.

6.2.2.6.4.3      The competent authority shall:

- (a)    Examine the documentation to verify that the procedures are in accordance with the requirements of the relevant pressure receptacle standards and ADR; and
- (b)    Conduct an audit in accordance with 6.2.2.6.3.2 to verify that the inspections and tests are carried out as required by the relevant pressure receptacle standards and ADR, to the satisfaction of the competent authority.

6.2.2.6.4.4      After the audit has been carried out with satisfactory results and all applicable requirements of 6.2.2.6.4 have been satisfied, an approval certificate shall be issued. It shall include the name of the periodic inspection and test body, the registered mark, the address of each facility, and the necessary data for identification of its approved activities (e.g. designation of pressure receptacles, periodic inspection and test method and pressure receptacle standards).

6.2.2.6.4.5      If the periodic inspection and test body is denied approval, the competent authority shall provide written detailed reasons for such denial.

*Modifications to periodic inspection and test body approvals*

6.2.2.6.4.6      Following approval, the periodic inspection and test body shall notify the issuing competent authority of any modifications to the information submitted under 6.2.2.6.4.2 relating to the initial approval.

The modifications shall be evaluated in order to determine whether the requirements of the relevant pressure receptacle standards and ADR will be satisfied. An audit in accordance with 6.2.2.6.3.2 may be required. The competent authority shall accept or reject these modifications in writing, and an amended approval certificate shall be issued as necessary.

6.2.2.6.4.7      Upon request, the competent authority shall communicate to any other competent authority, information concerning initial approvals, modifications of approvals, and withdrawn approvals.

6.2.2.6.5      *Periodic inspection and test and certification*

The application of the periodic inspection and test marking to a pressure receptacle shall be considered a declaration that the pressure receptacle complies with the applicable pressure receptacle standards and the requirements of ADR. The periodic inspection and test body shall affix the periodic inspection and test marking, including its registered mark, to each approved pressure receptacle (see 6.2.2.7.6).

A record certifying that a pressure receptacle has passed the periodic inspection and test shall be issued by the periodic inspection and test body, before the pressure receptacle is filled.

6.2.2.6.6      *Records*

The periodic inspection and test body shall retain records of pressure receptacle periodic inspection and tests (both passed and failed) including the location of the test facility, for not less than 15 years.

The owner of the pressure receptacle shall retain an identical record until the next periodic inspection and test unless the pressure receptacle is permanently removed from service.

**6.2.2.7 Marking of refillable UN pressure receptacles**

Refillable UN pressure receptacles shall be marked clearly and legibly with certification, operational and manufacturing marks. These marks shall be permanently affixed (e.g. stamped, engraved, or etched) on the pressure receptacle. The marks shall be on the shoulder, top end or neck of the pressure receptacle or on a permanently affixed component of the pressure receptacle (e.g. welded collar or corrosion resistant plate welded on the outer jacket of a closed cryogenic receptacle). Except for the UN packaging symbol, the minimum size of the marks shall be 5 mm for pressure receptacles with a diameter greater than or equal to 140 mm and 2.5 mm for pressure receptacles with a diameter less than 140 mm. The minimum size of the UN packaging symbol shall be 10 mm for pressure receptacles with a diameter greater than or equal to 140 mm and 5 mm for pressure receptacles with a diameter less than 140 mm.

6.2.2.7.1 The following certification marks shall be applied:

- (a) The United Nations packaging symbol



;

This symbol shall not be used for any purpose other than certifying that a packaging complies with the relevant requirements in Chapter 6.1, 6.2, 6.3, 6.5 or 6.6. This symbol shall not be used for pressure receptacles which only conform to the requirements of 6.2.3 to 6.2.5 (see 6.2.3.9).

- (b) The technical standard (e.g. ISO 9809-1) used for design, manufacture and testing;
- (c) The character(s) identifying the country of approval as indicated by the distinguishing signs for motor vehicles in international traffic <sup>2</sup>;

**NOTE:** *The country of approval shall be understood to be the country that approved the body which inspected the individual receptacle at time of manufacture.*

- (d) The identity mark or stamp of the inspection body that is registered with the competent authority of the country authorizing the marking;
- (e) The date of the initial inspection, the year (four digits) followed by the month (two digits) separated by a slash (i.e. "/");

6.2.2.7.2 The following operational marks shall be applied:

- (f) The test pressure in bar, preceded by the letters "PH" and followed by the letters "BAR";
- (g) The mass of the empty pressure receptacle including all permanently attached integral parts (e.g. neck ring, foot ring, etc.) in kilograms, followed by the letters "KG". This mass shall not include the mass of valve, valve cap or valve guard, any coating or porous material for acetylene. The mass shall be expressed to three significant figures rounded up to the last digit. For cylinders of less than 1 kg, the mass shall be expressed to two significant figures rounded up to the last digit. In the case of pressure receptacles for UN No. 1001 acetylene, dissolved and UN No. 3374 acetylene, solvent free, at least one decimal shall be shown after the decimal point and two digits for pressure receptacles of less than 1 kg;

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<sup>2</sup> *Distinguishing signs for motor vehicles in international traffic prescribed in the Vienna Convention on Road Traffic (1968).*



- (h) The minimum guaranteed wall thickness of the pressure receptacle in millimetres followed by the letters "MM". This mark is not required for pressure receptacles with a water capacity less than or equal to 1 litre or for composite cylinders or for closed cryogenic receptacles;
- (i) In the case of pressure receptacles for compressed gases, UN No. 1001 acetylene, dissolved, and UN No. 3374 acetylene, solvent free, the working pressure in bar, preceded by the letters "PW". In the case of closed cryogenic receptacles, the maximum allowable working pressure preceded by the letters "MAWP";
- (j) In the case of pressure receptacles for liquefied gases and refrigerated liquefied gases, the water capacity in litres expressed to three significant figures rounded down to the last digit, followed by the letter "L". If the value of the minimum or nominal water capacity is an integer, the figures after the decimal point may be neglected;
- (k) In the case of pressure receptacles for UN No. 1001 acetylene, dissolved, the total of the mass of the empty receptacle, the fittings and accessories not removed during filling, any coating, the porous material, the solvent and the saturation gas expressed to three significant figures rounded down to the last digit followed by the letters "KG". At least one decimal shall be shown after the decimal point. For pressure receptacles of less than 1 kg, the mass shall be expressed to two significant figures rounded down to the last digit;
- (l) In the case of pressure receptacles for UN No. 3374 acetylene, solvent free, the total of the mass of the empty receptacle, the fittings and accessories not removed during filling, any coating and the porous material expressed to three significant figures rounded down to the last digit followed by the letters "KG". At least one decimal shall be shown after the decimal point. For pressure receptacles of less than 1 kg, the mass shall be expressed to two significant figures rounded down to the last digit;

6.2.2.7.3 The following manufacturing marks shall be applied:

- (m) Identification of the cylinder thread (e.g. 25E). This mark is not required for closed cryogenic receptacles;
- (n) The manufacturer's mark registered by the competent authority. When the country of manufacture is not the same as the country of approval, then the manufacturer's mark shall be preceded by the character(s) identifying the country of manufacture as indicated by the distinguishing signs for motor vehicles in international traffic <sup>2</sup>. The country mark and the manufacturer's mark shall be separated by a space or slash;
- (o) The serial number assigned by the manufacturer;
- (p) In the case of steel pressure receptacles and composite pressure receptacles with steel liner intended for the carriage of gases with a risk of hydrogen embrittlement, the letter "H" showing compatibility of the steel (see ISO 11114-1:1997).

6.2.2.7.4 The above marks shall be placed in three groups:

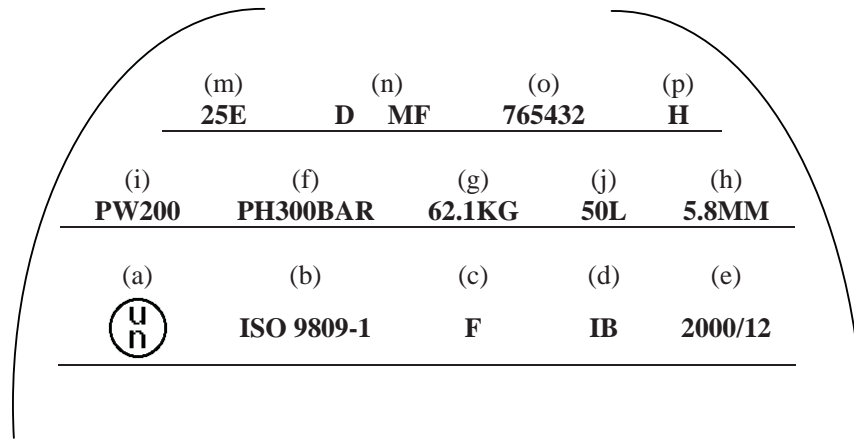
- Manufacturing marks shall be the top grouping and shall appear consecutively in the sequence given in 6.2.2.7.3.

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<sup>2</sup> *Distinguishing signs for motor vehicles in international traffic prescribed in the Vienna Convention on Road Traffic (1968).*

- The operational marks in 6.2.2.7.2 shall be the middle grouping and the test pressure (f) shall be immediately preceded by the working pressure (i) when the latter is required.
- Certification marks shall be the bottom grouping and shall appear in the sequence given in 6.2.2.7.1.

The following is an example of the markings applied to a cylinder.



6.2.2.7.5 Other marks are allowed in areas other than the side wall, provided they are made in low stress areas and are not of a size and depth that will create harmful stress concentrations. In the case of closed cryogenic receptacles, such marks may be on a separate plate attached to the outer jacket. Such marks shall not conflict with required marks.

6.2.2.7.6 In addition to the preceding marks, each refillable pressure receptacle that meets the periodic inspection and test requirements of 6.2.2.4 shall be marked indicating:

- (a) The character(s) identifying the country authorizing the body performing the periodic inspection and test. This marking is not required if this body is approved by the competent authority of the country approving manufacture;
- (b) The registered mark of the body authorised by the competent authority for performing periodic inspection and test;
- (c) The date of the periodic inspection and test, the year (two digits) followed by the month (two digits) separated by a slash (i.e. "/" ). Four digits may be used to indicate the year.

The above marks shall appear consecutively in the sequence given.

6.2.2.7.7 For acetylene cylinders, with the agreement of the competent authority, the date of the most recent periodic inspection and the stamp of the body performing the periodic inspection and test may be engraved on a ring held on the cylinder by the valve. The ring shall be configured so that it can only be removed by disconnecting the valve from the cylinder.

#### 6.2.2.8 *Marking of non-refillable UN pressure receptacles*

Non-refillable UN pressure receptacles shall be marked clearly and legibly with certification and gas or pressure receptacle specific marks. These marks shall be permanently affixed (e.g. stencilled, stamped, engraved, or etched) on the pressure receptacle. Except when stencilled, the marks shall be on the shoulder, top end or neck of the pressure receptacle or on a permanently affixed component of the pressure receptacle (e.g. welded collar). Except

for the UN packaging symbol and the "DO NOT REFILL" mark, the minimum size of the marks shall be 5 mm for pressure receptacles with a diameter greater than or equal to 140 mm and 2.5 mm for pressure receptacles with a diameter less than 140 mm. The minimum size of the UN packaging symbol shall be 10 mm for pressure receptacles with a diameter greater than or equal to 140 mm and 5 mm for pressure receptacles with a diameter less than 140 mm. The minimum size of the "DO NOT REFILL" mark shall be 5 mm.

6.2.2.8.1 The marks listed in 6.2.2.7.1 to 6.2.2.7.3 shall be applied with the exception of (g), (h) and (m). The serial number (o) may be replaced by the batch number. In addition, the words "DO NOT REFILL" in letters of at least 5 mm in height are required.

6.2.2.8.2 The requirements of 6.2.2.7.4 shall apply.

**NOTE:** *Non-refillable pressure receptacles may, on account of their size, substitute this marking by a label.*

6.2.2.8.3 Other marks are allowed provided they are made in low stress areas other than the side wall and are not of a size and depth that will create harmful stress concentrations. Such marks shall not conflict with required marks.

#### 6.2.2.9 *Equivalent procedures for conformity assessment and periodic inspection and test*

For UN pressure receptacles the requirements of 6.2.2.5 and 6.2.2.6 are considered to have been complied with when the following procedures are applied:

| Procedure                              | Relevant body  |
|--|----------------|
| Type approval (1.8.7.2)                | Xa             |
| Supervision of manufacture (1.8.7.3)   | Xa or IS       |
| Initial inspection and tests (1.8.7.4) | Xa or IS       |
| Periodic inspection (1.8.7.5)          | Xa or Xb or IS |

Xa means the competent authority, its delegate or inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020:2004 type A.

Xb means inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020:2004 type B.

IS means an in-house inspection service of the applicant under the surveillance of an inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020:2004 type A. The in-house inspection service shall be independent from design process, manufacturing operations, repair and maintenance.

### 6.2.3 **General requirements for non-UN pressure receptacles**

#### 6.2.3.1 *Design and construction*

6.2.3.1.1 Pressure receptacles and their closures not designed, constructed, inspected, tested and approved according to the requirements of 6.2.2 shall be designed, constructed, inspected, tested and approved in accordance with the general requirements of 6.2.1 as supplemented or modified by the requirements of this section and those of 6.2.4 or 6.2.5.

6.2.3.1.2 Whenever possible the wall thickness shall be determined by calculation, accompanied, if needed, by experimental stress analysis. Otherwise the wall thickness may be determined by experimental means.

Appropriate design calculations for the pressure envelope and supporting components shall be used to ensure the safety of the pressure receptacles concerned.

The minimum wall thickness to withstand pressure shall be calculated in particular with regard to:

- The calculation pressures, which shall not be less than the test pressure;
- The calculation temperatures allowing for appropriate safety margins;
- The maximum stresses and peak stress concentrations where necessary;
- Factors inherent to the properties of the material.

6.2.3.1.3 For welded pressure receptacles, only metals of weldable quality whose adequate impact strength at an ambient temperature of  $-20\text{ }^{\circ}\text{C}$  can be guaranteed shall be used.

6.2.3.1.4 For closed cryogenic receptacles, the impact strength to be established as required by 6.2.1.1.8.1 shall be tested as laid down in 6.8.5.3.

**6.2.3.2** *(Reserved)*

**6.2.3.3** *Service equipment*

6.2.3.3.1 Service equipment shall comply with 6.2.1.3.

6.2.3.3.2 *Openings*

Pressure drums may be provided with openings for filling and discharge and with other openings intended for level gauges, pressure gauges or relief devices. The number of openings shall be kept to a minimum consistent with safe operations. Pressure drums may also be provided with an inspection opening, which shall be closed by an effective closure.

6.2.3.3.3 *Fittings*

- (a) If cylinders are fitted with a device to prevent rolling, this device shall not be integral with the valve cap;
- (b) Pressure drums which are capable of being rolled shall be equipped with rolling hoops or be otherwise protected against damage due to rolling (e.g. by corrosion resistant metal sprayed on to the pressure receptacle surface);
- (c) Bundles of cylinders shall be fitted with appropriate devices ensuring that they can be handled and carried safely;
- (d) If level gauges, pressure gauges or relief devices are installed, they shall be protected in the same way as is required for valves in 4.1.6.8.

**6.2.3.4** *Initial inspection and test*

6.2.3.4.1 New pressure receptacles shall be subjected to testing and inspection during and after manufacture in accordance with the requirements of 6.2.1.5 except that 6.2.1.5.1 (g) shall be replaced by the following:

- (g) A hydraulic pressure test. Pressure receptacles shall withstand the test pressure without undergoing permanent deformation or exhibiting cracks.

#### 6.2.3.4.2 *Specific provisions applying to aluminium alloy pressure receptacles*

- (a) In addition to the initial inspection required by 6.2.1.5.1, it is necessary to test for possible intercrystalline corrosion of the inside wall of the pressure receptacles where use is made of an aluminium alloy containing copper, or where use is made of an aluminium alloy containing magnesium and manganese and the magnesium content is greater than 3.5% or the manganese content lower than 0.5%;
- (b) In the case of an aluminium/copper alloy the test shall be carried out by the manufacturer at the time of approval of a new alloy by the competent authority; it shall thereafter be repeated in the course of production, for each pour of the alloy;
- (c) In the case of an aluminium/magnesium alloy the test shall be carried out by the manufacturer at the time of approval of a new alloy and of the manufacturing process by the competent authority. The test shall be repeated whenever a change is made in the composition of the alloy or in the manufacturing process.

#### 6.2.3.5 *Periodic inspection and test*

6.2.3.5.1 Periodic inspection and test shall be in accordance with 6.2.1.6.1.

**NOTE:** With the agreement of the competent authority of the country that issued the type approval, the hydraulic pressure test of each welded steel cylinder intended for the carriage of gases of UN No. 1965, hydrocarbon gas mixture liquefied, n.o.s., with a capacity below 6.5 l may be replaced by another test ensuring an equivalent level of safety.

6.2.3.5.2 Closed cryogenic receptacles shall be subjected to periodic inspections and tests by a body authorised by the competent authority in accordance with the periodicity defined in packing instruction P203 of 4.1.4.1 to verify external conditions, condition and operation of pressure relief devices and be subjected to a leakproofness test at 90% of the maximum working pressure. The leakproofness test shall be carried out with the gas contained in the pressure receptacle or with an inert gas. Checking shall be performed by means of a pressure gauge or by vacuum measurement. The thermal insulation need not be removed.

#### 6.2.3.6 *Approval of pressure receptacles*

6.2.3.6.1 The procedures for conformity assessment and periodic inspection of section 1.8.7 shall be performed by the relevant body according to the following table.

| Procedure                              | Relevant body  |
|--|----------------|
| Type approval (1.8.7.2)                | Xa             |
| Supervision of manufacture (1.8.7.3)   | Xa or IS       |
| Initial inspection and tests (1.8.7.4) | Xa or IS       |
| Periodic inspection (1.8.7.5)          | Xa or Xb or IS |

The conformity assessment of valves and other accessories having a direct safety function may be carried out separately from the receptacles and the conformity assessment procedure shall be at least as stringent as that undergone by the pressure receptacle to which they are fitted.

Xa means the competent authority, its delegate or inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020:2004 type A.

Xb means inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020:2004 type B.

IS means an in-house inspection service of the applicant under the surveillance of an inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020:2004 type A. The in-house inspection service shall be independent from design process, manufacturing operations, repair and maintenance.

6.2.3.6.2 If the country of approval is not a Contracting Party to ADR, the competent authority mentioned in 6.2.1.7.2 shall be the competent authority of a Contracting Party to ADR.

**6.2.3.7** *Requirements for manufacturers*

6.2.3.7.1 The relevant requirements of 1.8.7 shall be met.

**6.2.3.8** *Requirements for inspection bodies*

The requirements of 1.8.6 shall be met.

**6.2.3.9** *Marking of refillable pressure receptacles*

6.2.3.9.1 Markings shall be in accordance with sub-section 6.2.2.7 with the following variations.

6.2.3.9.2 The United Nations packaging symbol specified in 6.2.2.7.1 (a) shall not be applied.

6.2.3.9.3 The requirements of 6.2.2.7.2 (j) shall be replaced by the following:

(j) The water capacity of the pressure receptacle in litres followed by the letter "L". In the case of pressure receptacles for liquefied gases the water capacity in litres shall be expressed to three significant figures rounded down to the last digit. If the value of the minimum or nominal water capacity is an integer, the figures after the decimal point may be neglected.

6.2.3.9.4 The marks specified in 6.2.2.7.2 (g) and (h) and 6.2.2.7.3 (m) are not required for pressure receptacles for UN No. 1965 hydrocarbon gas mixture, liquefied, n.o.s.

6.2.3.9.5 When marking the date required by 6.2.2.7.6 (c), the month need not be indicated for gases for which the interval between periodic inspections is 10 years or more (see packing instructions P200 and P203 of 4.1.4.1).

6.2.3.9.6 The marks in accordance with 6.2.2.7.6 may be engraved on a ring of an appropriate material affixed to the cylinder when the valve is installed and which is removable only by disconnecting the valve from the cylinder.

**6.2.3.10** *Marking of non-refillable pressure receptacles*

6.2.3.10.1 Markings shall be in accordance with 6.2.2.8, except that the United Nations packaging symbol specified in 6.2.2.7.1 (a) shall not be applied.

#### 6.2.4 Requirements for non-UN pressure receptacles designed, constructed and tested according to standards

**NOTE:** Persons or bodies identified in standards as having responsibilities in accordance with ADR shall meet the requirements of ADR.

Depending on the date of construction of the pressure receptacle, the standards listed in the table below shall be applied as indicated in column (4) to meet the requirements of Chapter 6.2 referred to in column (3) or may be applied as indicated in column (5). The requirements of Chapter 6.2 referred to in column (3) shall prevail in all cases.

If more than one standard is listed as mandatory for the application of the same requirements, only one of them shall be applied, but in full unless otherwise specified in the table below.

| Reference                                    | Title of document   | Applicable sub-sections and paragraphs | Mandatory application for pressure receptacles constructed | Application authorized for pressure receptacles constructed |
|--|---|--|--|---|
| (1)  | (2)   | (3)                                    | (4)  | (5)   |
| <b>for materials</b>                         |   |  |  |   |
| EN 1797-1:1998                               | Cryogenic vessels – Gas/material compatibility  | 6.2.1.2                                |  | Between 1 July 2001 and 30 June 2003                        |
| EN 1797:2001                                 | Cryogenic vessels – Gas/material compatibility  | 6.2.1.2                                | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN ISO 11114-1:1997                          | Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 1: Metallic materials  | 6.2.1.2                                | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN ISO 11114-2:2000                          | Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 2: Non-metallic materials  | 6.2.1.2                                | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN ISO 11114-4:2005 (except method C in 5.3) | Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 4: Test methods for selecting metallic materials resistant to hydrogen embrittlement | 6.2.1.2                                | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 1252-1:1998                               | Cryogenic vessels – Materials - Part 1: Toughness requirements for temperature below - 80 °C  | 6.2.1.2                                |  | Between 1 July 2001 and 30 June 2003                        |
| <b>for marking</b>                           |   |  |  |   |
| EN 1442:1998 + AC:1999                       | Transportable refillable welded steel cylinders for liquefied petroleum gas (LPG) – Design and construction   | 6.2.2.7                                |  | Before 1 July 2003  |
| EN 1251-1:2000                               | Cryogenic vessels - Transportable, vacuum insulated, of not more than 1 000 litres volume - Part 1: Fundamental requirements  | 6.2.2.7                                |  | Before 1 July 2003  |
| EN 1089-1:1996                               | Transportable gas cylinders - Gas cylinder identification (excluding LPG) - Part 1: Stampmarking  | 6.2.2.7                                |  | Before 1 July 2003  |



| Reference                           | Title of document  | Applicable sub-sections and paragraphs | Mandatory application for pressure receptacles constructed | Application authorized for pressure receptacles constructed |
|-------------------------------------|--|--|--|---|
| (1)                                 | (2)  | (3)                                    | (4)  | (5)   |
| <i>for design and construction</i>  |  |  |  |   |
| Annex I, Parts 1 to 3 to 84/525/EEC | Council directive on the approximation of the laws of the Member States relating to seamless steel gas cylinders, published in the Official Journal of the European Communities No. L 300 from 19.11.1984.   | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| Annex I, Parts 1 to 3 to 84/526/EEC | Council directive on the approximation of the laws of the Member States relating to seamless, unalloyed aluminium and aluminium alloy gas cylinders, published in the Official Journal of the European Communities No. L 300 from 19.11.1984.  | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| Annex I, Parts 1 to 3 to 84/527/EEC | Council directive on the approximation of the laws of the Member States relating to welded unalloyed steel gas cylinders, published in the Official Journal of the European Communities No. L 300 from 19.11.1984.   | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 1442:1998 + AC:1999              | Transportable refillable welded steel cylinders for liquefied petroleum gas (LPG) – Design and construction  | 6.2.3.1 and 6.2.3.4                    |  | Between 1 July 2001 and 30 June 2007                        |
| EN 1442:1998 + A2:2005              | Transportable refillable welded steel cylinders for liquefied petroleum gas (LPG) – Design and construction  | 6.2.3.1 and 6.2.3.4                    | Between 1 January 2009 and 31 December 2010 <sup>a</sup>   | Before 1 January 2009                                       |
| EN 1442:2006 + A1:2008              | Transportable refillable welded steel cylinders for liquefied petroleum gas (LPG) – Design and construction  | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2011                                     | Before 1 January 2011                                       |
| EN 1800:1998 + AC:1999              | Transportable gas cylinders – Acetylene cylinders – Basic requirements and definitions   | 6.2.1.1.9                              | Between 1 January 2009 and 31 December 2010 <sup>a</sup>   | Before 1 January 2009                                       |
| EN 1800:2006                        | Transportable gas cylinders - Acetylene cylinders - Basic requirements, definitions and type testing   | 6.2.1.1.9                              | As from 1 January 2011                                     | Before 1 January 2011                                       |
| EN 1964-1:1999                      | Transportable gas cylinders – Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0.5 litre up to and including 150 litres – Part 1: Cylinders made of seamless steel with a Rm value of less than 1 100 MPa | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |

<sup>a</sup> Unless the application of another standard is authorized in column (5) for the same purposes for pressure receptacles constructed at the same date.



| Reference                      | Title of document  | Applicable sub-sections and paragraphs | Mandatory application for pressure receptacles constructed | Application authorized for pressure receptacles constructed |
|--------------------------------|--|--|--|---|
| (1)                            | (2)  | (3)                                    | (4)  | (5)   |
| EN 1975:1999 (except Annex 6)  | Transportable gas cylinders – Specifications for the design and construction of refillable transportable seamless aluminium and aluminium alloy gas cylinders of capacity from 0.5 litres up to 150 litres   | 6.2.3.1 and 6.2.3.4                    |  | Before 1 July 2005  |
| EN 1975:1999 + A1:2003         | Transportable gas cylinders – Specifications for the design and construction of refillable transportable seamless aluminium and aluminium alloy gas cylinders of capacity from 0.5 litres up to 150 litres   | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN ISO 11120:1999              | Gas cylinders – Refillable seamless steel tubes for compressed gas transport of water capacity between 150 litres and 3 000 litres – Design, construction and testing  | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 1964-3: 2000                | Transportable gas cylinders – Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0.5 litre up to and including 150 litres – Part 3: Cylinders made of seamless stainless steel with an Rm value of less than 1100 MPa | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 12862: 2000                 | Transportable gas cylinders – Specifications for the design and construction of refillable transportable welded aluminium alloy gas cylinders  | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 1251-2:2000                 | Cryogenic vessels – Transportable, vacuum insulated, of not more than 1 000 litres volume – Part 2: Design, fabrication, inspection and testing  | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 12257:2002                  | Transportable gas cylinders – Seamless, hoop wrapped composite cylinders   | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 12807:2001 (except Annex A) | Transportable refillable brazed steel cylinders for liquefied petroleum gas (LPG) – Design and construction  | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 1964-2:2001                 | Transportable gas cylinders – Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0.5 litre up to and including 150 litres – Part 2: Cylinders made of seamless steel with a Rm value of 1100 MPa and above            | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |

| Reference                 | Title of document   | Applicable sub-sections and paragraphs | Mandatory application for pressure receptacles constructed | Application authorized for pressure receptacles constructed |
|---------------------------|---|--|--|---|
| (1)                       | (2)   | (3)                                    | (4)  | (5)   |
| EN 13293:2002             | Transportable gas cylinders – Specification for the design and construction of refillable transportable seamless normalised carbon manganese steel gas cylinders of water capacity up to 0.5 litre for compressed, liquefied and dissolved gases and up to 1 litre for carbon dioxide   | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 13322-1:2003           | Transportable gas cylinders – Refillable welded steel gas cylinders – Design and construction – Part 1: Welded steel  | 6.2.3.1 and 6.2.3.4                    |  | Before 1 July 2007  |
| EN 13322-1:2003 + A1:2006 | Transportable gas cylinders – Refillable welded steel gas cylinders – Design and construction – Part 1: Welded steel  | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 13322-2:2003           | Transportable gas cylinders – Refillable welded stainless steel gas cylinders – Design and construction – Part 2: Welded stainless steel  | 6.2.3.1 and 6.2.3.4                    |  | Before 1 July 2007  |
| EN 13322-2:2003 + A1:2006 | Transportable gas cylinders – Refillable welded stainless steel gas cylinders – Design and construction – Part 2: Welded stainless steel  | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 12245:2002             | Transportable gas cylinders – Fully wrapped composite cylinders   | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 12205:2001             | Transportable gas cylinders – Non refillable metallic gas cylinders   | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 13110:2002             | Transportable refillable welded aluminium cylinders for liquefied petroleum gas (LPG) – Design and construction   | 6.2.3.1, 6.2.3.4 and 6.2.3.9           | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 14427:2004             | Transportable refillable fully wrapped composite cylinders for liquefied petroleum gases – Design and construction<br><i>NOTE: This standard applies only to cylinders equipped with pressure relief valves.</i>  | 6.2.3.1, 6.2.3.4 and 6.2.3.9           |  | Before 1 July 2007  |
| EN 14427:2004 + A1:2005   | Transportable refillable fully wrapped composite cylinders for liquefied petroleum gases – Design and construction<br><i>NOTE 1: This standard applies only to cylinders equipped with pressure relief valves.</i><br><i>NOTE 2: In 5.2.9.2.1 and 5.2.9.3.1, both cylinders shall be subject to the burst test when they show damage equal to or worse than the rejection criteria.</i> | 6.2.3.1, 6.2.3.4 and 6.2.3.9           | As from 1 January 2009                                     | Before 1 January 2009                                       |

| Reference                    | Title of document   | Applicable sub-sections and paragraphs | Mandatory application for pressure receptacles constructed | Application authorized for pressure receptacles constructed |
|------------------------------|---|--|--|---|
| (1)                          | (2)   | (3)                                    | (4)  | (5)   |
| EN 14208:2004                | Transportable gas cylinders – Specification for welded pressure drums up to 1000 litres capacity for the transport of gases – Design and construction   | 6.2.3.1, 6.2.3.4 and 6.2.3.9           | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 14140:2003                | Transportable refillable welded steel cylinders for Liquefied Petroleum Gas (LPG) – Alternative design and construction   | 6.2.3.1, 6.2.3.4 and 6.2.3.9           | Between 1 January 2009 and 31 December 2010 <sup>a</sup>   | Before 1 January 2009                                       |
| EN 14140:2003 + A1:2006      | LPG equipment and accessories – Transportable refillable welded steel cylinders for LPG – Alternative design and construction   | 6.2.3.1, 6.2.3.4 and 6.2.3.9           | As from 1 January 2011                                     | Before 1 January 2011                                       |
| EN 13769:2003                | Transportable gas cylinders – Cylinder bundles – Design, manufacture, identification and testing  | 6.2.3.1, 6.2.3.4 and 6.2.3.9           |  | Before 1 July 2007  |
| EN 13769:2003 + A1:2005      | Transportable gas cylinders – Cylinder bundles – Design, manufacture, identification and testing  | 6.2.3.1, 6.2.3.4 and 6.2.3.9           | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 14638-1:2006              | Transportable gas cylinders – Refillable welded receptacles of a capacity not exceeding 150 litres – Part 1: Welded austenitic stainless steel cylinders made to a design justified by experimental methods | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2011                                     | Before 1 January 2011                                       |
| EN 14893:2006 + AC:2007      | LPG equipment and accessories – Transportable LPG welded steel pressure drums with a capacity between 150 litres and 1 000 litres   | 6.2.3.1 and 6.2.3.4                    | As from 1 January 2011                                     | Before 1 January 2011                                       |
| <i>for closures</i>          |   |  |  |   |
| EN 849:1996 (except Annex A) | Transportable gas cylinders – Cylinder valves: Specification and type testing   | 6.2.3.1                                |  | Before 1 July 2003  |
| EN 849:1996/A2:2001          | Transportable gas cylinders – Cylinder valves: Specification and type testing   | 6.2.3.1                                |  | Before 1 July 2007  |
| EN ISO 10297: 2006           | Transportable gas cylinders – Cylinder valves: Specification and type testing   | 6.2.3.1                                | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 13152:2001                | Specifications and testing of LPG – cylinder valves – Self closing  | 6.2.3.3                                |  | Between 1 July 2005 and 31 December 2010                    |
| EN 13152:2001 + A1:2003      | Specifications and testing of LPG – cylinder valves – Self closing  | 6.2.3.3                                | As from 1 January 2011                                     | Before 1 January 2011                                       |

<sup>a</sup> Unless the application of another standard is authorized in column (5) for the same purposes for pressure receptacles constructed at the same date.

| Reference                               | Title of document   | Applicable sub-sections and paragraphs | Mandatory application for pressure receptacles constructed | Application authorized for pressure receptacles constructed |
|---|---|--|--|---|
| (1)                                     | (2)   | (3)                                    | (4)  | (5)   |
| EN 13153:2001                           | Specifications and testing of LPG – cylinder valves – Manually operated   | 6.2.3.3                                |  | Between 1 July 2005 and 31 December 2010                    |
| EN 13153:2001 + A1:2003                 | Specifications and testing of LPG – cylinder valves – Manually operated   | 6.2.3.3                                | As from 1 January 2011                                     | Before 1 January 2011                                       |
| <b>for periodic inspection and test</b> |   |  |  |   |
| EN 1251-3: 2000                         | Cryogenic vessels – Transportable, vacuum insulated, of not more than 1 000 litres volume – Part 3: Operational requirements  | 6.2.3.5                                | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 1968:2002 (except Annex B)           | Transportable gas cylinders – Periodic inspection and testing of seamless steel gas cylinders   | 6.2.3.5                                |  | Before 1 July 2007  |
| EN 1968:2002 + A1:2005 (except Annex B) | Transportable gas cylinders – Periodic inspection and testing of seamless steel gas cylinders   | 6.2.3.5                                | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 1802:2002 (except Annex B)           | Transportable gas cylinders – Periodic inspection and testing of seamless aluminium alloy gas cylinders   | 6.2.3.5                                | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 12863:2002                           | Transportable gas cylinders – Periodic inspection and maintenance of dissolved acetylene cylinders<br><i>NOTE: In this standard "initial inspection" is to be understood as the "first periodic inspection" after final approval of a new acetylene cylinder.</i> | 6.2.3.5                                |  | Before 1 July 2007  |
| EN 12863:2002 + A1:2005                 | Transportable gas cylinders – Periodic inspection and maintenance of dissolved acetylene cylinders<br><i>NOTE: In this standard "initial inspection" is to be understood as the "first periodic inspection" after final approval of a new acetylene cylinder.</i> | 6.2.3.5                                | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 1803:2002 (except Annex B)           | Transportable gas cylinders – Periodic inspection and testing of welded steel gas cylinders   | 6.2.3.5                                | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN ISO 11623:2002 (except clause 4)     | Transportable gas cylinders – Periodic inspection and testing of composite gas cylinders  | 6.2.3.5                                | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 14189:2003                           | Transportable gas cylinders – Inspection and maintenance of cylinder valves at time of periodic inspection of gas cylinders   | 6.2.3.5                                | As from 1 January 2009                                     | Before 1 January 2009                                       |
| EN 14876:2007                           | Transportable gas cylinders – Periodic inspection and testing of welded steel pressure drums  | 6.2.3.5                                | As from 1 January 2011                                     | Before 1 January 2011                                       |

| Reference     | Title of document   | Applicable sub-sections and paragraphs | Mandatory application for pressure receptacles constructed | Application authorized for pressure receptacles constructed |
|---------------|---|--|--|---|
| (1)           | (2)   | (3)                                    | (4)  | (5)   |
| EN 14912:2005 | LPG equipment and accessories – Inspection and maintenance of LPG cylinder valves at time of periodic inspection of cylinders | 6.2.3.5                                | As from 1 January 2011                                     | Before 1 January 2011                                       |

### 6.2.5 Requirements for non-UN pressure receptacles not designed, constructed and tested according to standards

To reflect scientific and technical progress or where no standard is listed in 6.2.2 or 6.2.4, or to deal with specific aspects not addressed in a standard listed in 6.2.2 or 6.2.4, the competent authority may recognize the use of a technical code providing the same level of safety.

The competent authority shall transmit to the UNECE secretariat a list of the technical codes that it recognises. The list should include the following details: name and date of the code, purpose of the code and details of where it may be obtained. The secretariat shall make this information publicly available on its web-site.

The requirements of 6.2.1, 6.2.3 and the following requirements however shall be met.

**NOTE:** For this section, the references to technical standards in 6.2.1 shall be considered as references to technical codes.

#### 6.2.5.1 Materials

The following provisions contain examples of materials that may be used to comply with the requirements for materials in 6.2.1.2:

- (a) Carbon steel for compressed, liquefied, refrigerated liquefied gases and dissolved gases as well as for substances not in Class 2 listed in Table 3 of packing instruction P200 of 4.1.4.1;
- (b) Alloy steel (special steels), nickel, nickel alloy (such as monel) for compressed, liquefied, refrigerated liquefied gases and dissolved gases as well as for substances not in Class 2 listed in Table 3 of packing instruction P200 of 4.1.4.1;
- (c) Copper for:
  - (i) gases of classification codes 1A, 1O, 1F and 1TF, whose filling pressure referred to a temperature of 15 °C does not exceed 2 MPa (20 bar);
  - (ii) gases of classification code 2A and also UN No. 1033 dimethyl ether; UN No. 1037 ethyl chloride; UN No. 1063 methyl chloride; UN No. 1079 sulphur dioxide; UN No. 1085 vinyl bromide; UN No. 1086 vinyl chloride; and UN No. 3300 ethylene oxide and carbon dioxide mixture with more than 87% ethylene oxide;
  - (iii) gases of classification codes 3A, 3O and 3F;

- (d) Aluminium alloy: see special requirement "a" of packing instruction P200 (10) of 4.1.4.1;
- (e) Composite material for compressed, liquefied, refrigerated liquefied gases and dissolved gases;
- (f) Synthetic materials for refrigerated liquefied gases; and
- (g) Glass for the refrigerated liquefied gases of classification code 3A other than UN No. 2187 carbon dioxide, refrigerated, liquid or mixtures thereof, and gases of classification code 3O.

#### 6.2.5.2 *Service equipment*

*(Reserved)*

#### 6.2.5.3 *Metal cylinders, tubes, pressure drums and bundles of cylinders*

At the test pressure, the stress in the metal at the most severely stressed point of the pressure receptacle shall not exceed 77% of the guaranteed minimum yield stress (Re).

"Yield stress" means the stress at which a permanent elongation of 2 per thousand (i.e. 0.2%) or, for austenitic steels, 1% of the gauge length on the test-piece, has been produced.

**NOTE:** *In the case of sheet-metal the axis of the tensile test-piece shall be at right angles to the direction of rolling. The permanent elongation at fracture, shall be measured on a test-piece of circular cross-section in which the gauge length "l" is equal to five times the diameter "d" ( $l = 5d$ ); if test pieces of rectangular cross-section are used, the gauge length "l" shall be calculated by the formula:*

$$l = 5.65 \sqrt{F_0}$$

where  $F_0$  indicates the initial cross-sectional area of the test-piece.

Pressure receptacles and their closures shall be made of suitable materials which shall be resistant to brittle fracture and to stress corrosion cracking between  $-20\text{ }^{\circ}\text{C}$  and  $+50\text{ }^{\circ}\text{C}$ .

Welds shall be skilfully made and shall afford the fullest safety.

#### 6.2.5.4 *Additional provisions relating to aluminium-alloy pressure receptacles for compressed gases, liquefied gases, dissolved gases and non pressurized gases subject to special requirements (gas samples) as well as articles containing gas under pressure other than aerosol dispensers and small receptacles containing gas (gas cartridges)*

- 6.2.5.4.1 The materials of aluminium-alloy pressure receptacles which are to be accepted shall satisfy the following requirements:

|  | A                                   | B                                     | C                                     | D                                     |
|--|-------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Tensile strength, Rm, in MPa (= N/mm <sup>2</sup> )  | 49 to 186                           | 196 to 372                            | 196 to 372                            | 343 to 490                            |
| Yield stress, Re, in MPa (= N/mm <sup>2</sup> )<br>(permanent set $\lambda = 0.2\%$ )          | 10 to 167                           | 59 to 314                             | 137 to 334                            | 206 to 412                            |
| Permanent elongation at fracture ( $l = 5d$ ) in per cent                                      | 12 to 40                            | 12 to 30                              | 12 to 30                              | 11 to 16                              |
| Bend test (diameter of former $d = n \times e$ , where $e$ is the thickness of the test piece) | $n=5(Rm \leq 98)$<br>$n=6(Rm > 98)$ | $n=6(Rm \leq 325)$<br>$n=7(Rm > 325)$ | $n=6(Rm \leq 325)$<br>$n=7(Rm > 325)$ | $n=7(Rm \leq 392)$<br>$n=8(Rm > 392)$ |
| Aluminium Association Series Number <sup>a</sup>   | 1 000                               | 5 000                                 | 6 000                                 | 2 000                                 |

<sup>a</sup> See "Aluminium Standards and Data", Fifth edition, January 1976, published by the Aluminium Association, 750 Third Avenue, New York.

The actual properties will depend on the composition of the alloy concerned and on the final treatment of the pressure receptacle, but whatever alloy is used the thickness of the pressure receptacle shall be calculated by one of the following formulae:

$$e = \frac{P_{\text{MPa}} D}{\frac{2Re}{1.3} + P_{\text{MPa}}} \quad \text{or} \quad e = \frac{P_{\text{bar}} D}{\frac{20Re}{1.3} + P_{\text{bar}}}$$

where

$e$  = minimum thickness of pressure receptacle wall, in mm

$P_{\text{MPa}}$  = test pressure, in MPa

$P_{\text{bar}}$  = test pressure, in bar

$D$  = nominal external diameter of the pressure receptacle, in mm

and

$Re$  = guaranteed minimum proof stress with 0.2% proof stress, in MPa  
(= N/mm<sup>2</sup>)

In addition, the value of the minimum guaranteed proof stress ( $Re$ ) introduced into the formula is in no case to be greater than 0.85 times the guaranteed minimum tensile strength ( $Rm$ ), whatever the type of alloy used.

**NOTE 1:** The above characteristics are based on previous experience with the following materials used for pressure receptacles:

Column A: Aluminium, unalloyed, 99.5% pure;

Column B: Alloys of aluminium and magnesium;

Column C: Alloys of aluminium, silicon and magnesium, such as ISO/R209-Al-Si-Mg (Aluminium Association 6351);

Column D: Alloys of aluminium, copper and magnesium.

**NOTE 2:** The permanent elongation at fracture is measured by means of test-pieces of circular cross-section in which the gauge length " $l$ " is equal to five times the diameter " $d$ " ( $l = 5d$ ); if test-pieces of rectangular section are used the gauge length shall be calculated by the formula:

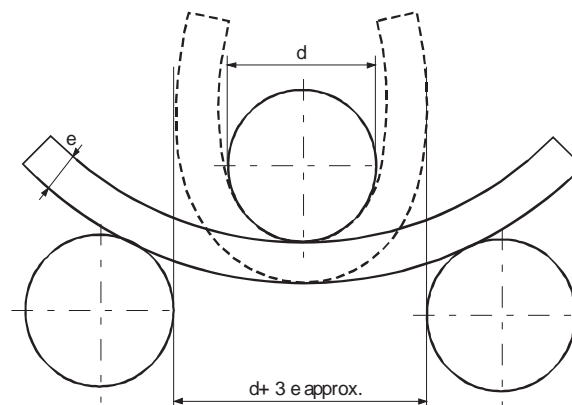
$$l = 5.65 \sqrt{F_0}$$

where  $F_0$  is the initial cross-section area of the test-piece.



- NOTE 3:**
- (a) *The bend test (see diagram) shall be carried out on specimens obtained by cutting into two equal parts of width  $3e$ , but in no case less than 25 mm, an annular section of a cylinder. The specimens shall not be machined elsewhere than on the edges;*
  - (b) *The bend test shall be carried out between a mandrel of diameter ( $d$ ) and two circular supports separated by a distance of  $(d + 3e)$ . During the test the inner faces shall be separated by a distance not greater than the diameter of the mandrel;*
  - (c) *The specimen shall not exhibit cracks when it has been bent inwards around the mandrel until the inner faces are separated by a distance not greater than the diameter of the mandrel;*
  - (d) *The ratio ( $n$ ) between the diameter of the mandrel and the thickness of the specimen shall conform to the values given in the table.*

Diagram of bend test



6.2.5.4.2 A lower minimum elongation value is acceptable on condition that an additional test approved by the competent authority of the country in which the pressure receptacles are made proves that safety of carriage is ensured to the same extent as in the case of pressure receptacles constructed to comply with the characteristics given in the table in 6.2.5.4.1 (see also EN 1975:1999 + A1:2003).

6.2.5.4.3 The wall thickness of the pressure receptacles at the thinnest point shall be the following:

- where the diameter of the pressure receptacle is less than 50 mm: not less than 1.5 mm;
- where the diameter of the pressure receptacle is from 50 to 150 mm: not less than 2 mm; and
- where the diameter of the pressure receptacle is more than 150 mm: not less than 3 mm.

6.2.5.4.4 The ends of the pressure receptacles shall have a semicircular, elliptical or "basket-handle" section; they shall afford the same degree of safety as the body of the pressure receptacle.



**6.2.5.5**      *Pressure receptacles in composite materials*

For composite cylinders, tubes, pressure drums and bundles of cylinders which make use of composite materials, the construction shall be such that a minimum burst ratio (burst pressure divided by test pressure) is:

- 1.67 for hoop wrapped pressure receptacles;
- 2.00 for fully wrapped pressure receptacles.

**6.2.5.6**      *Closed cryogenic receptacles*

The following requirements apply to the construction of closed cryogenic receptacles for refrigerated liquefied gases:

- 6.2.5.6.1      If non-metallic materials are used, they shall resist brittle fracture at the lowest working temperature of the pressure receptacle and its fittings.
- 6.2.5.6.2      The pressure relief devices shall be so constructed as to work perfectly even at their lowest working temperature. Their reliability of functioning at that temperature shall be established and checked by testing each device or a sample of devices of the same type of construction.
- 6.2.5.6.3      The vents and pressure relief devices of pressure receptacles shall be so designed as to prevent the liquid from splashing out.

**6.2.6**      **General requirements for aerosol dispensers, small receptacles containing gas (gas cartridges) and fuel cell cartridges containing liquefied flammable gas****6.2.6.1**      *Design and construction*

- 6.2.6.1.1      Aerosol dispensers (UN No.1950 aerosols) containing only a gas or a mixture of gases, and small receptacles containing gas (gas cartridges) (UN No. 2037), shall be made of metal. This requirement shall not apply to aerosols and small receptacles containing gas (gas cartridges) with a maximum capacity of 100 ml for UN No. 1011 butane. Other aerosol dispensers (UN No.1950 aerosols) shall be made of metal, synthetic material or glass. Receptacles made of metal and having an outside diameter of not less than 40 mm shall have a concave bottom.
- 6.2.6.1.2      The capacity of receptacles made of metal shall not exceed 1 000 ml; that of receptacles made of synthetic material or of glass shall not exceed 500 ml.
- 6.2.6.1.3      Each model of receptacles (aerosol dispensers or cartridges) shall, before being put into service, satisfy a hydraulic pressure test carried out in conformity with 6.2.6.2.
- 6.2.6.1.4      The release valves and dispersal devices of aerosol dispensers (UN No.1950 aerosols) and the valves of UN No. 2037 small receptacles containing gas (gas cartridges) shall ensure that the receptacles are so closed as to be leakproof and shall be protected against accidental opening. Valves and dispersal devices which close only by the action of the internal pressure are not to be accepted.
- 6.2.6.1.5      The internal pressure at 50 °C shall exceed neither two-thirds of the test pressure nor 1.32 MPa (13.2 bar). Aerosol dispensers and small receptacles containing gas (gas cartridges) shall be so filled that at 50°C the liquid phase does not exceed 95% of their capacity.

**6.2.6.2**      *Hydraulic pressure test*

6.2.6.2.1      The internal pressure to be applied (test pressure) shall be 1.5 times the internal pressure at 50 °C, with a minimum pressure of 1 MPa (10 bar).

6.2.6.2.2      The hydraulic pressure tests shall be carried out on at least five empty receptacles of each model:

- (a)    until the prescribed test pressure is reached, by which time no leakage or visible permanent deformation shall have occurred; and
- (b)    until leakage or bursting occurs; the dished end, if any, shall yield first and the receptacle shall not leak or burst until a pressure 1.2 times the test pressure has been reached or passed.

**6.2.6.3**      *Tightness (leakproofness) test*

6.2.6.3.1      *Small receptacles containing gas (gas cartridges) and fuel cell cartridges containing liquefied flammable gas*

6.2.6.3.1.1    Each receptacle or fuel cell cartridge shall satisfy a tightness (leakproofness) test in a hot-water bath.

6.2.6.3.1.2    The temperature of the bath and the duration of the test shall be such that the internal pressure of each receptacle or fuel cell cartridge reaches at least 90% of the internal pressure that would be reached at 55 °C. However, if the contents are sensitive to heat or if the receptacles or fuel cell cartridges are made of a plastics material which softens at this temperature, the temperature of the bath shall be from 20 °C to 30 °C. In addition, one receptacle or fuel cell cartridge out of every 2000 shall be tested at 55 °C.

6.2.6.3.1.3    No leakage or permanent deformation of a receptacle or fuel cell cartridge shall occur, except that a plastics receptacle or fuel cell cartridge may be deformed through softening provided that it does not leak.

6.2.6.3.2      *Aerosol dispensers*

Each filled aerosol dispenser shall be subjected to a test performed in a hot water bath or an approved water bath alternative.

6.2.6.3.2.1    Hot water bath test

6.2.6.3.2.1.1   The temperature of the water bath and the duration of the test shall be such that the internal pressure reaches that which would be reached at 55 °C (50 °C if the liquid phase does not exceed 95% of the capacity of the aerosol dispenser at 50 °C). If the contents are sensitive to heat or if the aerosol dispensers are made of plastics material which softens at this test temperature, the temperature of the bath shall be set at between 20 °C and 30 °C but, in addition, one aerosol dispenser in 2 000 shall be tested at the higher temperature.

6.2.6.3.2.1.2   No leakage or permanent deformation of an aerosol dispenser may occur, except that a plastics aerosol dispenser may be deformed through softening provided that it does not leak.

6.2.6.3.2.2    Alternative methods

With the approval of the competent authority alternative methods which provide an equivalent level of safety may be used provided that the requirements of 6.2.6.3.2.2.1, 6.2.6.3.2.2.2 and 6.2.6.3.2.2.3 are met.

#### 6.2.6.3.2.2.1    Quality system

Aerosol dispenser fillers and component manufacturers shall have a quality system. The quality system shall implement procedures to ensure that all aerosol dispensers that leak or that are deformed are rejected and not offered for carriage.

The quality system shall include:

- (a)    A description of the organizational structure and responsibilities;
- (b)    The relevant inspection and test, quality control, quality assurance, and process operation instructions that will be used;
- (c)    Quality records, such as inspection reports, test data, calibration data and certificates;
- (d)    Management reviews to ensure the effective operation of the quality system;
- (e)    A process for control of documents and their revision;
- (f)    A means for control of non-conforming aerosol dispensers;
- (g)    Training programmes and qualification procedures for relevant personnel; and
- (h)    Procedures to ensure that there is no damage to the final product.

An initial audit and periodic audits shall be conducted to the satisfaction of the competent authority. These audits shall ensure the approved system is and remains adequate and efficient. Any proposed changes to the approved system shall be notified to the competent authority in advance.

#### 6.2.6.3.2.2.2    Pressure and leak testing of aerosol dispensers before filling

Every empty aerosol dispenser shall be subjected to a pressure equal to or in excess of the maximum expected in the filled aerosol dispensers at 55 °C (50 °C if the liquid phase does not exceed 95% of the capacity of the receptacle at 50 °C). This shall be at least two-thirds of the design pressure of the aerosol dispenser. If any aerosol dispenser shows evidence of leakage at a rate equal to or greater than  $3.3 \times 10^{-2}$  mbar.l.s<sup>-1</sup> at the test pressure, distortion or other defect, it shall be rejected.

#### 6.2.6.3.2.2.3    Testing of the aerosol dispensers after filling

Prior to filling the filler shall ensure that the crimping equipment is set appropriately and the specified propellant is used.

Each filled aerosol dispenser shall be weighed and leak tested. The leak detection equipment shall be sufficiently sensitive to detect at least a leak rate of  $2.0 \times 10^{-3}$  mbar.l.s<sup>-1</sup> at 20 °C.

Any filled aerosol dispenser which shows evidence of leakage, deformation or excessive weight shall be rejected.

#### 6.2.6.3.3        With the approval of the competent authority, aerosols and receptacles, small, containing pharmaceutical products and non flammable gases which are required to be sterile, but may be adversely affected by water bath testing, are not subject to 6.2.6.3.1 and 6.2.6.3.2 if:

- (a) They are manufactured under the authority of a national health administration and, if required by the competent authority, follow the principles of Good Manufacturing Practice (GMP) established by the World Health Organization (WHO)<sup>3</sup>; and
- (b) An equivalent level of safety is achieved by the manufacturer's use of alternative methods for leak detection and pressure resistance, such as helium detection and water bathing a statistical sample of at least 1 in 2 000 from each production batch.

#### **6.2.6.4      *Reference to standards***

The requirements of this section are deemed to be met if the following standards are complied with:

- for aerosol dispensers (UN No. 1950 aerosols): Annex to Council Directive 75/324/EEC <sup>4</sup> as amended by Commission Directive 94/1/EC <sup>5</sup>;
- for UN No. 2037, small receptacles containing gas (gas cartridges) containing UN No. 1965, hydrocarbon gas mixture n.o.s, liquefied: EN 417:2003 Non-refillable metallic gas cartridges for liquefied petroleum gases, with or without a valve, for use with portable appliances - Construction, inspection, testing and marking.

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<sup>3</sup> WHO Publication: "Quality assurance of pharmaceuticals. A compendium of guidelines and related materials. Volume 2: Good manufacturing practices and inspection".

<sup>4</sup> Council Directive 75/324/EEC of 20 May 1975 on the approximation of the laws of the Member States relating to aerosol dispensers, published in the Official Journal of the European Communities No. L 147 of 9.06.1975.

<sup>5</sup> Commission Directive 94/1/EC of January 1994, adapting some technicalities of Council Directive 75/324/EEC on the approximation of the laws of the relating Member States to aerosol dispensers published in the Official Journal of the European Communities No. L 23 of 28.01.1994.

## CHAPTER 6.3

### REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF PACKAGINGS FOR CLASS 6.2 INFECTIOUS SUBSTANCES OF CATEGORY A

**NOTE:** *The requirements of this Chapter don't apply to packagings used for the carriage of Class 6.2 substances according to packing instruction P621 of 4.1.4.1.*

#### 6.3.1 General

6.3.1.1 The requirements of this Chapter apply to packagings intended for the carriage of infectious substances of Category A.

#### 6.3.2 Requirements for packagings

6.3.2.1 The requirements for packagings in this section are based on packagings, as specified in 6.1.4, currently used. In order to take into account progress in science and technology, there is no objection to the use of packagings having specifications different from those in this Chapter provided that they are equally effective, acceptable to the competent authority and able successfully to withstand the tests described in 6.3.5. Methods of testing other than those described in ADR are acceptable provided they are equivalent, and are recognized by the competent authority.

6.3.2.2 Packagings shall be manufactured and tested under a quality assurance programme which satisfies the competent authority in order to ensure that each packaging meets the requirements of this Chapter.

**NOTE:** *ISO 16106:2006 "Packaging – Transport packages for dangerous goods – Dangerous goods packagings, intermediate bulk containers (IBCs) and large packagings – Guidelines for the application of ISO 9001" provides acceptable guidance on procedures which may be followed.*

6.3.2.3 Manufacturers and subsequent distributors of packagings shall provide information regarding procedures to be followed and a description of the types and dimensions of closures (including required gaskets) and any other components needed to ensure that packages as presented for carriage are capable of passing the applicable performance tests of this Chapter.

#### 6.3.3 Code for designating types of packagings

6.3.3.1 The codes for designating types of packagings are set out in 6.1.2.7.

6.3.3.2 The letters "U" or "W" may follow the packaging code. The letter "U" signifies a special packaging conforming to the requirements of 6.3.5.1.6. The letter "W" signifies that the packaging, although, of the same type indicated by the code is manufactured to a specification different from that in 6.1.4 and is considered equivalent under the requirements of 6.3.2.1.

#### 6.3.4 Marking

**NOTE 1:** *The marking indicates that the packaging which bears it corresponds to a successfully tested design type and that it complies with the requirements of this Chapter which are related to the manufacture, but not to the use, of the packaging.*

**NOTE 2:** *The marking is intended to be of assistance to packaging manufacturers, reconditioners, packaging users, carriers and regulatory authorities.*

**NOTE 3:** *The marking does not always provide full details of the test levels, etc., and these may need to be taken further into account, e.g. by reference to a test certificate, to test reports or to a register of successfully tested packagings.*

6.3.4.1 Each packaging intended for use according to ADR shall bear markings which are durable, legible and placed in a location and of such a size relative to the packaging as to be readily visible. For packages with a gross mass of more than 30 kg, the markings or a duplicate thereof shall appear on the top or on a side of the packaging. Letters, numerals and symbols shall be at least 12 mm high, except for packagings of 30 litres or 30 kg capacity or less, when they shall be at least 6 mm in height and for packagings of 5 litres or 5 kg or less when they shall be of an appropriate size.

6.3.4.2 A packaging that meets the requirements of this section and of 6.3.5 shall be marked with:

(a) The United Nations packaging symbol;



This symbol shall not be used for any purpose other than certifying that a packaging complies with the relevant requirements in Chapter 6.1, 6.2, 6.3, 6.5 or 6.6;

(b) The code designating the type of packaging according to the requirements of 6.1.2;

(c) The text "CLASS 6.2";

(d) The last two digits of the year of manufacture of the packaging;

(e) The state authorizing the allocation of the mark, indicated by the distinguishing sign for motor vehicles in international traffic <sup>1</sup>;

(f) The name of the manufacturer or other identification of the packaging specified by the competent authority;

(g) For packagings meeting the requirements of 6.3.5.1.6, the letter "U", inserted immediately following the marking required in (b) above.

6.3.4.3 Marking shall be applied in the sequence shown in 6.3.4.2 (a) to (g); each element of the marking required in these sub-paragraphs shall be clearly separated, e.g. by a slash or space, so as to be easily identifiable. For examples, see 6.3.4.4.

Any additional markings authorized by a competent authority shall still enable the parts of the mark to be correctly identified with reference to 6.3.4.1.

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<sup>1</sup> Distinguishing sign for motor vehicles in international traffic prescribed in Vienna Convention on Road Traffic (1968).

**6.3.4.4** *Example of marking*

4G/CLASS 6.2/06  
S/SP-9989-ERIKSSON

as in 6.3.4.2 (a), (b), (c) and (d)  
as in 6.3.4.2 (e) and (f)

**6.3.5** **Test requirements for packagings****6.3.5.1** *Performance and frequency of tests*

- 6.3.5.1.1 The design type of each packaging shall be tested as provided in this section in accordance with procedures established by the competent authority allowing the allocation of the mark and shall be approved by this competent authority.
- 6.3.5.1.2 Each packaging design type shall successfully pass the tests prescribed in this Chapter before being used. A packaging design type is defined by the design, size, material and thickness, manner of construction and packing, but may include various surface treatments. It also includes packagings which differ from the design type only in their lesser design height.
- 6.3.5.1.3 Tests shall be repeated on production samples at intervals established by the competent authority.
- 6.3.5.1.4 Tests shall also be repeated after each modification which alters the design, material or manner of construction of a packaging.
- 6.3.5.1.5 The competent authority may permit the selective testing of packagings that differ only in minor respects from a tested type, e.g. smaller sizes or lower net mass of primary receptacles; and packagings such as drums and boxes which are produced with small reductions in external dimension(s).
- 6.3.5.1.6 Primary receptacles of any type may be assembled within a secondary packaging and carried without testing in the rigid outer packaging under the following conditions:
- (a) The rigid outer packaging shall have been successfully tested in accordance with 6.3.5.2.2 with fragile (e.g. glass) primary receptacles;
  - (b) The total combined gross mass of primary receptacles shall not exceed one half the gross mass of primary receptacles used for the drop test in (a) above;
  - (c) The thickness of cushioning between primary receptacles and between primary receptacles and the outside of the secondary packaging shall not be reduced below the corresponding thicknesses in the originally tested packaging; and if a single primary receptacle was used in the original test, the thickness of cushioning between primary receptacles shall not be less than the thickness of cushioning between the outside of the secondary packaging and the primary receptacle in the original test. When either fewer or smaller primary receptacles are used (as compared to the primary receptacles used in the drop test), sufficient additional cushioning material shall be used to take up the void spaces;
  - (d) The rigid outer packaging shall have successfully passed the stacking test in 6.1.5.6 while empty. The total mass of identical packages shall be based on the combined mass of packagings used in the drop test in (a) above;
  - (e) For primary receptacles containing liquids, an adequate quantity of absorbent material to absorb the entire liquid content of the primary receptacles shall be present;



- (f) If the rigid outer packaging is intended to contain primary receptacles for liquids and is not leakproof, or is intended to contain primary receptacles for solids and is not siftproof, a means of containing any liquid or solid contents in the event of leakage shall be provided in the form of a leakproof liner, plastics bag or other equally effective means of containment;
- (g) In addition to the markings prescribed in 6.3.4.2 (a) to (f), packagings shall be marked in accordance with 6.3.4.2 (g).

6.3.5.1.7 The competent authority may at any time require proof, by tests in accordance with this section, that serially-produced packagings meet the requirements of the design type tests.

6.3.5.1.8 Provided the validity of the test results is not affected and with the approval of the competent authority, several tests may be made on one sample.

### 6.3.5.2 *Preparation of packagings for testing*

6.3.5.2.1 Samples of each packaging shall be prepared as for carriage, except that a liquid or solid infectious substance shall be replaced by water or, where conditioning at  $-18^{\circ}\text{C}$  is specified, by water/antifreeze. Each primary receptacle shall be filled to not less than 98% of its capacity.

**NOTE:** The term water includes water/antifreeze solution with a minimum specific gravity of 0.95 for testing at  $-18^{\circ}\text{C}$ .

6.3.5.2.2 Tests and number of samples required

#### Tests required for packaging types

| Type of packaging <sup>a</sup>    |                    |       | Tests required |                   |                |   |                  |  |
|-----------------------------------|--------------------|-------|----------------|-------------------|----------------|---|------------------|--|
| Rigid outer packaging             | Primary receptacle |       | Water spray    | Cold conditioning | Drop 6.3.5.3   | Additional drop   | Puncture 6.3.5.4 | Stack 6.1.5.6  |
|                                   | Plastics           | Other | 6.3.5.3.6.1    | 6.3.5.3.6.2       |                | 6.3.5.3.6.3   |                  |  |
|                                   |                    |       | No. of samples | No. of samples    | No. of samples | No. of samples  | No. of samples   | No. of samples   |
| Fibreboard box                    | x                  |       | 5              | 5                 | 10             | Required on one sample when the packaging is intended to contain dry ice. | 2                | Required on three samples when testing a "U"-marked packaging as defined in 6.3.5.1.6 for specific provisions. |
|                                   |                    | x     | 5              | 0                 | 5              |   | 2                |  |
| Fibreboard drum                   | x                  |       | 3              | 3                 | 6              |   | 2                |  |
|                                   |                    | x     | 3              | 0                 | 3              |   | 2                |  |
| Plastics box                      | x                  |       | 0              | 5                 | 5              |   | 2                |  |
|                                   |                    | x     | 0              | 5                 | 5              |   | 2                |  |
| Plastics drum/jerrican            | x                  |       | 0              | 3                 | 3              |   | 2                |  |
|                                   |                    | x     | 0              | 3                 | 3              |   | 2                |  |
| Boxes of other material           | x                  |       | 0              | 5                 | 5              |   | 2                |  |
|                                   |                    | x     | 0              | 0                 | 5              |   | 2                |  |
| Drums/jerricans of other material | x                  |       | 0              | 3                 | 3              |   | 2                |  |
|                                   |                    | x     | 0              | 0                 | 3              |   | 2                |  |

<sup>a</sup> "Type of packaging" categorizes packagings for test purposes according to the kind of packaging and its material characteristics.

**NOTE 1:** In instances where a primary receptacle is made of two or more materials, the material most liable to damage determines the appropriate test.



**NOTE 2:** *The material of the secondary packagings are not taken into consideration when selecting the test or conditioning for the test.*

*Explanation for use of the table:*

If the packaging to be tested consists of a fibreboard outer box with a plastics primary receptacle, five samples must undergo the water spray test (see 6.3.5.3.6.1) prior to dropping and another five must be conditioned to – 18 °C (see 6.3.5.3.6.2) prior to dropping. If the packaging is to contain dry ice then one further single sample shall be dropped five times after conditioning in accordance with 6.3.5.3.6.3.

Packagings prepared as for carriage shall be subjected to the tests in 6.3.5.3 and 6.3.5.4. For outer packagings, the headings in the table relate to fibreboard or similar materials whose performance may be rapidly affected by moisture; plastics which may embrittle at low temperature; and other materials such as metal whose performance is not affected by moisture or temperature.

**6.3.5.3**      ***Drop test***

6.3.5.3.1      Samples shall be subjected to free-fall drops from a height of 9 m onto a non-resilient, horizontal, flat, massive and rigid surface in conformity with 6.1.5.3.4.

6.3.5.3.2      Where the samples are in the shape of a box, five shall be dropped one in each of the following orientations:

- (a)      flat on the base;
- (b)      flat on the top;
- (c)      flat on the longest side;
- (d)      flat on the shortest side;
- (e)      on a corner.

6.3.5.3.3      Where the samples are in the shape of a drum, three shall be dropped one in each of the following orientations:

- (a)      diagonally on the top chime, with the centre of gravity directly above the point of impact;
- (b)      diagonally on the base chime;
- (c)      flat on the side.

6.3.5.3.4      While the sample shall be released in the required orientation, it is accepted that for aerodynamic reasons the impact may not take place in that orientation.

6.3.5.3.5      Following the appropriate drop sequence, there shall be no leakage from the primary receptacle(s) which shall remain protected by cushioning/absorbent material in the secondary packaging.

6.3.5.3.6 *Special preparation of test sample for the drop test*

6.3.5.3.6.1 Fibreboard - Water spray test

Fibreboard outer packagings: The sample shall be subjected to a water spray that simulates exposure to rainfall of approximately 5 cm per hour for at least one hour. It shall then be subjected to the test described in 6.3.5.3.1.

6.3.5.3.6.2 Plastics material – Cold conditioning

Plastics primary receptacles or outer packagings: The temperature of the test sample and its contents shall be reduced to – 18 °C or lower for a period of at least 24 hours and within 15 minutes of removal from that atmosphere the test sample shall be subjected to the test described in 6.3.5.3.1. Where the sample contains dry ice, the conditioning period shall be reduced to 4 hours.

6.3.5.3.6.3 Packagings intended to contain dry ice – Additional drop test

Where the packaging is intended to contain dry ice, a test additional to that specified in 6.3.5.3.1 and, when appropriate, in 6.3.5.3.6.1 or 6.3.5.3.6.2 shall be carried out. One sample shall be stored so that all the dry ice dissipates and then that sample shall be dropped in one of the orientations described in 6.3.5.3.2 which shall be that most likely to result in failure of the packaging.

**6.3.5.4** *Puncture test*

6.3.5.4.1 *Packagings with a gross mass of 7 kg or less*

Samples shall be placed on a level hard surface. A cylindrical steel rod with a mass of at least 7 kg, a diameter of 38 mm and whose impact end edges have a radius not exceeding 6 mm, shall be dropped in a vertical free fall from a height of 1 m, measured from the impact end to the impact surface of the sample. One sample shall be placed on its base. A second sample shall be placed in an orientation perpendicular to that used for the first. In each instance the steel rod shall be aimed to impact the primary receptacle. Following each impact, penetration of the secondary packaging is acceptable, provided that there is no leakage from the primary receptacle(s).

6.3.5.4.2 *Packagings with a gross mass exceeding 7 kg*

Samples shall be dropped on to the end of a cylindrical steel rod. The rod shall be set vertically in a level hard surface. It shall have a diameter of 38 mm and the edges of the upper end a radius not exceeding 6 mm. The rod shall protrude from the surface a distance at least equal to that between the centre of the primary receptacle(s) and the outer surface of the outer packaging with a minimum of 200 mm. One sample shall be dropped with its top face lowermost in a vertical free fall from a height of 1 m, measured from the top of the steel rod. A second sample shall be dropped from the same height in an orientation perpendicular to that used for the first. In each instance, the packaging shall be so orientated that the steel rod would be capable of penetrating the primary receptacle(s). Following each impact, penetration of the secondary packaging is acceptable provided that there is no leakage from the primary receptacle(s).

**6.3.5.5      *Test report***

6.3.5.5.1      A written test report containing at least the following particulars shall be drawn up and shall be available to the users of the packaging:

1.      Name and address of the test facility;
2.      Name and address of applicant (where appropriate);
3.      A unique test report identification;
4.      Date of the test and of the report;
5.      Manufacturer of the packaging;
6.      Description of the packaging design type (e.g. dimensions, materials, closures, thickness, etc.), including method of manufacture (e.g. blow moulding) and which may include drawing(s) and/or photograph(s);
7.      Maximum capacity;
8.      Test contents;
9.      Test descriptions and results;
10.     The test report shall be signed with the name and status of the signatory.

6.3.5.5.2      The test report shall contain statements that the packaging prepared as for carriage was tested in accordance with the appropriate requirements of this Chapter and that the use of other packaging methods or components may render it invalid. A copy of the test report shall be available to the competent authority.

## CHAPTER 6.4

### REQUIREMENTS FOR THE CONSTRUCTION, TESTING AND APPROVAL OF PACKAGES AND MATERIAL OF CLASS 7

**6.4.1**            *(Reserved)*

**6.4.2**            **General requirements**

- 6.4.2.1           The package shall be so designed in relation to its mass, volume and shape that it can be easily and safely carried. In addition, the package shall be so designed that it can be properly secured in or on the vehicle during carriage.
- 6.4.2.2           The design shall be such that any lifting attachments on the package will not fail when used in the intended manner and that, if failure of the attachments should occur, the ability of the package to meet other requirements of this Annex would not be impaired. The design shall take account of appropriate safety factors to cover snatch lifting.
- 6.4.2.3           Attachments and any other features on the outer surface of the package which could be used to lift it shall be designed either to support its mass in accordance with the requirements of 6.4.2.2 or shall be removable or otherwise rendered incapable of being used during carriage.
- 6.4.2.4           As far as practicable, the packaging shall be so designed and finished that the external surfaces are free from protruding features and can be easily decontaminated.
- 6.4.2.5           As far as practicable, the outer layer of the package shall be so designed as to prevent the collection and the retention of water.
- 6.4.2.6           Any features added to the package at the time of carriage which are not part of the package shall not reduce its safety.
- 6.4.2.7           The package shall be capable of withstanding the effects of any acceleration, vibration or vibration resonance which may arise under routine conditions of carriage without any deterioration in the effectiveness of the closing devices on the various receptacles or in the integrity of the package as a whole. In particular, nuts, bolts and other securing devices shall be so designed as to prevent them from becoming loose or being released unintentionally, even after repeated use.
- 6.4.2.8           The materials of the packaging and any components or structures shall be physically and chemically compatible with each other and with the radioactive contents. Account shall be taken of their behaviour under irradiation.
- 6.4.2.9           All valves through which the radioactive contents could otherwise escape shall be protected against unauthorized operation.
- 6.4.2.10           The design of the package shall take into account ambient temperatures and pressures that are likely to be encountered in routine conditions of carriage.
- 6.4.2.11           For radioactive material having other dangerous properties the package design shall take into account those properties; see 2.1.3.5.3 and 4.1.9.1.5.

- 6.4.2.12 Manufacturers and subsequent distributors of packagings shall provide information regarding procedures to be followed and a description of the types and dimensions of closures (including required gaskets) and any other components needed to ensure that packages as presented for carriage are capable of passing the applicable performance tests of this Chapter.

**6.4.3** *(Reserved)*

**6.4.4 Requirements for excepted packages**

An excepted package shall be designed to meet the requirements specified in 6.4.2.

**6.4.5 Requirements for Industrial packages**

- 6.4.5.1 Types IP-1, IP-2, and IP-3 packages shall meet the requirements specified in 6.4.2 and 6.4.7.2.

- 6.4.5.2 A Type IP-2 package shall, if it were subjected to the tests specified in 6.4.15.4 and 6.4.15.5, prevent:

- (a) Loss or dispersal of the radioactive contents; and
- (b) More than a 20% increase in the maximum radiation level at any external surface of the package.

- 6.4.5.3 A Type IP-3 package shall meet all the requirements specified in 6.4.7.2 to 6.4.7.15.

**6.4.5.4 *Alternative requirements for Types IP-2 and IP-3 packages***

- 6.4.5.4.1 Packages may be used as Type IP-2 package provided that:

- (a) They satisfy the requirements of 6.4.5.1;
- (b) They are designed to satisfy the requirements prescribed for packing group I or II in Chapter 6.1; and
- (c) When subjected to the tests required for packing groups I or II in Chapter 6.1, they would prevent:
  - (i) Loss or dispersal of the radioactive contents; and
  - (ii) More than a 20% increase in the maximum radiation level at any external surface of the package.

- 6.4.5.4.2 Portable tanks may also be used as Types IP-2 or IP-3 packages, provided that:

- (a) They satisfy the requirements of 6.4.5.1;
- (b) They are designed to satisfy the requirements prescribed in Chapter 6.7 and are capable of withstanding a test pressure of 265 kPa; and
- (c) They are designed so that any additional shielding which is provided shall be capable of withstanding the static and dynamic stresses resulting from handling and routine conditions of carriage and of preventing more than a 20% increase in the maximum radiation level at any external surface of the portable tanks.

6.4.5.4.3 Tanks, other than portable tanks, may also be used as Types IP-2 or IP-3 packages for carrying LSA-I and LSA-II liquids and gases as prescribed in Table 4.1.9.2.4, provided that:

- (a) They satisfy the requirements of 6.4.5.1;
- (b) They are designed to satisfy the requirements prescribed in Chapter 6.8; and
- (c) They are designed so that any additional shielding which is provided shall be capable of withstanding the static and dynamic stresses resulting from handling and routine conditions of carriage and of preventing an increase of more than 20% in the maximum radiation level at any external surface of the tanks.

6.4.5.4.4 Containers of a permanent enclosed character may also be used as Types IP-2 or IP-3 packages, provided that:

- (a) The radioactive contents are restricted to solid materials;
- (b) They satisfy the requirements of 6.4.5.1; and
- (c) They are designed to conform to ISO 1496-1:1990: "Series 1 Containers - Specifications and Testing - Part 1: General Cargo Containers" excluding dimensions and ratings. They shall be designed such that if subjected to the tests prescribed in that document and the accelerations occurring during routine conditions of carriage they would prevent:
  - (i) loss or dispersal of the radioactive contents; and
  - (ii) more than a 20% increase in the maximum radiation level at any external surface of the containers.

6.4.5.4.5 Metal intermediate bulk containers may also be used as Types IP-2 or IP-3 packages provided that:

- (a) They satisfy the requirements of 6.4.5.1; and
- (b) They are designed to satisfy the requirements prescribed in Chapter 6.5 for packing group I or II, and if they were subjected to the tests prescribed in that Chapter, but with the drop test conducted in the most damaging orientation, they would prevent:
  - (i) loss or dispersal of the radioactive contents; and
  - (ii) more than a 20% increase in the maximum radiation level at any external surface of the intermediate bulk container.

#### **6.4.6 Requirements for packages containing uranium hexafluoride**

6.4.6.1 Packages designed to contain uranium hexafluoride shall meet the requirements prescribed elsewhere in ADR which pertain to the radioactive and fissile properties of the material. Except as allowed in 6.4.6.4, uranium hexafluoride in quantities of 0.1 kg or more shall also be packaged and carried in accordance with the provisions of ISO 7195:1993 "Packaging of uranium hexafluoride (UF<sub>6</sub>) for transport", and the requirements of 6.4.6.2 and 6.4.6.3.

6.4.6.2 Each package designed to contain 0.1 kg or more of uranium hexafluoride shall be designed so that it would meet the following requirements:

- (a) Withstand without leakage and without unacceptable stress, as specified in ISO 7195:1993, the structural test as specified in 6.4.21.5;

- (b) Withstand without loss or dispersal of the uranium hexafluoride the free drop test specified in 6.4.15.4; and
- (c) Withstand without rupture of the containment system the thermal test specified in 6.4.17.3.

6.4.6.3 Packages designed to contain 0.1 kg or more of uranium hexafluoride shall not be provided with pressure relief devices.

6.4.6.4 Subject to the approval of the competent authority, packages designed to contain 0.1 kg or more of uranium hexafluoride may be carried if:

- (a) The packages are designed to international or national standards other than ISO 7195:1993 provided an equivalent level of safety is maintained;
- (b) The packages are designed to withstand without leakage and without unacceptable stress a test pressure of less than 2.76 MPa as specified in 6.4.21.5; or
- (c) For packages designed to contain 9 000 kg or more of uranium hexafluoride, the packages do not meet the requirement of 6.4.6.2 (c).

In all other respects the requirements specified in 6.4.6.1 to 6.4.6.3 shall be satisfied.

#### **6.4.7 Requirements for Type A packages**

6.4.7.1 Type A packages shall be designed to meet the general requirements of 6.4.2 and of 6.4.7.2 to 6.4.7.17.

6.4.7.2 The smallest overall external dimension of the package shall not be less than 10 cm.

6.4.7.3 The outside of the package shall incorporate a feature such as a seal, which is not readily breakable and which, while intact, will be evidence that it has not been opened.

6.4.7.4 Any tie-down attachments on the package shall be so designed that, under normal and accident conditions of carriage, the forces in those attachments shall not impair the ability of the package to meet the requirements of ADR.

6.4.7.5 The design of the package shall take into account temperatures ranging from -40°C to +70°C for the components of the packaging. Attention shall be given to freezing temperatures for liquids and to the potential degradation of packaging materials within the given temperature range.

6.4.7.6 The design and manufacturing techniques shall be in accordance with national or international standards, or other requirements, acceptable to the competent authority.

6.4.7.7 The design shall include a containment system securely closed by a positive fastening device which cannot be opened unintentionally or by a pressure which may arise within the package.

6.4.7.8 Special form radioactive material may be considered as a component of the containment system.

6.4.7.9 If the containment system forms a separate unit of the package, it shall be capable of being securely closed by a positive fastening device which is independent of any other part of the packaging.

- 6.4.7.10 The design of any component of the containment system shall take into account, where applicable, the radiolytic decomposition of liquids and other vulnerable materials and the generation of gas by chemical reaction and radiolysis.
- 6.4.7.11 The containment system shall retain its radioactive contents under a reduction of ambient pressure to 60 kPa.
- 6.4.7.12 All valves, other than pressure relief valves, shall be provided with an enclosure to retain any leakage from the valve.
- 6.4.7.13 A radiation shield which encloses a component of the package specified as a part of the containment system shall be so designed as to prevent the unintentional release of that component from the shield. Where the radiation shield and such component within it form a separate unit, the radiation shield shall be capable of being securely closed by a positive fastening device which is independent of any other packaging structure.
- 6.4.7.14 A package shall be so designed that if it were subjected to the tests specified in 6.4.15, it would prevent:
- (a) Loss or dispersal of the radioactive contents; and
  - (b) More than a 20% increase in the maximum radiation level at any external surface of the package.
- 6.4.7.15 The design of a package intended for liquid radioactive material shall make provision for ullage to accommodate variations in the temperature of the contents, dynamic effects and filling dynamics.

*Type A packages to contain liquids*

- 6.4.7.16 A Type A package designed to contain liquid radioactive material shall, in addition:
- (a) Be adequate to meet the conditions specified in 6.4.7.14 (a) above if the package is subjected to the tests specified in 6.4.16; and
  - (b) Either
    - (i) be provided with sufficient absorbent material to absorb twice the volume of the liquid contents. Such absorbent material shall be suitably positioned so as to contact the liquid in the event of leakage; or
    - (ii) be provided with a containment system composed of primary inner and secondary outer containment components designed to ensure retention of the liquid contents, within the secondary outer containment components, even if the primary inner components leak.

*Type A packages to contain gas*

- 6.4.7.17 A package designed for gases shall prevent loss or dispersal of the radioactive contents if the package were subjected to the tests specified in 6.4.16. A Type A package designed for tritium gas or for noble gases shall be excepted from this requirement.



**6.4.8 Requirements for Type B(U) packages**

- 6.4.8.1 Type B(U) packages shall be designed to meet the requirements specified in 6.4.2, and of 6.4.7.2 to 6.4.7.15, except as specified in 6.4.7.14 (a), and, in addition, the requirements specified in 6.4.8.2 to 6.4.8.15.
- 6.4.8.2 A package shall be so designed that, under the ambient conditions specified in 6.4.8.5 and 6.4.8.6 heat generated within the package by the radioactive contents shall not, under normal conditions of carriage, as demonstrated by the tests in 6.4.15, adversely affect the package in such a way that it would fail to meet the applicable requirements for containment and shielding if left unattended for a period of one week. Particular attention shall be paid to the effects of heat, which may:
- (a) Alter the arrangement, the geometrical form or the physical state of the radioactive contents or, if the radioactive material is enclosed in a can or receptacle (for example, clad fuel elements), cause the can, receptacle or radioactive material to deform or melt; or
  - (b) Lessen the efficiency of the packaging through differential thermal expansion or cracking or melting of the radiation shielding material; or
  - (c) In combination with moisture, accelerate corrosion.
- 6.4.8.3 A package shall be so designed that, under the ambient condition specified in 6.4.8.5 and in the absence of insolation, the temperature of the accessible surfaces of a package shall not exceed 50 °C, unless the package is carried under exclusive use.
- 6.4.8.4 The maximum temperature of any surface readily accessible during carriage of a package under exclusive use shall not exceed 85 °C in the absence of insolation under the ambient conditions specified in 6.4.8.5. Account may be taken of barriers or screens intended to give protection to persons without the need for the barriers or screens being subject to any test.
- 6.4.8.5 The ambient temperature shall be assumed to be 38 °C.
- 6.4.8.6 The solar insolation conditions shall be assumed to be as specified in Table 6.4.8.6.

**Table 6.4.8.6: Insolation data**

| Case | Form and location of surface                       | Insolation for 12 hours per day (W/m <sup>2</sup> ) |
|------|--|---|
| 1    | Flat surfaces carried horizontally-downward facing | 0   |
| 2    | Flat surfaces carried horizontally-upward facing   | 800   |
| 3    | Surfaces carried vertically                        | 200 <sup>a</sup>                                    |
| 4    | Other downward facing (not horizontal) surfaces    | 200 <sup>a</sup>                                    |
| 5    | All other surfaces                                 | 400 <sup>a</sup>                                    |

<sup>a</sup> Alternatively, a sine function may be used, with an absorption coefficient adopted and the effects of possible reflection from neighbouring objects neglected.

- 6.4.8.7 A package which includes thermal protection for the purpose of satisfying the requirements of the thermal test specified in 6.4.17.3 shall be so designed that such protection will remain effective if the package is subjected to the tests specified in 6.4.15 and 6.4.17.2 (a) and (b) or 6.4.17.2 (b) and (c), as appropriate. Any such protection on the exterior of the package shall not be rendered ineffective by ripping, cutting, skidding, abrasion or rough handling.

6.4.8.8 A package shall be so designed that, if it were subjected to:

- (a) The tests specified in 6.4.15, it would restrict the loss of radioactive contents to not more than  $10^{-6} A_2$  per hour; and
- (b) The tests specified in 6.4.17.1, 6.4.17.2 (b), 6.4.17.3, and 6.4.17.4 and the tests in
  - (i) 6.4.17.2 (c), when the package has a mass not greater than 500 kg, an overall density not greater than  $1\,000\text{ kg/m}^3$  based on the external dimensions, and radioactive contents greater than  $1\,000 A_2$  not as special form radioactive material, or
  - (ii) 6.4.17.2 (a), for all other packages,

it would meet the following requirements:

- retain sufficient shielding to ensure that the radiation level at 1 m from the surface of the package would not exceed 10 mSv/h with the maximum radioactive contents which the package is designed to contain; and
- restrict the accumulated loss of radioactive contents in a period of one week to not more than  $10 A_2$  for krypton-85 and not more than  $A_2$  for all other radionuclides.

Where mixtures of different radionuclides are present, the provisions of 2.2.7.2.2.4 to 2.2.7.2.2.6 shall apply except that for krypton-85 an effective  $A_2(i)$  value equal to  $10 A_2$  may be used. For case (a) above, the assessment shall take into account the external contamination limits of 4.1.9.1.2.

6.4.8.9 A package for radioactive contents with activity greater than  $10^5 A_2$  shall be so designed that if it were subjected to the enhanced water immersion test specified in 6.4.18, there would be no rupture of the containment system.

6.4.8.10 Compliance with the permitted activity release limits shall depend neither upon filters nor upon a mechanical cooling system.

6.4.8.11 A package shall not include a pressure relief system from the containment system which would allow the release of radioactive material to the environment under the conditions of the tests specified in 6.4.15 and 6.4.17.

6.4.8.12 A package shall be so designed that if it were at the maximum normal operating pressure and it were subjected to the tests specified in 6.4.15 and 6.4.17, the level of strains in the containment system would not attain values which would adversely affect the package in such a way that it would fail to meet the applicable requirements.

6.4.8.13 A package shall not have a maximum normal operating pressure in excess of a gauge pressure of 700 kPa.

6.4.8.14 A package containing low dispersible radioactive material shall be so designed that any features added to the low dispersible radioactive material that are not part of it, or any internal components of the packaging shall not adversely affect the performance of the low dispersible radioactive material.

6.4.8.15 A package shall be designed for an ambient temperature range from  $-40\text{ }^{\circ}\text{C}$  to  $+38\text{ }^{\circ}\text{C}$ .

**6.4.9 Requirements for Type B(M) packages**

- 6.4.9.1 Type B(M) packages shall meet the requirements for Type B(U) packages specified in 6.4.8.1, except that for packages to be carried solely within a specified country or solely between specified countries, conditions other than those given in 6.4.7.5, 6.4.8.5, 6.4.8.6, and 6.4.8.9 to 6.4.8.15 above may be assumed with the approval of the competent authorities of these countries. Notwithstanding, the requirements for Type B(U) packages specified in 6.4.8.9 to 6.4.8.15 shall be met as far as practicable.
- 6.4.9.2 Intermittent venting of Type B(M) packages may be permitted during carriage, provided that the operational controls for venting are acceptable to the relevant competent authorities.

**6.4.10 Requirements for Type C packages**

- 6.4.10.1 Type C packages shall be designed to meet the requirements specified in 6.4.2 and of 6.4.7.2 to 6.4.7.15, except as specified in 6.4.7.14 (a), and of the requirements specified in 6.4.8.2 to 6.4.8.6, 6.4.8.10 to 6.4.8.15, and, in addition, of 6.4.10.2 to 6.4.10.4.
- 6.4.10.2 A package shall be capable of meeting the assessment criteria prescribed for tests in 6.4.8.8 (b) and 6.4.8.12 after burial in an environment defined by a thermal conductivity of  $0.33 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$  and a temperature of  $38^\circ\text{C}$  in the steady state. Initial conditions for the assessment shall assume that any thermal insulation of the package remains intact, the package is at the maximum normal operating pressure and the ambient temperature is  $38^\circ\text{C}$ .
- 6.4.10.3 A package shall be so designed that, if it were at the maximum normal operating pressure and subjected to:
- (a) The tests specified in 6.4.15, it would restrict the loss of radioactive contents to not more than  $10^{-6} \text{ A}_2$  per hour; and
  - (b) The test sequences in 6.4.20.1, it would meet the following requirements:
    - (i) retain sufficient shielding to ensure that the radiation level at 1 m from the surface of the package would not exceed  $10 \text{ mSv/h}$  with the maximum radioactive contents which the package is designed to contain; and
    - (ii) restrict the accumulated loss of radioactive contents in a period of 1 week to not more than  $10 \text{ A}_2$  for krypton-85 and not more than  $\text{A}_2$  for all other radionuclides.

Where mixtures of different radionuclides are present, the provisions of 2.2.7.2.2.4 to 2.2.7.2.2.6 shall apply except that for krypton-85 an effective  $\text{A}_2(\text{i})$  value equal to  $10 \text{ A}_2$  may be used. For case (a) above, the assessment shall take into account the external contamination limits of 4.1.9.1.2.

- 6.4.10.4 A package shall be so designed that there will be no rupture of the containment system following performance of the enhanced water immersion test specified in 6.4.18.

**6.4.11 Requirements for packages containing fissile material**

6.4.11.1 Fissile material shall be carried so as to:

- (a) Maintain sub-criticality during normal and accident conditions of carriage; in particular, the following contingencies shall be considered:
  - (i) water leaking into or out of packages;
  - (ii) the loss of efficiency of built-in neutron absorbers or moderators;
  - (iii) rearrangement of the contents either within the package or as a result of loss from the package;
  - (iv) reduction of spaces within or between packages;
  - (v) packages becoming immersed in water or buried in snow; and
  - (vi) temperature changes; and
- (b) Meet the requirements:
  - (i) of 6.4.7.2 for packages containing fissile material;
  - (ii) prescribed elsewhere in ADR which pertain to the radioactive properties of the material; and
  - (iii) specified in 6.4.11.3 to 6.4.11.12, unless excepted by 6.4.11.2.

6.4.11.2 Fissile material meeting one of the provisions (a) to (d) of 2.2.7.2.3.5 is excepted from the requirement to be carried in packages that comply with 6.4.11.3 to 6.4.11.12 as well as the other requirements of ADR that apply to fissile material. Only one type of exception is allowed per consignment.

6.4.11.3 Where the chemical or physical form, isotopic composition, mass or concentration, moderation ratio or density, or geometric configuration is not known, the assessments of 6.4.11.7 to 6.4.11.12 shall be performed assuming that each parameter that is not known has the value which gives the maximum neutron multiplication consistent with the known conditions and parameters in these assessments.

6.4.11.4 For irradiated nuclear fuel the assessments of 6.4.11.7 to 6.4.11.12 shall be based on an isotopic composition demonstrated to provide:

- (a) The maximum neutron multiplication during the irradiation history; or
- (b) A conservative estimate of the neutron multiplication for the package assessments. After irradiation but prior to shipment, a measurement shall be performed to confirm the conservatism of the isotopic composition.

6.4.11.5 The package, after being subjected to the tests specified in 6.4.15, must prevent the entry of a 10 cm cube.

6.4.11.6 The package shall be designed for an ambient temperature range of -40°C to + 38°C unless the competent authority specifies otherwise in the certificate of approval for the package design.

- 6.4.11.7 For a package in isolation, it shall be assumed that water can leak into or out of all void spaces of the package, including those within the containment system. However, if the design incorporates special features to prevent such leakage of water into or out of certain void spaces, even as a result of error, absence of leakage may be assumed in respect of those void spaces. Special features shall include the following:
- (a) Multiple high standard water barriers, each of which would remain watertight if the package were subject to the tests prescribed in 6.4.11.12 (b), a high degree of quality control in the manufacture, maintenance and repair of packagings and tests to demonstrate the closure of each package before each shipment; or
  - (b) For packages containing uranium hexafluoride only, with maximum enrichment of 5 mass percent uranium-235:
    - (i) packages where, following the tests prescribed in 6.4.11.12 (b), there is no physical contact between the valve and any other component of the packaging other than at its original point of attachment and where, in addition, following the test prescribed in 6.4.17.3 the valves remain leaktight; and
    - (ii) a high degree of quality control in the manufacture, maintenance and repair of packagings coupled with tests to demonstrate closure of each package before each shipment.
- 6.4.11.8 It shall be assumed that the confinement system shall be closely reflected by at least 20 cm of water or such greater reflection as may additionally be provided by the surrounding material of the packaging. However, when it can be demonstrated that the confinement system remains within the packaging following the tests prescribed in 6.4.11.12 (b), close reflection of the package by at least 20 cm of water may be assumed in 6.4.11.9 (c).
- 6.4.11.9 The package shall be subcritical under the conditions of 6.4.11.7 and 6.4.11.8 with the package conditions that result in the maximum neutron multiplication consistent with:
- (a) Routine conditions of carriage (incident free);
  - (b) The tests specified in 6.4.11.11 (b);
  - (c) The tests specified in 6.4.11.12 (b).
- 6.4.11.10 *(Reserved)*
- 6.4.11.11 For normal conditions of carriage a number "N" shall be derived, such that five times "N" packages shall be subcritical for the arrangement and package conditions that provide the maximum neutron multiplication consistent with the following:
- (a) There shall not be anything between the packages, and the package arrangement shall be reflected on all sides by at least 20 cm of water; and
  - (b) The state of the packages shall be their assessed or demonstrated condition if they had been subjected to the tests specified in 6.4.15.
- 6.4.11.12 For accident conditions of carriage a number "N" shall be derived, such that two times "N" packages shall be subcritical for the arrangement and package conditions that provide the maximum neutron multiplication consistent with the following:
- (a) Hydrogenous moderation between packages, and the package arrangement reflected on all sides by at least 20 cm of water; and

- (b) The tests specified in 6.4.15 followed by whichever of the following is the more limiting:
  - (i) the tests specified in 6.4.17.2 (b) and, either 6.4.17.2 (c) for packages having a mass not greater than 500 kg and an overall density not greater than 1 000 kg/m<sup>3</sup> based on the external dimensions, or 6.4.17.2 (a) for all other packages; followed by the test specified in 6.4.17.3 and completed by the tests specified in 6.4.19.1 to 6.4.19.3; or
  - (ii) the test specified in 6.4.17.4; and
- (c) Where any part of the fissile material escapes from the containment system following the tests specified in 6.4.11.12 (b), it shall be assumed that fissile material escapes from each package in the array and all of the fissile material shall be arranged in the configuration and moderation that results in the maximum neutron multiplication with close reflection by at least 20 cm of water.

6.4.11.13 The criticality safety index (CSI) for packages containing fissile material shall be obtained by dividing the number 50 by the smaller of the two values of N derived in 6.4.11.11 and 6.4.11.12 (i.e.  $CSI = 50/N$ ). The value of the criticality safety index may be zero, provided that an unlimited number of packages is subcritical (i.e. N is effectively equal to infinity in both cases).

#### **6.4.12 Test procedures and demonstration of compliance**

6.4.12.1 Demonstration of compliance with the performance standards required in 2.2.7.2.3.1.3, 2.2.7.2.3.1.4, 2.2.7.2.3.3.1, 2.2.7.2.3.3.2, 2.2.7.2.3.4.1, 2.2.7.2.3.4.2, and 6.4.2 to 6.4.11 must be accomplished by any of the methods listed below or by a combination thereof:

- (a) Performance of tests with specimens representing LSA-III material, or special form radioactive material, or low dispersible radioactive material or with prototypes or samples of the packaging, where the contents of the specimen or the packaging for the tests shall simulate as closely as practicable the expected range of radioactive contents and the specimen or packaging to be tested shall be prepared as presented for carriage;
- (b) Reference to previous satisfactory demonstrations of a sufficiently similar nature;
- (c) Performance of tests with models of appropriate scale incorporating those features which are significant with respect to the item under investigation when engineering experience has shown results of such tests to be suitable for design purposes. When a scale model is used, the need for adjusting certain test parameters, such as penetrator diameter or compressive load, shall be taken into account;
- (d) Calculation, or reasoned argument, when the calculation procedures and parameters are generally agreed to be reliable or conservative.

6.4.12.2 After the specimen, prototype or sample has been subjected to the tests, appropriate methods of assessment shall be used to assure that the requirements for the test procedures have been fulfilled in compliance with the performance and acceptance standards prescribed in 2.2.7.2.3.1.3, 2.2.7.2.3.1.4, 2.2.7.2.3.3.1, 2.2.7.2.3.3.2, 2.2.7.2.3.4.1, 2.2.7.2.3.4.2, and 6.4.2 to 6.4.11.

6.4.12.3 All specimens shall be inspected before testing in order to identify and record faults or damage including the following:

- (a) Divergence from the design;
- (b) Defects in manufacture;
- (c) Corrosion or other deterioration; and
- (d) Distortion of features.

The containment system of the package shall be clearly specified. The external features of the specimen shall be clearly identified so that reference may be made simply and clearly to any part of such specimen.

#### **6.4.13      Testing the integrity of the containment system and shielding and evaluating criticality safety**

After each of the applicable tests specified in 6.4.15 to 6.4.21:

- (a) Faults and damage shall be identified and recorded;
- (b) It shall be determined whether the integrity of the containment system and shielding has been retained to the extent required in 6.4.2 to 6.4.11 for the package under test; and
- (c) For packages containing fissile material, it shall be determined whether the assumptions and conditions used in the assessments required by 6.4.11.1 to 6.4.11.12 for one or more packages are valid.

#### **6.4.14      Target for drop tests**

The target for the drop tests specified in 2.2.7.2.3.3.5 (a), 6.4.15.4, 6.4.16 (a), 6.4.17.2 and 6.4.20.2 shall be a flat, horizontal surface of such a character that any increase in its resistance to displacement or deformation upon impact by the specimen would not significantly increase the damage to the specimen.

#### **6.4.15      Tests for demonstrating ability to withstand normal conditions of carriage**

6.4.15.1 The tests are: the water spray test, the free drop test, the stacking test and the penetration test. Specimens of the package shall be subjected to the free drop test, the stacking test and the penetration test, preceded in each case by the water spray test. One specimen may be used for all the tests, provided that the requirements of 6.4.15.2 are fulfilled.

6.4.15.2 The time interval between the conclusion of the water spray test and the succeeding test shall be such that the water has soaked in to the maximum extent, without appreciable drying of the exterior of the specimen. In the absence of any evidence to the contrary, this interval shall be taken to be two hours if the water spray is applied from four directions simultaneously. No time interval shall elapse, however, if the water spray is applied from each of the four directions consecutively.

6.4.15.3 Water spray test: The specimen shall be subjected to a water spray test that simulates exposure to rainfall of approximately 5 cm per hour for at least one hour.



6.4.15.4 Free drop test: The specimen shall drop onto the target so as to suffer maximum damage in respect of the safety features to be tested.

- (a) The height of drop measured from the lowest point of the specimen to the upper surface of the target shall be not less than the distance specified in Table 6.4.15.4 for the applicable mass. The target shall be as defined in 6.4.14;
- (b) For rectangular fibreboard or wood packages not exceeding a mass of 50 kg, a separate specimen shall be subjected to a free drop onto each corner from a height of 0.3 m;
- (c) For cylindrical fibreboard packages not exceeding a mass of 100 kg, a separate specimen shall be subjected to a free drop onto each of the quarters of each rim from a height of 0.3 m.

**Table 6.4.15.4: Free drop distance for testing packages to normal conditions of carriage**

| Package mass (kg)              | Free drop distance (m) |
|--------------------------------|------------------------|
| Package mass < 5 000           | 1.2                    |
| 5 000 ≤ Package mass < 10 000  | 0.9                    |
| 10 000 ≤ Package mass < 15 000 | 0.6                    |
| 15 000 ≤ Package mass          | 0.3                    |

6.4.15.5 Stacking test: Unless the shape of the packaging effectively prevents stacking, the specimen shall be subjected, for a period of 24 h, to a compressive load equal to the greater of the following:

- (a) The equivalent of 5 times the mass of the actual package; and
- (b) The equivalent of 13 kPa multiplied by the vertically projected area of the package.

The load shall be applied uniformly to two opposite sides of the specimen, one of which shall be the base on which the package would typically rest.

6.4.15.6 Penetration test: The specimen shall be placed on a rigid, flat, horizontal surface which will not move significantly while the test is being carried out.

- (a) A bar of 3.2 cm in diameter with a hemispherical end and a mass of 6 kg shall be dropped and directed to fall, with its longitudinal axis vertical, onto the centre of the weakest part of the specimen, so that, if it penetrates sufficiently far, it will hit the containment system. The bar shall not be significantly deformed by the test performance;
- (b) The height of drop of the bar measured from its lower end to the intended point of impact on the upper surface of the specimen shall be 1 m.

#### 6.4.16 Additional tests for Type A packages designed for liquids and gases

A specimen or separate specimens shall be subjected to each of the following tests unless it can be demonstrated that one test is more severe for the specimen in question than the other, in which case one specimen shall be subjected to the more severe test.



- (a) Free drop test: The specimen shall drop onto the target so as to suffer the maximum damage in respect of containment. The height of the drop measured from the lowest part of the specimen to the upper surface of the target shall be 9 m. The target shall be as defined in 6.4.14;
- (b) Penetration test: The specimen shall be subjected to the test specified in 6.4.15.6 except that the height of drop shall be increased to 1.7 m from the 1 m specified in 6.4.15.6 (b).

#### **6.4.17 Tests for demonstrating ability to withstand accident conditions in carriage**

6.4.17.1 The specimen shall be subjected to the cumulative effects of the tests specified in 6.4.17.2 and 6.4.17.3, in that order. Following these tests, either this specimen or a separate specimen shall be subjected to the effect(s) of the water immersion test(s) as specified in 6.4.17.4 and, if applicable, 6.4.18.

6.4.17.2 Mechanical test: The mechanical test consists of three different drop tests. Each specimen shall be subjected to the applicable drops as specified in 6.4.8.8 or 6.4.11.12. The order in which the specimen is subjected to the drops shall be such that, on completion of the mechanical test, the specimen shall have suffered such damage as will lead to the maximum damage in the thermal test which follows.

- (a) For drop I, the specimen shall drop onto the target so as to suffer the maximum damage, and the height of the drop measured from the lowest point of the specimen to the upper surface of the target shall be 9 m. The target shall be as defined in 6.4.14;
- (b) For drop II, the specimen shall drop so as to suffer the maximum damage onto a bar rigidly mounted perpendicularly on the target. The height of the drop measured from the intended point of impact of the specimen to the upper surface of the bar shall be 1 m. The bar shall be of solid mild steel of circular section,  $(15.0 \text{ cm} \pm 0.5 \text{ cm})$  in diameter and 20 cm long unless a longer bar would cause greater damage, in which case a bar of sufficient length to cause maximum damage shall be used. The upper end of the bar shall be flat and horizontal with its edge rounded off to a radius of not more than 6 mm. The target on which the bar is mounted shall be as described in 6.4.14;
- (c) For drop III, the specimen shall be subjected to a dynamic crush test by positioning the specimen on the target so as to suffer maximum damage by the drop of a 500 kg mass from 9 m onto the specimen. The mass shall consist of a solid mild steel plate 1 m by 1 m and shall fall in a horizontal attitude. The height of the drop shall be measured from the underside of the plate to the highest point of the specimen. The target on which the specimen rests shall be as defined in 6.4.14.

6.4.17.3 Thermal test: The specimen shall be in thermal equilibrium under conditions of an ambient temperature of 38 °C, subject to the solar insolation conditions specified in Table 6.4.8.6 and subject to the design maximum rate of internal heat generation within the package from the radioactive contents. Alternatively, any of these parameters are allowed to have different values prior to and during the test, providing due account is taken of them in the subsequent assessment of package response.

The thermal test shall then consist of:

- (a) Exposure of a specimen for a period of 30 minutes to a thermal environment which provides a heat flux at least equivalent to that of a hydrocarbon fuel/air fire in sufficiently quiescent ambient conditions to give a minimum average flame emissivity coefficient of 0.9 and an average temperature of at least 800 °C, fully engulfing the

specimen, with a surface absorptivity coefficient of 0.8 or that value which the package may be demonstrated to possess if exposed to the fire specified, followed by;

- (b) Exposure of the specimen to an ambient temperature of 38 °C, subject to the solar insolation conditions specified in Table 6.4.8.6 and subject to the design maximum rate of internal heat generation within the package by the radioactive contents for a sufficient period to ensure that temperatures in the specimen are everywhere decreasing and/or are approaching initial steady state conditions. Alternatively, any of these parameters are allowed to have different values following cessation of heating, providing due account is taken of them in the subsequent assessment of package response.

During and following the test the specimen shall not be artificially cooled and any combustion of materials of the specimen shall be permitted to proceed naturally.

- 6.4.17.4 Water immersion test: The specimen shall be immersed under a head of water of at least 15 m for a period of not less than eight hours in the attitude which will lead to maximum damage. For demonstration purposes, an external gauge pressure of at least 150 kPa shall be considered to meet these conditions.

#### **6.4.18 Enhanced water immersion test for Type B(U) and Type B(M) packages containing more than $10^5$ A<sub>2</sub> and Type C packages**

Enhanced water immersion test: The specimen shall be immersed under a head of water of at least 200 m for a period of not less than one hour. For demonstration purposes, an external gauge pressure of at least 2 MPa shall be considered to meet these conditions.

#### **6.4.19 Water leakage test for packages containing fissile material**

- 6.4.19.1 Packages for which water in-leakage or out-leakage to the extent which results in greatest reactivity has been assumed for purposes of assessment under 6.4.11.7 to 6.4.11.12 shall be excepted from the test.
- 6.4.19.2 Before the specimen is subjected to the water leakage test specified below, it shall be subjected to the tests in 6.4.17.2 (b), and either 6.4.17.2 (a) or (c) as required by 6.4.11.12, and the test specified in 6.4.17.3.
- 6.4.19.3 The specimen shall be immersed under a head of water of at least 0.9 m for a period of not less than 8 hours and in the attitude for which maximum leakage is expected.

#### **6.4.20 Tests for Type C packages**

- 6.4.20.1 Specimens shall be subjected to the effects of each of the following test sequences in the orders specified:
  - (a) The tests specified in 6.4.17.2 (a), 6.4.17.2 (c), 6.4.20.2 and 6.4.20.3; and
  - (b) The test specified in 6.4.20.4.

Separate specimens are allowed to be used for each of the sequences (a) and (b).

6.4.20.2 Puncture/tearing test: The specimen shall be subjected to the damaging effects of a solid probe made of mild steel. The orientation of the probe to the surface of the specimen shall be as to cause maximum damage at the conclusion of the test sequence specified in 6.4.20.1 (a).

- (a) The specimen, representing a package having a mass less than 250 kg, shall be placed on a target and subjected to a probe having a mass of 250 kg falling from a height of 3 m above the intended impact point. For this test the probe shall be a 20 cm diameter cylindrical bar with the striking end forming a frustum of a right circular cone with the following dimensions: 30 cm height and 2.5 cm in diameter at the top with its edge rounded off to a radius of not more than 6 mm. The target on which the specimen is placed shall be as specified in 6.4.14;
- (b) For packages having a mass of 250 kg or more, the base of the probe shall be placed on a target and the specimen dropped onto the probe. The height of the drop, measured from the point of impact with the specimen to the upper surface of the probe shall be 3 m. For this test the probe shall have the same properties and dimensions as specified in (a) above, except that the length and mass of the probe shall be such as to incur maximum damage to the specimen. The target on which the base of the probe is placed shall be as specified in 6.4.14.

6.4.20.3 Enhanced thermal test: The conditions for this test shall be as specified in 6.4.17.3, except that the exposure to the thermal environment shall be for a period of 60 minutes.

6.4.20.4 Impact test: The specimen shall be subject to an impact on a target at a velocity of not less than 90 m/s, at such an orientation as to suffer maximum damage. The target shall be as defined in 6.4.14, except that the target surface may be at any orientation as long as the surface is normal to the specimen path.

#### **6.4.21 Inspections for packagings designed to contain 0.1 kg or more of uranium hexafluoride**

6.4.21.1 Every manufactured packaging and its service and structural equipment shall, either jointly or separately, undergo an inspection initially before being put into service and periodically thereafter. These inspections shall be performed and certified by agreement with the competent authority.

6.4.21.2 The initial inspection shall consist of a check of the design characteristics, a structural test, a leakproofness test, a water capacity test and a check of satisfactory operation of the service equipment.

6.4.21.3 The periodic inspections shall consist of a visual examination, a structural test, a leakproofness test and a check of satisfactory operation of the service equipment. The maximum intervals for periodic inspections shall be five years. Packagings which have not been inspected within this five-year period shall be examined before carriage in accordance with a programme approved by the competent authority. They shall not be refilled before completion of the full programme for periodic inspections.

6.4.21.4 The check of design characteristics shall demonstrate compliance with the design type specifications and the manufacturing programme.

6.4.21.5 For the initial structural test, packagings designed to contain 0.1 kg or more of uranium hexafluoride shall be tested hydraulically at an internal pressure of at least 1.38 MPa but, when the test pressure is less than 2.76 MPa, the design shall require multilateral approval. For retesting packagings, any other equivalent non-destructive testing may be applied subject to multilateral approval.

- 6.4.21.6 The leakproofness test shall be performed in accordance with a procedure which is capable of indicating leakages in the containment system with a sensitivity of 0.1 Pa.l/s ( $10^{-6}$  bar.l/s).
- 6.4.21.7 The water capacity of the packagings shall be established with an accuracy of  $\pm 0.25\%$  at a reference temperature of 15 °C. The volume shall be stated on the plate described in 6.4.21.8.
- 6.4.21.8 A plate made of non-corroding metal shall be durably attached to every packaging in a readily accessible place. The method of attaching the plate must not impair the strength of the packaging. The following particulars, at least, shall be marked on the plate by stamping or by any other equivalent method:
- Approval number;
  - Manufacturer's serial number;
  - Maximum working pressure (gauge pressure);
  - Test pressure (gauge pressure);
  - Contents: uranium hexafluoride;
  - Capacity in litres;
  - Maximum permissible filling mass of uranium hexafluoride;
  - Tare mass;
  - Date (month, year) of the initial test and the most recent periodic test;
  - Stamp of the expert who performed the tests.

#### **6.4.22 Approvals of package designs and materials**

- 6.4.22.1 The approval of designs for packages containing 0.1 kg or more of uranium hexafluoride requires that:
- (a) Each design that meets the requirements of 6.4.6.4 shall require multilateral approval;
  - (b) Each design that meets the requirements of 6.4.6.1 to 6.4.6.3 shall require unilateral approval by the competent authority of the country of origin of the design, unless multilateral approval is otherwise required by ADR.
- 6.4.22.2 Each Type B(U) and Type C package design shall require unilateral approval, except that:
- (a) A package design for fissile material, which is also subject to 6.4.22.4, 6.4.23.7, and 5.1.5.2.1 shall require multilateral approval; and
  - (b) A Type B(U) package design for low dispersible radioactive material shall require multilateral approval.
- 6.4.22.3 Each Type B(M) package design, including those for fissile material which are also subject to the requirements of 6.4.22.4, 6.4.23.7, and 5.1.5.2.1 and those for low dispersible radioactive material, shall require multilateral approval.
- 6.4.22.4 Each package design for fissile material which is not excepted according to 6.4.11.2 from the requirements that apply specifically to packages containing fissile material shall require multilateral approval.

- 6.4.22.5 The design for special form radioactive material shall require unilateral approval. The design for low dispersible radioactive material shall require multilateral approval (see also 6.4.23.8).
- 6.4.22.6 Any design that requires unilateral approval originating in a country Contracting Party to ADR shall be approved by the competent authority of this country; if the country where the package has been designed is not a Contracting Party to ADR, carriage is possible on condition that:
- (a) A certificate has been supplied by this country, proving that the package satisfies the technical requirements of ADR, and that this certificate is countersigned by the competent authority of the first country Contracting Party to ADR reached by the consignment;
  - (b) If no certificate and no existing package design approval by a country Contracting Party to ADR has been supplied, the package design is approved by the competent authority of the first country Contracting Party to ADR reached by the consignment.
- 6.4.22.7 For designs approved under the transitional measures see 1.6.6.

#### **6.4.23 Applications and approvals for radioactive material carriage**

6.4.23.1 *(Reserved)*

6.4.23.2 An application for shipment approval shall include:

- (a) The period of time, related to the shipment, for which the approval is sought;
- (b) The actual radioactive contents, the expected modes of carriage, the type of vehicle, and the probable or proposed route; and
- (c) The details of how the precautions and administrative or operational controls, referred to in the package design approval certificates issued under 5.1.5.2.1, are to be put into effect.

6.4.23.3 An application for approval of shipments under special arrangement shall include all the information necessary to satisfy the competent authority that the overall level of safety in carriage is at least equivalent to that which would be provided if all the applicable requirements of ADR had been met.

The application shall also include:

- (a) A statement of the respects in which, and of the reasons why, the shipment cannot be made in full accordance with the applicable requirements of ADR; and
- (b) A statement of any special precautions or special administrative or operational controls which are to be employed during carriage to compensate for the failure to meet the applicable requirements of ADR.

6.4.23.4 An application for approval of Type B(U) or Type C package design shall include:

- (a) A detailed description of the proposed radioactive contents with reference to their physical and chemical states and the nature of the radiation emitted;
- (b) A detailed statement of the design, including complete engineering drawings and schedules of materials and methods of manufacture;

- (c) A statement of the tests which have been done and their results, or evidence based on calculative methods or other evidence that the design is adequate to meet the applicable requirements;
- (d) The proposed operating and maintenance instructions for the use of the packaging;
- (e) If the package is designed to have a maximum normal operating pressure in excess of 100 kPa gauge, a specification of the materials of manufacture of the containment system, the samples to be taken, and the tests to be made;
- (f) Where the proposed radioactive contents are irradiated fuel, a statement and a justification of any assumption in the safety analysis relating to the characteristics of the fuel and a description of any pre-shipment measurement as required by 6.4.11.4 (b);
- (g) Any special stowage provisions necessary to ensure the safe dissipation of heat from the package considering the various modes of carriage to be used and type of vehicle or container;
- (h) A reproducible illustration, not larger than 21 cm by 30 cm, showing the make-up of the package; and
- (i) A specification of the applicable quality assurance programme as required in 1.7.3.

6.4.23.5 An application for approval of a Type B(M) package design shall include, in addition to the general information required for package approval in 6.4.23.4 for Type B(U) packages:

- (a) A list of the requirements specified in 6.4.7.5, 6.4.8.5, 6.4.8.6 and 6.4.8.9 to 6.4.8.15 with which the package does not conform;
- (b) Any proposed supplementary operational controls to be applied during carriage not regularly provided for in this Annex, but which are necessary to ensure the safety of the package or to compensate for the deficiencies listed in (a) above;
- (c) A statement relative to any restrictions on the mode of carriage and to any special loading, carriage, unloading or handling procedures; and
- (d) The range of ambient conditions (temperature, solar radiation) which are expected to be encountered during carriage and which have been taken into account in the design.

6.4.23.6 The application for approval of designs for packages containing 0.1 kg or more of uranium hexafluoride shall include all information necessary to satisfy the competent authority that the design meets the applicable requirements of 6.4.6.1, and a description of the applicable quality assurance programme as required in 1.7.3.

6.4.23.7 An application for a fissile package approval shall include all information necessary to satisfy the competent authority that the design meets the applicable requirements of 6.4.11.1, and a specification of the applicable quality assurance programme as required by 1.7.3.

6.4.23.8 An application for approval of design for special form radioactive material and design for low dispersible radioactive material shall include:

- (a) A detailed description of the radioactive material or, if a capsule, the contents; particular reference shall be made to both physical and chemical states;
- (b) A detailed statement of the design of any capsule to be used;
- (c) A statement of the tests which have been done and their results, or evidence based on calculative methods to show that the radioactive material is capable of meeting the performance standards, or other evidence that the special form radioactive material or low dispersible radioactive material meets the applicable requirements of ADR;
- (d) A specification of the applicable quality assurance programme as required in 1.7.3; and
- (e) Any proposed pre-shipment actions for use in the consignment of special form radioactive material or low dispersible radioactive material.

6.4.23.9 Each approval certificate issued by a competent authority shall be assigned an identification mark. The identification mark shall be of the following generalized type:

VRI/Number/Type Code

- (a) Except as provided in 6.4.23.10 (b), VRI represents the international vehicle registration identification code of the country issuing the certificate<sup>1</sup>;
- (b) The number shall be assigned by the competent authority, and shall be unique and specific with regard to the particular design or shipment. The shipment approval identification mark shall be clearly related to the design approval identification mark;
- (c) The following type codes shall be used in the order listed to indicate the types of approval certificates issued:

|      |   |
|------|---|
| AF   | Type A package design for fissile material                |
| B(U) | Type B(U) package design [B(U) F if for fissile material] |
| B(M) | Type B(M) package design [B(M) F if for fissile material] |
| C    | Type C package design (CF if for fissile material)        |
| IF   | Industrial package design for fissile material            |
| S    | Special form radioactive material                         |
| LD   | Low dispersible radioactive material                      |
| T    | Shipment  |
| X    | Special arrangement                                       |

In the case of package designs for non-fissile or fissile excepted uranium hexafluoride, where none of the above codes apply, then the following type codes shall be used:

|      |                        |
|------|------------------------|
| H(U) | Unilateral approval    |
| H(M) | Multilateral approval; |

- (d) For package design and special form radioactive material approval certificates, other than those issued under the transitional provisions of 1.6.6.2 and 1.6.6.3, and for low dispersible radioactive material approval certificates, the symbols "-96" shall be added to the type code.

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<sup>1</sup> See Vienna Convention on Road Traffic (1968).



6.4.23.10 These type codes shall be applied as follows:

- (a) Each certificate and each package shall bear the appropriate identification mark, comprising the symbols prescribed in 6.4.23.9 (a), (b), (c) and (d) above, except that, for packages, only the applicable design type codes including, if applicable, the symbols "-96", shall appear following the second stroke, that is, the "T" or "X" shall not appear in the identification marking on the package. Where the design approval and shipment approval are combined, the applicable type codes do not need to be repeated. For example:

A/132/B(M)F-96: A Type B(M) package design approved for fissile material, requiring multilateral approval, for which the competent authority of Austria has assigned the design number 132 (to be marked on both the package and on the package design approval certificate);

A/132/B(M)F-96T: The shipment approval issued for a package bearing the identification mark elaborated above (to be marked on the certificate only);

A/137/X: A special arrangement approval issued by the competent authority of Austria, to which the number 137 has been assigned (to be marked on the certificate only);

A/139/IF-96: An industrial package design for fissile material approved by the competent authority of Austria, to which package design number 139 has been assigned (to be marked on both the package and on the package design approval certificate); and

A/145/H(U)-96: A package design for fissile excepted uranium hexafluoride approved by the competent authority of Austria, to which package design number 145 has been assigned (to be marked on both the package and on the package design approval certificate);

- (b) Where multilateral approval is effected by validation according to 6.4.23.16, only the identification mark issued by the country of origin of the design or shipment shall be used. Where multilateral approval is effected by issue of certificates by successive countries, each certificate shall bear the appropriate identification mark and the package whose design was so approved shall bear all appropriate identification marks. For example:

A/132/B(M)F-96  
CH/28/B(M)F-96

would be the identification mark of a package which was originally approved by Austria and was subsequently approved, by separate certificate, by Switzerland. Additional identification marks would be tabulated in a similar manner on the package;

- (c) The revision of a certificate shall be indicated by a parenthetical expression following the identification mark on the certificate. For example, A/132/B(M)F-96 (Rev.2) would indicate revision 2 of the Austrian package design approval certificate; or A/132/B(M)F-96 (Rev.0) would indicate the original issuance of the Austrian package design approval certificate. For original issuances, the parenthetical entry is optional and other words such as "original issuance" may also be used in place of "Rev.0". Certificate revision numbers may only be issued by the country issuing the original approval certificate;



- (d) Additional symbols (as may be necessitated by national regulations) may be added in brackets to the end of the identification mark; for example, A/132/B(M)F-96(SP503);
- (e) It is not necessary to alter the identification mark on the packaging each time that a revision to the design certificate is made. Such re-marking shall be required only in those cases where the revision to the package design certificate involves a change in the letter type codes for the package design following the second stroke.

6.4.23.11 Each approval certificate issued by a competent authority for special form radioactive material or low dispersible radioactive material shall include the following information:

- (a) Type of certificate;
- (b) The competent authority identification mark;
- (c) The issue date and an expiry date;
- (d) List of applicable national and international regulations, including the edition of the IAEA Regulations for the Safe Transport of Radioactive Material under which the special form radioactive material or low dispersible radioactive material is approved;
- (e) The identification of the special form radioactive material or low dispersible radioactive material;
- (f) A description of the special form radioactive material or low dispersible radioactive material;
- (g) Design specifications for the special form radioactive material or low dispersible radioactive material which may include references to drawings;
- (h) A specification of the radioactive contents which includes the activities involved and which may include the physical and chemical form;
- (i) A specification of the applicable quality assurance programme as required in 1.7.3;
- (j) Reference to information provided by the applicant relating to specific actions to be taken prior to shipment;
- (k) If deemed appropriate by the competent authority, reference to the identity of the applicant;
- (l) Signature and identification of the certifying official.

6.4.23.12 Each approval certificate issued by a competent authority for a special arrangement shall include the following information:

- (a) Type of certificate;
- (b) The competent authority identification mark;
- (c) The issue date and an expiry date;
- (d) Mode(s) of carriage;
- (e) Any restrictions on the modes of carriage, type of vehicle, container, and any necessary routing instructions;

- (f) List of applicable national and international regulations, including the edition of the IAEA Regulations for the Safe Transport of Radioactive Material under which the special arrangement is approved;
- (g) The following statement:

"This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be carried.";
- (h) References to certificates for alternative radioactive contents, other competent authority validation, or additional technical data or information, as deemed appropriate by the competent authority;
- (i) Description of the packaging by a reference to the drawings or a specification of the design. If deemed appropriate by the competent authority, a reproducible illustration, not larger than 21 cm by 30 cm, showing the make-up of the package shall also be provided, accompanied by a brief description of the packaging, including materials of manufacture, gross mass, general outside dimensions and appearance;
- (j) A specification of the authorized radioactive contents, including any restrictions on the radioactive contents which might not be obvious from the nature of the packaging. This shall include the physical and chemical forms, the activities involved (including those of the various isotopes, if appropriate), amounts in grams (for fissile material), and whether special form radioactive material or low dispersible radioactive material, if applicable;
- (k) Additionally, for packages containing fissile material:
  - (i) a detailed description of the authorized radioactive contents;
  - (ii) the value of the criticality safety index;
  - (iii) reference to the documentation that demonstrates the criticality safety of the contents;
  - (iv) any special features, on the basis of which the absence of water from certain void spaces has been assumed in the criticality assessment;
  - (v) any allowance (based on 6.4.11.4 (b)) for a change in neutron multiplication assumed in the criticality assessment as a result of actual irradiation experience; and
  - (vi) the ambient temperature range for which the special arrangement has been approved;
- (l) A detailed listing of any supplementary operational controls required for preparation, loading, carriage, unloading and handling of the consignment, including any special stowage provisions for the safe dissipation of heat;
- (m) If deemed appropriate by the competent authority, reasons for the special arrangement;
- (n) Description of the compensatory measures to be applied as a result of the shipment being under special arrangement;

- (o) Reference to information provided by the applicant relating to the use of the packaging or specific actions to be taken prior to the shipment;
- (p) A statement regarding the ambient conditions assumed for purposes of design if these are not in accordance with those specified in 6.4.8.5, 6.4.8.6, and 6.4.8.15, as applicable;
- (q) Any emergency arrangements deemed necessary by the competent authority;
- (r) A specification of the applicable quality assurance programme as required in 1.7.3;
- (s) If deemed appropriate by the competent authority, reference to the identity of the applicant and to the identity of the carrier;
- (t) Signature and identification of the certifying official.

6.4.23.13 Each approval certificate for a shipment issued by a competent authority shall include the following information:

- (a) Type of certificate;
- (b) The competent authority identification mark(s);
- (c) The issue date and an expiry date;
- (d) List of applicable national and international regulations, including the edition of the IAEA Regulations for the Safe Transport of Radioactive Material under which the shipment is approved;
- (e) Any restrictions on the modes of carriage, type of vehicle, container, and any necessary routing instructions;
- (f) The following statement:  
"This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be carried.";
- (g) A detailed listing of any supplementary operational controls required for preparation, loading, carriage, unloading and handling of the consignment, including any special stowage provisions for the safe dissipation of heat or maintenance of criticality safety;
- (h) Reference to information provided by the applicant relating to specific actions to be taken prior to shipment;
- (i) Reference to the applicable design approval certificate(s);
- (j) A specification of the actual radioactive contents, including any restrictions on the radioactive contents which might not be obvious from the nature of the packaging. This shall include the physical and chemical forms, the total activities involved (including those of the various isotopes, if appropriate), amounts in grams (for fissile material), and whether special form radioactive material or low dispersible radioactive material, if applicable;
- (k) Any emergency arrangements deemed necessary by the competent authority;
- (l) A specification of the applicable quality assurance programme as required in 1.7.3;

- (m) If deemed appropriate by the competent authority, reference to the identity of the applicant;
- (n) Signature and identification of the certifying official.

6.4.23.14 Each approval certificate of the design of a package issued by a competent authority shall include the following information:

- (a) Type of certificate;
- (b) The competent authority identification mark;
- (c) The issue date and an expiry date;
- (d) Any restriction on the modes of carriage, if appropriate;
- (e) List of applicable national and international regulations, including the edition of the IAEA Regulations for the Safe Transport of Radioactive Material under which the design is approved;
- (f) The following statement:

"This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be carried.";
- (g) References to certificates for alternative radioactive contents, other competent authority validation, or additional technical data or information, as deemed appropriate by the competent authority;
- (h) A statement authorizing shipment where shipment approval is required under 5.1.5.1.2, if deemed appropriate;
- (i) Identification of the packaging;
- (j) Description of the packaging by a reference to the drawings or specification of the design. If deemed appropriate by the competent authority, a reproducible illustration, not larger than 21 cm by 30 cm, showing the make-up of the package should also be provided, accompanied by a brief description of the packaging, including materials of manufacture, gross mass, general outside dimensions and appearance;
- (k) Specification of the design by reference to the drawings;
- (l) A specification of the authorized radioactive content, including any restrictions on the radioactive contents which might not be obvious from the nature of the packaging. This shall include the physical and chemical forms, the activities involved (including those of the various isotopes, if appropriate), amounts in grams (for fissile material), and whether special form radioactive material or low dispersible radioactive material, if applicable;
- (m) A description of the containment system;
- (n) Additionally, for packages containing fissile material:
  - (i) a detailed description of the authorized radioactive contents;
  - (ii) a description of the confinement system;

- (iii) the value of the criticality safety index;
  - (iv) reference to the documentation that demonstrates the criticality safety of the contents;
  - (v) any special features, on the basis of which the absence of water from certain void spaces has been assumed in the criticality assessment;
  - (vi) any allowance (based on 6.4.11.4 (b)) for a change in neutron multiplication assumed in the criticality assessment as a result of actual irradiation experience; and
  - (vii) the ambient temperature range for which the package design has been approved;
- (o) For Type B(M) packages, a statement specifying those requirements of 6.4.7.5, 6.4.8.4, 6.4.8.5, 6.4.8.6 and 6.4.8.9 to 6.4.8.15 with which the package does not conform and any amplifying information which may be useful to other competent authorities;
- (p) For packages containing more than 0.1 kg of uranium hexafluoride, a statement specifying those prescriptions of 6.4.6.4 which apply if any and any amplifying information which may be useful to other competent authorities;
- (q) A detailed listing of any supplementary operational controls required for preparation, loading, carriage, unloading and handling of the consignment, including any special stowage provisions for the safe dissipation of heat;
- (r) Reference to information provided by the applicant relating to the use of the packaging or specific actions to be taken prior to shipment;
- (s) A statement regarding the ambient conditions assumed for purposes of design if these are not in accordance with those specified in 6.4.8.5, 6.4.8.6 and 6.4.8.15, as applicable;
- (t) A specification of the applicable quality assurance programme as required in 1.7.3;
- (u) Any emergency arrangements deemed necessary by the competent authority;
- (v) If deemed appropriate by the competent authority, reference to the identity of the applicant;
- (w) Signature and identification of the certifying official.

6.4.23.15 The competent authority shall be informed of the serial number of each packaging manufactured to a design approved by them under 1.6.6.2.1, 1.6.6.2.2, 6.4.22.2, 6.4.22.3 and 6.4.22.4.

6.4.23.16 Multilateral approval may be by validation of the original certificate issued by the competent authority of the country of origin of the design or shipment. Such validation may take the form of an endorsement on the original certificate or the issuance of a separate endorsement, annex, supplement, etc., by the competent authority of the country through or into which the shipment is made.

**CHAPTER 6.5****REQUIREMENTS FOR THE CONSTRUCTION AND TESTING  
OF INTERMEDIATE BULK CONTAINERS (IBCs)****6.5.1 General requirements****6.5.1.1 Scope**

6.5.1.1.1 The requirements of this Chapter apply to intermediate bulk containers (IBCs) the use of which is expressly authorized for the carriage of certain dangerous goods according to the packing instructions indicated in Column (8) of Table A in Chapter 3.2. Portable tanks and tank-containers which meet the requirements of Chapter 6.7 or 6.8 respectively are not considered to be IBCs. IBCs which meet the requirements of this Chapter are not considered to be containers for the purposes of ADR. The letters IBC only will be used in the rest of the text to refer to intermediate bulk containers.

6.5.1.1.2 Exceptionally, IBCs and their service equipment not conforming strictly to the requirements herein, but having acceptable alternatives, may be considered by the competent authority for approval. In addition, in order to take into account progress in science and technology, the use of alternative arrangements which offer at least equivalent safety in use in respect of compatibility with the properties of the substances carried and equivalent or superior resistance to impact, loading and fire, may be considered by the competent authority.

6.5.1.1.3 The construction, equipment, testing, marking and operation of IBCs shall be subject to acceptance by the competent authority of the country in which the IBCs are approved.

6.5.1.1.4 Manufacturers and subsequent distributors of IBCs shall provide information regarding procedures to be followed and a description of the types and dimensions of closures (including required gaskets) and any other components needed to ensure that IBCs as presented for carriage are capable of passing the applicable performance tests of this Chapter.

**6.5.1.2** *(Reserved)*

**6.5.1.3** *(Reserved)*

**6.5.1.4 Designatory code system for IBCs**

6.5.1.4.1 The code shall consist of two Arabic numerals as specified in (a), followed by a capital letter(s) specified in (b), followed, when specified in an individual section, by an Arabic numeral indicating the category of IBC.

(a)

| Type     | For solids, filled or discharged |  | For liquids |
|----------|----------------------------------|--|-------------|
|          | by gravity                       | under pressure of more than 10 kPa (0.1 bar) |             |
| Rigid    | 11                               | 21   | 31          |
| Flexible | 13                               | -  | -           |

## (b) Materials

- A. Steel (all types and surface treatments)
- B. Aluminium
- C. Natural wood
- D. Plywood
- F. Reconstituted wood
- G. Fibreboard
- H. Plastics material
- L. Textile
- M. Paper, multiwall
- N. Metal (other than steel or aluminium).

6.5.1.4.2 For composite IBCs, two capital letters in Latin characters shall be used in sequence in the second position of the code. The first shall indicate the material of the inner receptacle of the IBC and the second that of the outer packaging of the IBC.

6.5.1.4.3 The following types and codes of IBC are assigned:

| Material                         | Category  | Code | Sub-section |
|----------------------------------|---|------|-------------|
| Metal                            |   |      |             |
| A. Steel                         | for solids, filled or discharged by gravity                                       | 11A  | 6.5.5.1     |
|                                  | for solids, filled or discharged under pressure                                   | 21A  |             |
|                                  | for liquids   | 31A  |             |
| B. Aluminium                     | for solids, filled or discharged by gravity                                       | 11B  |             |
|                                  | for solids, filled or discharged under pressure                                   | 21B  |             |
|                                  | for liquids   | 31B  |             |
| N. Other than steel or aluminium | for solids, filled or discharged by gravity                                       | 11N  |             |
|                                  | for solids, filled or discharged under pressure                                   | 21N  |             |
|                                  | for liquids   | 31N  |             |
| Flexible                         |   |      |             |
| H. Plastics                      | woven plastics without coating or liner   | 13H1 | 6.5.5.2     |
|                                  | woven plastics, coated  | 13H2 |             |
|                                  | woven plastics with liner   | 13H3 |             |
|                                  | woven plastics, coated and with liner   | 13H4 |             |
|                                  | plastics film   | 13H5 |             |
| L. Textile                       | without coating or liner  | 13L1 |             |
|                                  | coated  | 13L2 |             |
|                                  | with liner  | 13L3 |             |
|                                  | coated and with liner   | 13L4 |             |
| M. Paper                         | multiwall   | 13M1 |             |
|                                  | multiwall, water resistant  | 13M2 |             |
| H. Rigid plastics                | for solids, filled or discharged by gravity, fitted with structural equipment     | 11H1 | 6.5.5.3     |
|                                  | for solids, filled or discharged by gravity, freestanding                         | 11H2 |             |
|                                  | for solids, filled or discharged under pressure, fitted with structural equipment | 21H1 |             |
|                                  | for solids, filled or discharged under pressure, freestanding                     | 21H2 |             |
|                                  | for liquids, fitted with structural equipment                                     | 31H1 |             |
|                                  | for liquids, freestanding   | 31H2 |             |

| Material  | Category   | Code  | Sub-section |
|---|--|-------|-------------|
| HZ. Composite with plastics inner receptacle <sup>a</sup> | for solids, filled or discharged by gravity, with rigid plastics inner receptacle        | 11HZ1 | 6.5.5.4     |
|   | for solids, filled or discharged by gravity, with flexible plastics inner receptacle     | 11HZ2 |             |
|   | for solids, filled or discharged under pressure, with rigid plastics inner receptacle    | 21HZ1 |             |
|   | for solids, filled or discharged under pressure, with flexible plastics inner receptacle | 21HZ2 |             |
|   | for liquids, with rigid plastics inner receptacle  | 31HZ1 |             |
|   | for liquids, with flexible plastics inner receptacle                                     | 31HZ2 |             |
| G. Fibreboard   | for solids, filled or discharged by gravity  | 11G   | 6.5.5.5     |
| <b>Wooden</b>   |  |       |             |
| C. Natural wood   | for solids, filled or discharged by gravity with inner liner                             | 11C   | 6.5.5.6     |
| D. Plywood  | for solids, filled or discharged by gravity, with inner liner                            | 11D   |             |
| F. Reconstituted wood                                     | for solids, filled or discharged by gravity, with inner liner                            | 11F   |             |

<sup>a</sup> The code shall be completed by replacing the letter Z by a capital letter in accordance with 6.5.1.4.1 (b) to indicate the nature of the material used for the outer casing.

6.5.1.4.4 The letter "W" may follow the IBC code. The letter "W" signifies that the IBC, although of the same type indicated by the code, is manufactured to a specification different from those in 6.5.5 and is considered equivalent in accordance with the requirements in 6.5.1.1.2.

## 6.5.2 Marking

### 6.5.2.1 Primary marking

6.5.2.1.1 Each IBC manufactured and intended for use according to ADR shall bear markings which are durable, legible and placed in a location so as to be readily visible. Letters, numerals and symbols shall be at least 12 mm high and shall show:

- (a) The United Nations packaging symbol:



This symbol shall not be used for any purpose other than certifying that a packaging complies with the relevant requirements in Chapter 6.1, 6.2, 6.3, 6.5 or 6.6.

For metal IBCs on which the marking is stamped or embossed, the capital letters "UN" may be applied instead of the symbol;

- (b) The code designating the type of IBC according to 6.5.1.4;
- (c) A capital letter designating the packing group(s) for which the design type has been approved:
- (i) X for packing groups I, II and III (IBCs for solids only);
  - (ii) Y for packing groups II and III;
  - (iii) Z for packing group III only;








- (d) The month and year (last two digits) of manufacture;
- (e) The State authorizing the allocation of the mark; indicated by the distinguishing sign for motor vehicles in international traffic <sup>1</sup>;
- (f) The name or symbol of the manufacturer and other identification of the IBC as specified by the competent authority;
- (g) The stacking test load in kg. For IBCs not designed for stacking, the figure "0" shall be shown;
- (h) The maximum permissible gross mass in kg.

The primary marking required above shall be applied in the sequence of the subparagraphs below. The marking required by 6.5.2.2 and any further marking authorized by a competent authority shall still enable the parts of the mark to be correctly identified.

Each element of the marking applied in accordance with (a) to (h) and with 6.5.2.2 shall be clearly separated, e.g. by a slash or space, so as to be easily identifiable.

6.5.2.1.2      *Examples of markings for various types of IBC in accordance with 6.5.2.1.1 (a) to (h) above:*

|   |  |   |
|---|--|---|
|   | 11A/Y/02 99<br>NL/Mulder 007<br>5500/1500    | For a metal IBC for solids discharged by gravity and made from steel/for packing groups II and III/ manufactured in February 1999/authorized by the Netherlands/manufactured by Mulder and of a design type to which the competent authority has allocated serial number 007/the stacking test load in kg/the maximum permissible gross mass in kg. |
|  | 13H3/Z/03 01<br>F/Meunier 1713<br>0/1500     | For a flexible IBC for solids discharged for instance by gravity and made from woven plastics with a liner/not designed to be stacked.  |
|  | 31H1/Y/04 99<br>GB/9099<br>10800/1200        | For a rigid plastics IBC for liquids made from plastics with structural equipment withstanding the stack load.  |
|  | 31HA1/Y/05 01<br>D/Muller 1683<br>10800/1200 | For a composite IBC for liquids with a rigid plastics inner receptacle and a steel outer casing.  |
|  | 11C/X/01 02<br>S/Aurigny 9876<br>3000/910    | For a wooden IBC for solids with an inner liner authorized for packing groups I, II and III solids.   |

<sup>1</sup>      *Distinguishing sign for motor vehicles in international traffic prescribed in Vienna Convention on Road Traffic (1968).*

### 6.5.2.2 Additional marking

- 6.5.2.2.1 Each IBC shall bear the markings required in 6.5.2.1 and, in addition, the following information which may appear on a corrosion-resistant plate permanently attached in a place readily accessible for inspection:

| Additional marking  | Category of IBC |                |           |            |        |
|---|-----------------|----------------|-----------|------------|--------|
|   | Metal           | Rigid plastics | Composite | Fibreboard | Wooden |
| Capacity in litres <sup>a</sup> at 20 °C  | X               | X              | X         |            |        |
| Tare mass in kg <sup>a</sup>  | X               | X              | X         | X          | X      |
| Test (gauge) pressure, in kPa or bar <sup>a</sup> , if applicable               |                 | X              | X         |            |        |
| Maximum filling / discharge pressure in kPa or bar <sup>a</sup> , if applicable | X               | X              | X         |            |        |
| Body material and its minimum thickness in mm                                   | X               |                |           |            |        |
| Date of last leakproofness test, if applicable (month and year)                 | X               | X              | X         |            |        |
| Date of last inspection (month and year)  | X               | X              | X         |            |        |
| Serial number of the manufacturer   | X               |                |           |            |        |
| Maximum permitted stacking load <sup>b</sup>                                    | X               | X              | X         | X          | X      |

<sup>a</sup> The unit used shall be indicated.

<sup>b</sup> See 6.5.2.2.2. This additional marking shall apply to all IBCs manufactured, repaired or remanufactured as from 1 January 2011 (see also 1.6.1.15).

- 6.5.2.2.2 The maximum permitted stacking load applicable when the IBC is in use shall be displayed on a symbol as follows:



IBC's capable of being stacked

IBC's NOT capable of being stacked

The symbol shall be not less than 100 mm × 100 mm, be durable and clearly visible. The letters and numbers indicating the mass shall be at least 12 mm high.

The mass marked above the symbol shall not exceed the load imposed during the design type test (see 6.5.6.6.4) divided by 1.8.

**NOTE:** The provisions of 6.5.2.2.2 shall apply to all IBCs manufactured, repaired or remanufactured as from 1 January 2011 (see also 1.6.1.15).

- 6.5.2.2.3 In addition to the markings required in 6.5.2.1, flexible IBCs may bear a pictogram indicating recommended lifting methods.
- 6.5.2.2.4 The inner receptacle of composite IBCs shall be marked with at least the following information:
- (a) The name or symbol of the manufacturer and other identification of the IBC as specified by the competent authority as in 6.5.2.1.1 (f);
  - (b) The date of manufacture, as in 6.5.2.1.1 (d);
  - (c) The distinguishing sign of the State authorizing the allocation of the mark, as in 6.5.2.1.1 (e).
- 6.5.2.2.5 Where a composite IBCs is designed in such a manner that the outer casing is intended to be dismantled for carriage when empty (such as for return of the IBC for reuse to the original consignor), each of the parts intended to be detached when so dismantled shall be marked with the month and year of manufacture and the name or symbol of the manufacturer and other identification of the IBC as specified by the competent authority (see 6.5.2.1.1 (f)).

### **6.5.2.3** *Conformity to design type*

The marking indicates that IBCs correspond to a successfully tested design type and that the requirements referred to in the certificate have been met.

## **6.5.3** **Construction requirements**

### **6.5.3.1** *General requirements*

- 6.5.3.1.1 IBCs shall be resistant to or adequately protected from deterioration due to the external environment.
- 6.5.3.1.2 IBCs shall be so constructed and closed that none of the contents can escape under normal conditions of carriage including the effect of vibration, or by changes in temperature, humidity or pressure.
- 6.5.3.1.3 IBCs and their closures shall be constructed of materials compatible with their contents, or be protected internally, so that they are not liable:
- (a) To be attacked by the contents so as to make their use dangerous;
  - (b) To cause the contents to react or decompose, or form harmful or dangerous compounds with the IBCs.
- 6.5.3.1.4 Gaskets, where used, shall be made of materials not subject to attack by the contents of the IBCs.
- 6.5.3.1.5 All service equipment shall be so positioned or protected as to minimize the risk of escape of the contents owing to damage during handling and carriage.
- 6.5.3.1.6 IBCs, their attachments and their service and structural equipment shall be designed to withstand, without loss of contents, the internal pressure of the contents and the stresses of normal handling and carriage. IBCs intended for stacking shall be designed for stacking. Any lifting or securing features of IBCs shall be of sufficient strength to withstand the normal conditions of handling and carriage without gross distortion or failure and shall be so positioned that no undue stress is caused in any part of the IBC.

- 6.5.3.1.7 Where an IBC consists of a body within a framework it shall be so constructed that:
- (a) The body does not chafe or rub against the framework so as to cause material damage to the body;
  - (b) The body is retained within the framework at all times;
  - (c) The items of equipment are fixed in such a way that they cannot be damaged if the connections between body and frame allow relative expansion or movement.

6.5.3.1.8 Where a bottom discharge valve is fitted, it shall be capable of being made secure in the closed position and the whole discharge system shall be suitably protected from damage. Valves having lever closures shall be able to be secured against accidental opening and the open or closed position shall be readily apparent. For IBCs containing liquids, a secondary means of sealing the discharge aperture shall also be provided, e.g. a blank flange or equivalent device.

#### **6.5.4 Testing, certification and inspection**

6.5.4.1 *Quality assurance:* the IBCs shall be manufactured and tested under a quality assurance programme which satisfies the competent authority, in order to ensure that each manufactured IBC meets the requirements of this Chapter.

*NOTE: ISO 16106:2006 "Packaging – Transport packages for dangerous goods – Dangerous goods packagings, intermediate bulk containers (IBCs) and large packagings – Guidelines for the application of ISO 9001" provides acceptable guidance on procedures which may be followed.*

6.5.4.2 *Test requirements:* IBCs shall be subject to design type tests and, if applicable, to initial and periodic inspections and tests in accordance with 6.5.4.4.

6.5.4.3 *Certification:* in respect of each design type of IBC a certificate and mark (as in 6.5.2) shall be issued attesting that the design type, including its equipment, meets the test requirements.

##### **6.5.4.4 Inspection and testing**

*NOTE: See also 6.5.4.5 for tests and inspections on repaired IBCs.*

6.5.4.4.1 Every metal, rigid plastics and composite IBC shall be inspected to the satisfaction of the competent authority:

- (a) Before it is put into service (including after remanufactured), and thereafter at intervals not exceeding five years, with regard to:
  - (i) conformity to design type including marking;
  - (ii) internal and external condition;
  - (iii) proper functioning of service equipment.

Thermal insulation, if any, need be removed only to the extent necessary for a proper examination of the body of the IBC.

- (b) At intervals of not more than two and a half years, with regard to:
  - (i) external condition;
  - (ii) proper functioning of service equipment.

Thermal insulation, if any, need be removed only to the extent necessary for a proper examination of the body of the IBC.

Each IBC shall correspond in all respects to its design type.

6.5.4.4.2 Every metal, rigid plastics and composite IBC for liquids, or for solids which are filled or discharged under pressure, shall undergo a suitable leakproofness test at least equally effective as the test prescribed in 6.5.6.7.3 and be capable of meeting the test level indicated in 6.5.6.7.3:

- (a) Before it is first used for carriage;
- (b) At intervals of not more than two and a half years.

For this test the IBC shall be fitted with the primary bottom closure. The inner receptacle of a composite IBC may be tested without the outer casing, provided that the test results are not affected.

6.5.4.4.3 A report of each inspection and test shall be kept by the owner of the IBC at least until the next inspection or test. The report shall include the results of the inspection and test and shall identify the party performing the inspection and test (see also the marking requirements in 6.5.2.2.1).

6.5.4.4.4 The competent authority may at any time require proof, by tests in accordance with this Chapter, that IBCs meet the requirements of the design type tests.

#### **6.5.4.5 *Repaired IBCs***

6.5.4.5.1 When an IBC is impaired as a result of impact (e.g. accident) or any other cause, it shall be repaired or otherwise maintained (see definition of "*Routine maintenance of IBCs*" in 1.2.1), so as to conform to the design type. The bodies of rigid plastics IBCs and the inner receptacles of composite IBCs that are impaired shall be replaced.

6.5.4.5.2 In addition to any other testing and inspection requirements in ADR, an IBC shall be subjected to the full testing and inspection requirements set out in 6.5.4.4, and the required reports shall be prepared, whenever it is repaired.

6.5.4.5.3 The Party performing the tests and inspections after the repair shall durably mark the IBC near the manufacturer's UN design type marking to show:

- (a) The State in which the tests and inspections were carried out;
- (b) The name or authorized symbol of the party performing the tests and inspections; and
- (c) The date (month, year) of the tests and inspections.

6.5.4.5.4 Test and inspections performed in accordance with 6.5.4.5.2 may be considered to satisfy the requirements for the two and a half and five year periodic tests and inspections.

**6.5.5 Specific requirements for IBCs****6.5.5.1 *Specific requirements for metal IBCs***

6.5.5.1.1 These requirements apply to metal IBCs intended for the carriage of solids and liquids. There are three categories of metal IBCs:

- (a) Those for solids which are filled or discharged by gravity (11A, 11B, 11N);
- (b) Those for solids which are filled or discharged at a gauge pressure greater than 10 kPa (0.1 bar) (21A, 21B, 21N); and
- (c) Those for liquids (31A, 31B, 31N).

6.5.5.1.2 Bodies shall be made of suitable ductile metal in which the weldability has been fully demonstrated. Welds shall be skilfully made and afford complete safety. Low-temperature performance of the material shall be taken into account when appropriate.

6.5.5.1.3 Care shall be taken to avoid damage by galvanic action due to the juxtaposition of dissimilar metals.

6.5.5.1.4 Aluminium IBCs intended for the carriage of flammable liquids shall have no movable parts, such as covers, closures, etc., made of unprotected steel liable to rust, which might cause a dangerous reaction by coming into frictional or percussive contact with the aluminium.

6.5.5.1.5 Metal IBCs shall be made of metals which meet the following requirements:

- (a) for steel the elongation at fracture, in %, shall not be less than  $\frac{10000}{R_m}$  with an absolute minimum of 20%;

where  $R_m$  = guaranteed minimum tensile strength of the steel to be used, in  $N/mm^2$ ;

- (b) for aluminium and its alloy the elongation at fracture, in %, shall not be less than  $\frac{10000}{6R_m}$  with an absolute minimum of 8%.

Specimens used to determine the elongation at fracture shall be taken transversely to the direction of rolling and be so secured that:

$$L_o = 5d \quad \text{or}$$

$$L_o = 5.65\sqrt{A}$$

where:  $L_o$  = gauge length of the specimen before the test

$d$  = diameter

$A$  = cross-sectional area of test specimen.

6.5.5.1.6 *Minimum wall thickness:*

- (a) for a reference steel having a product of  $R_m \times A_o = 10\,000$ , the wall thickness shall not be less than:

| Capacity (C)<br>in litres | Wall thickness (T) in mm |                    |                                    |                    |
|---------------------------|--------------------------|--------------------|------------------------------------|--------------------|
|                           | Types 11A, 11B, 11N      |                    | Types 21A, 21B, 21N, 31A, 31B, 31N |                    |
|                           | Unprotected              | Protected          | Unprotected                        | Protected          |
| $C \leq 1000$             | 2.0                      | 1.5                | 2.5                                | 2.0                |
| $1000 < C \leq 2000$      | $T = C/2000 + 1.5$       | $T = C/2000 + 1.0$ | $T = C/2000 + 2.0$                 | $T = C/2000 + 1.5$ |
| $2000 < C \leq 3000$      | $T = C/2000 + 1.5$       | $T = C/2000 + 1.0$ | $T = C/1000 + 1.0$                 | $T = C/2000 + 1.5$ |

where:  $A_o$  = minimum elongation (as a percentage) of the reference steel to be used on fracture under tensile stress (see 6.5.5.1.5);

- (b) for metals other than the reference steel described in (a), the minimum wall thickness is given by the following equivalence formula:

$$e_1 = \frac{21.4 \times e_0}{\sqrt[3]{R_{m1} \times A_1}}$$

where:  $e_1$  = required equivalent wall thickness of the metal to be used (in mm);

$e_0$  = required minimum wall thickness for the reference steel (in mm);

$R_{m1}$  = guaranteed minimum tensile strength of the metal to be used (in  $N/mm^2$ ) (see (c));

$A_1$  = minimum elongation (as a percentage) of the metal to be used on fracture under tensile stress (see 6.5.5.1.5).

However, in no case shall the wall thickness be less than 1.5 mm.

- (c) For purposes of the calculation described in (b), the guaranteed minimum tensile strength of the metal to be used ( $R_{m1}$ ) shall be the minimum value according to national or international material standards. However, for austenitic steels, the specified value for  $R_m$  according to the material standards may be increased by up to 15% when a greater value is attested in the material inspection certificate. When no material standard exists for the material in question, the value of  $R_m$  shall be the minimum value attested in the material inspection certificate.

6.5.5.1.7 **Pressure-relief requirements:** IBCs for liquids shall be capable of releasing a sufficient amount of vapour in the event of fire engulfment to ensure that no rupture of the body will occur. This can be achieved by conventional pressure relief devices or by other constructional means. The start-to-discharge pressure shall not be higher than 65 kPa (0.65 bar) and no lower than the total gauge pressure experienced in the IBC (i.e. the vapour pressure of the filling substance plus the partial pressure of the air or other inert gases, minus 100 kPa (1 bar)) at 55 °C, determined on the basis of a maximum degree of filling as defined in 4.1.1.4. The required relief devices shall be fitted in the vapour space.

**6.5.5.2**      *Specific requirements for flexible IBCs*

6.5.5.2.1      These requirements apply to flexible IBCs of the following types:

|      |   |
|------|---|
| 13H1 | woven plastics without coating or liner |
| 13H2 | woven plastics, coated                  |
| 13H3 | woven plastics with liner               |
| 13H4 | woven plastics, coated and with liner   |
| 13H5 | plastics film                           |
| 13L1 | textile without coating or liner        |
| 13L2 | textile, coated                         |
| 13L3 | textile with liner                      |
| 13L4 | textile, coated and with liner          |
| 13M1 | paper, multiwall                        |
| 13M2 | paper, multiwall, water resistant       |

Flexible IBCs are intended for the carriage of solids only.

6.5.5.2.2      Bodies shall be manufactured from suitable materials. The strength of the material and the construction of the flexible IBC shall be appropriate to its capacity and its intended use.

6.5.5.2.3      All materials used in the construction of flexible IBCs of types 13M1 and 13M2 shall, after complete immersion in water for not less than 24 hours, retain at least 85% of the tensile strength as measured originally on the material conditioned to equilibrium at 67% relative humidity or less.

6.5.5.2.4      Seams shall be formed by stitching, heat sealing, gluing or any equivalent method. All stitched seam-ends shall be secured.

6.5.5.2.5      Flexible IBCs shall provide adequate resistance to ageing and to degradation caused by ultraviolet radiation or the climatic conditions, or by the substance contained, thereby rendering them appropriate to their intended use.

6.5.5.2.6      For flexible plastics IBCs where protection against ultraviolet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the body. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, re-testing may be waived if changes in the carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.

6.5.5.2.7      Additives may be incorporated into the material of the body to improve the resistance to ageing or to serve other purposes, provided that these do not adversely affect the physical or chemical properties of the material.

6.5.5.2.8      No material recovered from used receptacles shall be used in the manufacture of IBC bodies. Production residues or scrap from the same manufacturing process may, however, be used. Component parts such as fittings and pallet bases may also be used provided such components have not in any way been damaged in previous use.

6.5.5.2.9      When filled, the ratio of height to width shall be not more than 2:1.

6.5.5.2.10      The liner shall be made of a suitable material. The strength of the material used and the construction of the liner shall be appropriate to the capacity of the IBC and the intended use. Joins and closures shall be siftproof and capable of withstanding pressures and impacts liable to occur under normal conditions of handling and carriage.



**6.5.5.3** *Specific requirements for rigid plastics IBCs*

6.5.5.3.1 These requirements apply to rigid plastics IBCs for the carriage of solids or liquids. Rigid plastics IBCs are of the following types:

- 11H1 fitted with structural equipment designed to withstand the whole load when IBCs are stacked, for solids which are filled or discharged by gravity
- 11H2 freestanding, for solids which are filled or discharged by gravity
- 21H1 fitted with structural equipment designed to withstand the whole load when IBCs are stacked, for solids which are filled or discharged under pressure
- 21H2 freestanding, for solids which are filled or discharged under pressure
- 31H1 fitted with structural equipment designed to withstand the whole load when IBCs are stacked, for liquids
- 31H2 freestanding, for liquids.

6.5.5.3.2 The body shall be manufactured from suitable plastics material of known specifications and be of adequate strength in relation to its capacity and its intended use. The material shall be adequately resistant to ageing and to degradation caused by the substance contained or, where relevant, by ultraviolet radiation. Low temperature performance shall be taken into account when appropriate. Any permeation of the substance contained shall not constitute a danger under normal conditions of carriage.

6.5.5.3.3 Where protection against ultraviolet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the body. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, re-testing may be waived if changes in the carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.

6.5.5.3.4 Additives may be incorporated in the material of the body to improve the resistance to ageing or to serve other purposes, provided that these do not adversely affect the physical or chemical properties of the material.

6.5.5.3.5 No used material other than production residues or regrind from the same manufacturing process may be used in the manufacture of rigid plastics IBCs.

**6.5.5.4** *Specific requirements for composite IBCs with plastics inner receptacles*

6.5.5.4.1 These requirements apply to composite IBCs for the carriage of solids and liquids of the following types:

- 11HZ1 Composite IBCs with a rigid plastics inner receptacle, for solids filled or discharged by gravity
- 11HZ2 Composite IBCs with a flexible plastics inner receptacle, for solids filled or discharged by gravity
- 21HZ1 Composite IBCs with a rigid plastics inner receptacle, for solids filled or discharged under pressure
- 21HZ2 Composite IBCs with a flexible plastics inner receptacle, for solids filled or discharged under pressure
- 31HZ1 Composite IBCs with a rigid plastics inner receptacle, for liquids
- 31HZ2 Composite IBCs with a flexible plastics inner receptacle, for liquids.

This code shall be completed by replacing the letter Z by a capital letter in accordance with 6.5.1.4.1 (b) to indicate the nature of the material used for the outer casing.

- 6.5.5.4.2 The inner receptacle is not intended to perform a containment function without its outer casing. A "rigid" inner receptacle is a receptacle which retains its general shape when empty without closures in place and without benefit of the outer casing. Any inner receptacle that is not "rigid" is considered to be "flexible".
- 6.5.5.4.3 The outer casing normally consists of rigid material formed so as to protect the inner receptacle from physical damage during handling and carriage but is not intended to perform the containment function. It includes the base pallet where appropriate.
- 6.5.5.4.4 A composite IBC with a fully enclosing outer casing shall be so designed that the integrity of the inner receptacle may be readily assessed following the leakproofness and hydraulic pressure tests.
- 6.5.5.4.5 IBCs of type 31HZ2 shall be limited to a capacity of not more than 1 250 litres.
- 6.5.5.4.6 The inner receptacle shall be manufactured from suitable plastics material of known specifications and be of adequate strength in relation to its capacity and its intended use. The material shall be adequately resistant to ageing and to degradation caused by the substance contained or, where relevant, by ultraviolet radiation. Low temperature performance shall be taken into account when appropriate. Any permeation of the substance contained shall not constitute a danger under normal conditions of carriage.
- 6.5.5.4.7 Where protection against ultraviolet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the inner receptacle. Where use is made of carbon black, pigments or inhibitors, other than those used in the manufacture of the tested design type, retesting may be waived if changes in carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.
- 6.5.5.4.8 Additives may be incorporated in the material of the inner receptacle to improve the resistance to ageing or to serve other purposes, provided that these do not adversely affect the physical or chemical properties of the material.
- 6.5.5.4.9 No used material other than production residues or regrind from the same manufacturing process may be used in the manufacture of inner receptacles.
- 6.5.5.4.10 The inner receptacle of IBCs type 31HZ2 shall consist of at least three plies of film.
- 6.5.5.4.11 The strength of the material and the construction of the outer casing shall be appropriate to the capacity of the composite IBC and its intended use.
- 6.5.5.4.12 The outer casing shall be free of any projection that might damage the inner receptacle.
- 6.5.5.4.13 Metal outer casings shall be constructed of a suitable metal of adequate thickness.
- 6.5.5.4.14 Outer casings of natural wood shall be of well seasoned wood, commercially dry and free from defects that would materially lessen the strength of any part of the casing. The tops and bottoms may be made of water resistant reconstituted wood such as hardboard, particle board or other suitable type.
- 6.5.5.4.15 Outer casings of plywood shall be made of well seasoned rotary cut, sliced or sawn veneer, commercially dry and free from defects that would materially lessen the strength of the casing. All adjacent plies shall be glued with water resistant adhesive. Other suitable materials may be used with plywood for the construction of casings. Casings shall be firmly nailed or secured to corner posts or ends or be assembled by equally suitable devices.

- 6.5.5.4.16 The walls of outer casings of reconstituted wood shall be made of water resistant reconstituted wood such as hardboard, particle board or other suitable type. Other parts of the casings may be made of other suitable material.
- 6.5.5.4.17 For fibreboard outer casings, strong and good quality solid or double-faced corrugated fibreboard (single or multiwall) shall be used appropriate to the capacity of the casing and to its intended use. The water resistance of the outer surface shall be such that the increase in mass, as determined in a test carried out over 30 minutes by the Cobb method of determining water absorption, is not greater than 155 g/m<sup>2</sup> (see ISO 535:1991). It shall have proper bending qualities. Fibreboard shall be cut, creased without scoring, and slotted so as to permit assembly without cracking, surface breaks or undue bending. The fluting of corrugated fibreboard shall be firmly glued to the facings.
- 6.5.5.4.18 The ends of fibreboard outer casings may have a wooden frame or be entirely of wood. Reinforcements of wooden battens may be used.
- 6.5.5.4.19 Manufacturing joins in the fibreboard outer casing shall be taped, lapped and glued, or lapped and stitched with metal staples. Lapped joins shall have an appropriate overlap. Where closing is effected by gluing or taping, a water resistant adhesive shall be used.
- 6.5.5.4.20 Where the outer casing is of plastics material, the relevant requirements of 6.5.5.4.6 to 6.5.5.4.9 apply, on the understanding that, in this case, the requirements applicable to the inner receptacle are applicable to the outer casing of composite IBCs.
- 6.5.5.4.21 The outer casing of an IBC type 31HZ2 shall enclose the inner receptacle on all sides.
- 6.5.5.4.22 Any integral pallet base forming part of an IBC or any detachable pallet shall be suitable for mechanical handling with the IBC filled to its maximum permissible gross mass.
- 6.5.5.4.23 The pallet or integral base shall be designed so as to avoid any protrusion of the base of the IBC that might be liable to damage in handling.
- 6.5.5.4.24 The outer casing shall be secured to any detachable pallet to ensure stability in handling and carriage. Where a detachable pallet is used, its top surface shall be free from sharp protrusions that might damage the IBC.
- 6.5.5.4.25 Strengthening devices such as timber supports to increase stacking performance may be used but shall be external to the inner receptacle.
- 6.5.5.4.26 Where IBCs are intended for stacking, the bearing surface shall be such as to distribute the load in a safe manner. Such IBCs shall be designed so that the load is not supported by the inner receptacle.

#### **6.5.5.5** *Specific requirements for fibreboard IBCs*

- 6.5.5.5.1 These requirements apply to fibreboard IBCs for the carriage of solids which are filled or discharged by gravity. Fibreboard IBCs are of the following type: 11G.
- 6.5.5.5.2 Fibreboard IBCs shall not incorporate top lifting devices.
- 6.5.5.5.3 The body shall be made of strong and good quality solid or double-faced corrugated fibreboard (single or multiwall), appropriate to the capacity of the IBC and to its intended use. The water resistance of the outer surface shall be such that the increase in mass, as determined in a test carried out over a period of 30 minutes by the Cobb method of determining water absorption, is not greater than 155 g/m<sup>2</sup> (see ISO 535:1991). It shall have proper bending qualities. Fibreboard shall be cut, creased without scoring, and slotted so as

to permit assembly without cracking, surface breaks or undue bending. The fluting or corrugated fibreboard shall be firmly glued to the facings.

- 6.5.5.5.4 The walls, including top and bottom, shall have a minimum puncture resistance of 15 J measured according to ISO 3036:1975.
- 6.5.5.5.5 Manufacturing joins in the body of IBCs shall be made with an appropriate overlap and shall be taped, glued, stitched with metal staples or fastened by other means at least equally effective. Where joins are effected by gluing or taping, a water resistant adhesive shall be used. Metal staples shall pass completely through all pieces to be fastened and be formed or protected so that any inner liner cannot be abraded or punctured by them.
- 6.5.5.5.6 The liner shall be made of a suitable material. The strength of the material used and the construction of the liner shall be appropriate to the capacity of the IBC and the intended use. Joins and closures shall be siftproof and capable of withstanding pressures and impacts liable to occur under normal conditions of handling and carriage.
- 6.5.5.5.7 Any integral pallet base forming part of an IBC or any detachable pallet shall be suitable for mechanical handling with the IBC filled to its maximum permissible gross mass.
- 6.5.5.5.8 The pallet or integral base shall be designed so as to avoid any protrusion of the base of the IBC that might be liable to damage in handling.
- 6.5.5.5.9 The body shall be secured to any detachable pallet to ensure stability in handling and carriage. Where a detachable pallet is used, its top surface shall be free from sharp protrusions that might damage the IBC.
- 6.5.5.5.10 Strengthening devices such as timber supports to increase stacking performance may be used but shall be external to the liner.
- 6.5.5.5.11 Where IBCs are intended for stacking, the bearing surface shall be such as to distribute the load in a safe manner.

#### **6.5.5.6** *Specific requirements for wooden IBCs*

- 6.5.5.6.1 These requirements apply to wooden IBCs for the carriage of solids which are filled or discharged by gravity. Wooden IBCs are of the following types:
- |     |                                      |
|-----|--------------------------------------|
| 11C | Natural wood with inner liner        |
| 11D | Plywood with inner liner             |
| 11F | Reconstituted wood with inner liner. |
- 6.5.5.6.2 Wooden IBCs shall not incorporate top lifting devices.
- 6.5.5.6.3 The strength of the materials used and the method of construction of the body shall be appropriate to the capacity and intended use of the IBC.
- 6.5.5.6.4 Natural wood shall be well seasoned, commercially dry and free from defects that would materially lessen the strength of any part of the IBC. Each part of the IBC shall consist of one piece or be equivalent thereto. Parts are considered equivalent to one piece when a suitable method of glued assembly is used (as for instance Lindermann joint, tongue and groove joint, ship lap or rabbet joint); or butt joint with at least two corrugated metal fasteners at each joint, or when other methods at least equally effective are used.

- 6.5.5.6.5 Bodies of plywood shall be at least 3-ply. They shall be made of well seasoned rotary cut, sliced or sawn veneer, commercially dry and free from defects that would materially lessen the strength of the body. All adjacent plies shall be glued with water resistant adhesive. Other suitable materials may be used with plywood for the construction of the body.
- 6.5.5.6.6 Bodies of reconstituted wood shall be made of water resistant reconstituted wood such as hardboard, particle board or other suitable type.
- 6.5.5.6.7 IBCs shall be firmly nailed or secured to corner posts or ends or be assembled by equally suitable devices.
- 6.5.5.6.8 The liner shall be made of a suitable material. The strength of the material used and the construction of the liner shall be appropriate to the capacity of the IBC and the intended use. Joins and closures shall be siftproof and capable of withstanding pressures and impacts liable to occur under normal conditions of handling and carriage.
- 6.5.5.6.9 Any integral pallet base forming part of an IBC or any detachable pallet shall be suitable for mechanical handling with the IBC filled to its maximum permissible gross mass.
- 6.5.5.6.10 The pallet or integral base shall be designed so as to avoid any protrusion of the base of the IBC that might be liable to damage in handling.
- 6.5.5.6.11 The body shall be secured to any detachable pallet to ensure stability in handling and carriage. Where a detachable pallet is used, its top surface shall be free from sharp protrusions that might damage the IBC.
- 6.5.5.6.12 Strengthening devices such as timber supports to increase stacking performance may be used but shall be external to the liner.
- 6.5.5.6.13 Where IBCs are intended for stacking, the bearing surface shall be such as to distribute the load in a safe manner.

## **6.5.6 Test requirements for IBCs**

### **6.5.6.1 *Performance and frequency of tests***

- 6.5.6.1.1 Each IBC design type shall successfully pass the tests prescribed in this Chapter before being used and being approved by the competent authority allowing the allocation of the mark. An IBC design type is defined by the design, size, material and thickness, manner of construction and means of filling and discharging but may include various surface treatments. It also includes IBCs which differ from the design type only in their lesser external dimensions.
- 6.5.6.1.2 Tests shall be carried out on IBCs prepared for carriage. IBCs shall be filled as indicated in the relevant sections. The substances to be carried in the IBCs may be replaced by other substances except where this would invalidate the results of the tests. For solids, when another substance is used it shall have the same physical characteristics (mass, grain size, etc.) as the substance to be carried. It is permissible to use additives, such as bags of lead shot, to achieve the requisite total package mass, so long as they are placed so that the test results are not affected.

**6.5.6.2** *Design type tests*

- 6.5.6.2.1 One IBC of each design type, size, wall thickness and manner of construction shall be submitted to the tests listed in the order shown in 6.5.6.3.7 and as set out in 6.5.6.5 to 6.5.6.13. These design type tests shall be carried out as required by the competent authority.
- 6.5.6.2.2 To prove sufficient chemical compatibility with the contained goods or standard liquids in accordance with 6.5.6.3.3 or 6.5.6.3.5 for rigid plastics IBCs of type 31H2 and for composite IBCs of types 31HH1 and 31HH2, a second IBC can be used when the IBCs are designed to be stacked. In such case both IBCs shall be subjected to a preliminary storage.
- 6.5.6.2.3 The competent authority may permit the selective testing of IBCs which differ only in minor respects from a tested type, e.g. with small reductions in external dimensions.
- 6.5.6.2.4 If detachable pallets are used in the tests, the test report issued in accordance with 6.5.6.14 shall include a technical description of the pallets used.

**6.5.6.3** *Preparation of IBCs for testing*

- 6.5.6.3.1 Paper and fibreboard IBCs and composite IBCs with fibreboard outer casings shall be conditioned for at least 24 hours in an atmosphere having a controlled temperature and relative humidity (r.h.). There are three options, one of which shall be chosen. The preferred atmosphere is  $23 \pm 2$  °C and  $50\% \pm 2\%$  r.h. The two other options are  $20 \pm 2$  °C and  $65\% \pm 2\%$  r.h.; or  $27 \pm 2$  °C and  $65\% \pm 2\%$  r.h.

*NOTE:* Average values shall fall within these limits. Short-term fluctuations and measurement limitations may cause individual measurements to vary by up to  $\pm 5\%$  relative humidity without significant impairment of test reproducibility.

- 6.5.6.3.2 Additional steps shall be taken to ascertain that the plastics material used in the manufacture of rigid plastics IBCs (types 31H1 and 31H2) and composite IBCs (types 31HZ1 and 31HZ2) complies respectively with the requirements in 6.5.5.3.2 to 6.5.5.3.4 and 6.5.5.4.6 to 6.5.5.4.9.
- 6.5.6.3.3 To prove there is sufficient chemical compatibility with the contained goods, the sample IBC shall be subjected to a preliminary storage for six months, during which the samples shall remain filled with the substances they are intended to contain or with substances which are known to have at least as severe a stress-cracking, weakening or molecular degradation influence on the plastics materials in question, and after which the samples shall be submitted to the applicable tests listed in the table in 6.5.6.3.7.
- 6.5.6.3.4 Where the satisfactory behaviour of the plastics material has been established by other means, the above compatibility test may be dispensed with. Such procedures shall be at least equivalent to the above compatibility test and recognized by the competent authority.
- 6.5.6.3.5 For polyethylene rigid plastics IBCs (types 31H1 and 31H2) in accordance with 6.5.5.3 and composite IBCs with polyethylene inner receptacle (types 31HZ1 and 31HZ2) in accordance with 6.5.5.4, chemical compatibility with filling liquids assimilated in accordance with 4.1.1.19 may be verified as follows with standard liquids (see 6.1.6).

The standard liquids are representative for the processes of deterioration on polyethylene, as there are softening through swelling, cracking under stress, molecular degradation and combinations thereof.



The sufficient chemical compatibility of the IBCs may be verified by storage of the required test samples for three weeks at 40 °C with the appropriate standard liquid(s); where this standard liquid is water, storage in accordance with this procedure is not required. Storage is not required either for test samples which are used for the stacking test in case of the standard liquids wetting solution and acetic acid. After this storage, the test samples shall undergo the tests prescribed in 6.5.5.4 to 6.5.5.9.

The compatibility test for tert-Butyl hydroperoxide with more than 40% peroxide content and peroxyacetic acids of Class 5.2 shall not be carried out using standard liquids. For these substances, sufficient chemical compatibility of the test samples shall be verified during a storage period of six months at ambient temperature with the substances they are intended to carry.

Results of the procedure in accordance with this paragraph from polyethylene IBCs can be approved for an equal design type, the internal surface of which is fluorinated.

6.5.6.3.6 For IBC design types, made of polyethylene, as specified in 6.5.6.3.5, which have passed the test in 6.5.6.3.5, the chemical compatibility with filling substances may also be verified by laboratory tests proving that the effect of such filling substances on the test specimens is less than that of the appropriate standard liquid(s) taking into account the relevant processes of deterioration. The same conditions as those set out in 4.1.1.19.2 shall apply with respect to relative density and vapour pressure.

6.5.6.3.7 *Design type tests required and sequential order*

| Type of IBC           | Vibration <sup>f</sup> | Bottom lift      | Top lift <sup>a</sup> | Stacking <sup>b</sup> | Leak-proofness | Hydraulic pressure | Drop             | Tear | Topple | Righting <sup>c</sup> |
|-----------------------|------------------------|------------------|-----------------------|-----------------------|----------------|--------------------|------------------|------|--------|-----------------------|
| Metal:                |                        |                  |                       |                       |                |                    |                  |      |        |                       |
| 11A, 11B, 11N         | -                      | 1st <sup>a</sup> | 2nd                   | 3rd                   | -              | -                  | 4th <sup>e</sup> | -    | -      | -                     |
| 21A, 21B, 21N         | -                      | 1st <sup>a</sup> | 2nd                   | 3rd                   | 4th            | 5th                | 6th <sup>e</sup> | -    | -      | -                     |
| 31A, 31B, 31N         | 1st                    | 2nd <sup>a</sup> | 3rd                   | 4th                   | 5th            | 6th                | 7th <sup>e</sup> | -    | -      | -                     |
| Flexible <sup>d</sup> | -                      | -                | x <sup>c</sup>        | x                     | -              | -                  | x                | x    | x      | x                     |
| Rigid plastics:       |                        |                  |                       |                       |                |                    |                  |      |        |                       |
| 11H1, 11H2            | -                      | 1st <sup>a</sup> | 2nd                   | 3rd                   | -              | -                  | 4th              | -    | -      | -                     |
| 21H1, 21H2            | -                      | 1st <sup>a</sup> | 2nd                   | 3rd                   | 4th            | 5th                | 6th              | -    | -      | -                     |
| 31H1, 31H2            | 1st                    | 2nd <sup>a</sup> | 3rd                   | 4th <sup>g</sup>      | 5th            | 6th                | 7th              | -    | -      | -                     |
| Composite:            |                        |                  |                       |                       |                |                    |                  |      |        |                       |
| 11HZ1, 11HZ2          | -                      | 1st <sup>a</sup> | 2nd                   | 3rd                   | -              | -                  | 4th <sup>e</sup> | -    | -      | -                     |
| 21HZ1, 21HZ2          | -                      | 1st <sup>a</sup> | 2nd                   | 3rd                   | 4th            | 5th                | 6th <sup>e</sup> | -    | -      | -                     |
| 31HZ1, 31HZ2          | 1st                    | 2nd <sup>a</sup> | 3rd                   | 4th <sup>g</sup>      | 5th            | 6th                | 7th <sup>e</sup> | -    | -      | -                     |
| Fibreboard            | -                      | 1st              | -                     | 2nd                   | -              | -                  | 3rd              | -    | -      | -                     |
| Wooden                | -                      | 1st              | -                     | 2nd                   | -              | -                  | 3rd              | -    | -      | -                     |

<sup>a</sup> When IBCs are designed for this method of handling.

<sup>b</sup> When IBCs are designed to be stacked.

<sup>c</sup> When IBCs are designed to be lifted from the top or the side.

<sup>d</sup> Required test indicated by x; an IBC which has passed one test may be used for other tests, in any order.

<sup>e</sup> Another IBC of the same design may be used for the drop test.

<sup>f</sup> Another IBC of the same design may be used for the vibration test.

<sup>g</sup> The second IBC in accordance with 6.5.6.2.2 can be used out of the sequential order direct after the preliminary storage.

**6.5.6.4**      ***Bottom lift test***6.5.6.4.1      *Applicability*

For all fibreboard and wooden IBCs, and for all types of IBC which are fitted with means of lifting from the base, as a design type test.

6.5.6.4.2      *Preparation of the IBC for test*

The IBC shall be filled. A load shall be added and evenly distributed. The mass of the filled IBC and the load shall be 1.25 times the maximum permissible gross mass.

6.5.6.4.3      *Method of testing*

The IBC shall be raised and lowered twice by a lift truck with the forks centrally positioned and spaced at three quarters of the dimension of the side of entry (unless the points of entry are fixed). The forks shall penetrate to three quarters of the direction of entry. The test shall be repeated from each possible direction of entry.

6.5.6.4.4      *Criteria for passing the test*

No permanent deformation which renders the IBC, including the base pallet, if any, unsafe for carriage and no loss of contents.

**6.5.6.5**      ***Top lift test***6.5.6.5.1      *Applicability*

For all types of IBC which are designed to be lifted from the top and for flexible IBCs designed to be lifted from the top or the side, as a design type test.

6.5.6.5.2      *Preparation of the IBC for test*

Metal, rigid plastics and composite IBCs shall be filled. A load shall be added and evenly distributed. The mass of the filled IBC and the load shall be twice the maximum permissible gross mass. Flexible IBCs shall be filled with a representative material and then shall be loaded to six times their maximum permissible gross mass, the load being evenly distributed.

6.5.6.5.3      *Methods of testing*

Metal and flexible IBCs shall be lifted in the manner for which they are designed until clear of the floor and maintained in that position for a period of five minutes.

Rigid plastics and composite IBCs shall be lifted:

- (a) by each pair of diagonally opposite lifting devices, so that the hoisting forces are applied vertically, for a period of five minutes; and
- (b) by each pair of diagonally opposite lifting devices, so that the hoisting forces are applied toward the centre at 45° to the vertical, for a period of five minutes.

## 6.5.6.5.4      Other methods of top lift testing and preparation at least equally effective may be used for flexible IBCs.



**6.5.6.5.5**      *Criteria for passing the test*

- (a) Metal, rigid plastics and composite IBCs: the IBC remains safe for normal conditions of carriage, there is no observable permanent deformation of the IBC, including the base pallet, if any, and no loss of contents;
- (b) Flexible IBCs: no damage to the IBC or its lifting devices which renders the IBC unsafe for carriage or handling and no loss of contents.

**6.5.6.6**      *Stacking test***6.5.6.6.1**      *Applicability*

For all types of IBC which are designed to be stacked on each other, as a design type test.

**6.5.6.6.2**      *Preparation of the IBC for test*

The IBC shall be filled to its maximum permissible gross mass. If the specific gravity of the product being used for testing makes this impracticable, the IBC shall additionally be loaded so that it is tested at its maximum permissible gross mass the load being evenly distributed.

**6.5.6.6.3**      *Method of testing*

- (a) The IBC shall be placed on its base on level hard ground and subjected to a uniformly distributed superimposed test load (see 6.5.6.6.4). For rigid plastics IBCs of type 31H2 and composite IBCs of types 31HH1 and 31HH2, a stacking test shall be carried out with the original filling substance or a standard liquid (see 6.1.6) in accordance with 6.5.6.3.3 or 6.5.6.3.5 using the second IBC in accordance with 6.5.6.2.2 after the preliminary storage. IBCs shall be subjected to the test load for a period of at least:
  - (i) 5 minutes, for metal IBCs;
  - (ii) 28 days at 40 °C, for rigid plastics IBCs of types 11H2, 21H2 and 31H2 and for composite IBCs with outer casings of plastics material which bear the stacking load (i.e., types 11HH1, 11HH2, 21HH1, 21HH2, 31HH1 and 31HH2);
  - (iii) 24 hours, for all other types of IBCs;
- (b) The load shall be applied by one of the following methods:
  - (i) one or more IBCs of the same type filled to the maximum permissible gross mass stacked on the test IBC;
  - (ii) appropriate weights loaded on to either a flat plate or a reproduction of the base of the IBC, which is stacked on the test IBC.

**6.5.6.6.4**      *Calculation of superimposed test load*

The load to be placed on the IBC shall be 1.8 times the combined maximum permissible gross mass of the number of similar IBCs that may be stacked on top of the IBC during carriage.

6.5.6.6.5 *Criteria for passing the test*

- (a) All types of IBCs other than flexible IBCs: no permanent deformation which renders the IBC including the base pallet, if any, unsafe for carriage and no loss of contents;
- (b) Flexible IBCs: no deterioration of the body which renders the IBC unsafe for carriage and no loss of contents.

**6.5.6.7** *Leakproofness test*

6.5.6.7.1 *Applicability*

For those types of IBC used for liquids or for solids filled or discharged under pressure, as a design type test and periodic test.

6.5.6.7.2 *Preparation of the IBC for test*

The test shall be carried out before the fitting of any thermal insulation equipment. Vented closures shall either be replaced by similar non-vented closures or the vent shall be sealed.

6.5.6.7.3 *Method of testing and pressure to be applied*

The test shall be carried out for a period of at least 10 minutes using air at a gauge pressure of not less than 20 kPa (0.2 bar). The air tightness of the IBC shall be determined by a suitable method such as by air-pressure differential test or by immersing the IBC in water or, for metal IBCs, by coating the seams and joints with a soap solution. In the case of immersing a correction factor shall be applied for the hydrostatic pressure.

6.5.6.7.4 *Criterion for passing the test*

No leakage of air.

**6.5.6.8** *Internal pressure (hydraulic) test*

6.5.6.8.1 *Applicability*

For those types of IBCs used for liquids or for solids filled or discharged under pressure, as a design type test.

6.5.6.8.2 *Preparation of the IBC for test*

The test shall be carried out before the fitting of any thermal insulation equipment. Pressure-relief devices shall be removed and their apertures plugged, or shall be rendered inoperative.

6.5.6.8.3 *Method of testing*

The test shall be carried out for a period of at least 10 minutes applying a hydraulic pressure not less than that indicated in 6.5.6.8.4. The IBCs shall not be mechanically restrained during the test.

**6.5.6.8.4**      *Pressures to be applied***6.5.6.8.4.1**      Metal IBCs:

- (a) For IBCs of types 21A, 21B and 21N, for packing group I solids, a 250 kPa (2.5 bar) gauge pressure;
- (b) For IBCs of types 21A, 21B, 21N, 31A, 31B and 31N, for packing groups II or III substances, a 200 kPa (2 bar) gauge pressure;
- (c) In addition, for IBCs of types 31A, 31B and 31N, a 65kPa (0.65 bar) gauge pressure. This test shall be performed before the 200 kPa (2 bar) test.

**6.5.6.8.4.2**      Rigid plastics and composite IBCs:

- (a) For IBCs of types 21H1, 21H2, 21HZ1 and 21HZ2: 75 kPa (0.75 bar) (gauge);
- (b) For IBCs of types 31H1, 31H2, 31HZ1 and 31HZ2: whichever is the greater of two values, the first as determined by one of the following methods:
  - (i) the total gauge pressure measured in the IBC (i.e. the vapour pressure of the filling substance and the partial pressure of the air or other inert gases, minus 100 kPa) at 55 °C multiplied by a safety factor of 1.5; this total gauge pressure shall be determined on the basis of a maximum degree of filling in accordance with 4.1.1.4 and a filling temperature of 15 °C;
  - (ii) 1.75 times the vapour pressure at 50 °C of the substance to be carried minus 100 kPa, but with a minimum test pressure of 100 kPa;
  - (iii) 1.5 times the vapour pressure at 55 °C of the substance to be carried minus 100 kPa, but with a minimum test pressure of 100 kPa;and the second as determined by the following method:
  - (iv) twice the static pressure of the substance to be carried, with a minimum of twice the static pressure of water;

**6.5.6.8.5**      *Criteria for passing the test(s):*

- (a) For IBCs of types 21A, 21B, 21N, 31A, 31B and 31N, when subjected to the test pressure specified in 6.5.6.8.4.1 (a) or (b): no leakage;
- (b) For IBCs of types 31A, 31B and 31N, when subjected to the test pressure specified in 6.5.6.8.4.1 (c): no permanent deformation which renders the IBC unsafe for carriage and no leakage;
- (c) For rigid plastics and composite IBCs: no permanent deformation which would render the IBC unsafe for carriage and no leakage.

**6.5.6.9**      *Drop test***6.5.6.9.1**      *Applicability*

For all types of IBCs, as a design type test.

#### 6.5.6.9.2 *Preparation of the IBC for test*

- (a) Metal IBCs: the IBC shall be filled to not less than 95% of its maximum capacity for solids or 98% of its maximum capacity for liquids. Pressure-relief devices shall be removed and their apertures plugged, or shall be rendered inoperative;
- (b) Flexible IBCs: the IBC shall be filled to the maximum permissible gross mass, the contents being evenly distributed;
- (c) Rigid plastics and composite IBCs: the IBC shall be filled to not less than 95% of its maximum capacity for solids or 98% of its maximum capacity for liquids. Arrangements provided for pressure relief may be removed and plugged or rendered inoperative. Testing of IBCs shall be carried out when the temperature of the test sample and its contents has been reduced to minus 18 °C or lower. Where test samples of composite IBCs are prepared in this way the conditioning specified in 6.5.6.3.1 may be waived. Test liquids shall be kept in the liquid state, if necessary by the addition of anti-freeze. This conditioning may be disregarded if the materials in question are of sufficient ductility and tensile strength at low temperatures;
- (d) Fibreboard and wooden IBCs: The IBC shall be filled to not less than 95% of its maximum capacity.

#### 6.5.6.9.3 *Method of testing*

The IBC shall be dropped on its base onto a non-resilient, horizontal, flat, massive and rigid surface in conformity with the requirements of 6.1.5.3.4, in such a manner as to ensure that the point of impact is that part of the base of the IBC considered to be the most vulnerable. IBCs of 0.45 m<sup>3</sup> or less capacity shall also be dropped:

- (a) Metal IBCs: on the most vulnerable part other than the part of the base tested in the first drop;
- (b) Flexible IBCs: on the most vulnerable side;
- (c) Rigid plastics, composite, fibreboard and wooden IBCs: flat on a side, flat on the top and on a corner.

The same or different IBCs may be used for each drop.

#### 6.5.6.9.4 *Drop height*

For solids and liquids, if the test is performed with the solid or liquid to be carried or with another substance having essentially the same physical characteristics:

| Packing group I | Packing group II | Packing group III |
|-----------------|------------------|-------------------|
| 1.8 m           | 1.2 m            | 0.8 m             |

For liquids if the test is performed with water:

- (a) Where the substances to be carried have a relative density not exceeding 1.2:

| Packing group II | Packing group III |
|------------------|-------------------|
| 1.2 m            | 0.8 m             |

- (b) Where the substances to be carried have a relative density exceeding 1.2, the drop heights shall be calculated on the basis of the relative density (d) of the substance to be carried rounded up to the first decimal as follows:

| Packing group II         | Packing group III         |
|--------------------------|---------------------------|
| $d \times 1.0 \text{ m}$ | $d \times 0.67 \text{ m}$ |

6.5.6.9.5 *Criteria for passing the test(s):*

- (a) Metal IBCs: no loss of contents;
- (b) Flexible IBCs: no loss of contents. A slight discharge, e.g. from closures or stitch holes, upon impact shall not be considered to be a failure of the IBC provided that no further leakage occurs after the IBC has been raised clear of the ground;
- (c) Rigid plastics, composite, fibreboard and wooden IBCs: no loss of contents. A slight discharge from a closure upon impact shall not be considered to be a failure of the IBC provided that no further leakage occurs;
- (d) All IBCs: no damage which renders the IBC unsafe to be carried for salvage or for disposal, and no loss of contents. In addition, the IBC shall be capable of being lifted by an appropriate means until clear of the floor for five minutes.

**6.5.6.10** *Tear test*

6.5.6.10.1 *Applicability*

For all types of flexible IBCs, as a design type test.

6.5.6.10.2 *Preparation of the IBC for test*

The IBC shall be filled to not less than 95% of its capacity and to its maximum permissible gross mass, the contents being evenly distributed.

6.5.6.10.3 *Method of testing*

Once the IBC is placed on the ground, a 100 mm knife score, completely penetrating the wall of a wide face, is made at a 45° angle to the principal axis of the IBC, halfway between the bottom surface and the top level of the contents. The IBC shall then be subjected to a uniformly distributed superimposed load equivalent to twice the maximum permissible gross mass. The load shall be applied for at least five minutes. An IBC which is designed to be lifted from the top or the side shall then, after removal of the superimposed load, be lifted clear of the floor and maintained in that position for a period of five minutes.

6.5.6.10.4 *Criteria for passing the test*

The cut shall not propagate more than 25% of its original length.

**6.5.6.11** *Topple test*

6.5.6.11.1 *Applicability*

For all types of flexible IBC, as a design type test.

6.5.6.11.2 *Preparation of the IBC for test*

The IBC shall be filled to not less than 95% of its capacity and to its maximum permissible gross mass, the contents being evenly distributed.

6.5.6.11.3 *Method of testing*

The IBC shall be caused to topple on to any part of its top on to a rigid, non-resilient, smooth, flat and horizontal surface.

6.5.6.11.4 *Topple height*

| Packing group I | Packing group II | Packing group III |
|-----------------|------------------|-------------------|
| 1.8 m           | 1.2 m            | 0.8 m             |

6.5.6.11.5 *Criteria for passing the test*

No loss of contents. A slight discharge, e.g. from closures or stitch holes, upon impact shall not be considered to be a failure of the IBC provided that no further leakage occurs.

**6.5.6.12** *Righting test*

6.5.6.12.1 *Applicability*

For all flexible IBCs designed to be lifted from the top or side, as a design type test.

6.5.6.12.2 *Preparation of the IBC for test*

The IBC shall be filled to not less than 95% of its capacity and to its maximum permissible gross mass, the contents being evenly distributed.

6.5.6.12.3 *Method of testing*

The IBC, lying on its side, shall be lifted at a speed of at least 0.1 m/s to upright position, clear of the floor, by one lifting device or by two lifting devices when four are provided.

6.5.6.12.4 *Criteria for passing the test*

No damage to the IBC or its lifting devices which renders the IBC unsafe for carriage or handling.

**6.5.6.13** *Vibration test*

6.5.6.13.1 *Applicability*

For all IBCs used for liquids, as a design type test.

**NOTE:** This test applies to design types for IBCs manufactured after 31 December 2010 (see also 1.6.1.14).

6.5.6.13.2 *Preparation of the IBC for test*

A sample IBC shall be selected at random and shall be fitted and closed as for carriage. The IBC shall be filled with water to not less than 98% of its maximum capacity.

**6.5.6.13.3**      *Test method and duration*

6.5.6.13.3.1      The IBC shall be placed in the center of the test machine platform with a vertical sinusoidal, double amplitude (peak-to peak displacement) of 25 mm  $\pm$  5%. If necessary, restraining devices shall be attached to the platform to prevent the specimen from moving horizontally off the platform without restricting vertical movement.

6.5.6.13.3.2      The test shall be conducted for one hour at a frequency that causes part of the base of the IBC to be momentarily raised from the vibrating platform for part of each cycle to such a degree that a metal shim can be completely inserted intermittently at, at least, one point between the base of the IBC and the test platform. The frequency may need to be adjusted after the initial set point to prevent the packaging from going into resonance. Nevertheless, the test frequency shall continue to allow placement of the metal shim under the IBC as described in this paragraph. The continuing ability to insert the metal shim is essential to passing the test. The metal shim used for this test shall be at least 1.6 mm thick, 50 mm wide, and be of sufficient length to be inserted between the IBC and the test platform a minimum of 100 mm to perform the test.

**6.5.6.13.4**      *Criteria for passing the test*

No leakage or rupture shall be observed. In addition, no breakage or failure of structural components, such as broken welds or failed fastenings, shall be observed.

**6.5.6.13**      *Test report*

6.5.6.13.1      A test report containing at least the following particulars shall be drawn up and shall be made available to the users of the IBC:

1.      Name and address of the test facility;
2.      Name and address of applicant (where appropriate);
3.      A unique test report identification;
4.      Date of the test report;
5.      Manufacturer of the IBC;
6.      Description of the IBC design type (e.g. dimensions, materials, closures, thickness, etc.) including method of manufacture (e.g. blow moulding) and which may include drawing(s) and/or photograph(s);
7.      Maximum capacity;
8.      Characteristics of test contents, e.g. viscosity and relative density for liquids and particle size for solids;
9.      Test descriptions and results;
10.     The test report shall be signed with the name and status of the signatory.

6.5.6.13.2      The test report shall contain statements that the IBC prepared as for carriage was tested in accordance with the appropriate requirements of this Chapter and that the use of other packaging methods or components may render it invalid. A copy of the test report shall be available to the competent authority.

## CHAPTER 6.6

### REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF LARGE PACKAGINGS

#### 6.6.1 General

6.6.1.1 The requirements of this Chapter do not apply to:

- packagings for Class 2, except large packagings for articles, including aerosols;
- packagings for Class 6.2, except large packagings for clinical waste of UN No. 3291;
- Class 7 packages containing radioactive material.

6.6.1.2 Large packagings shall be manufactured and tested under a quality assurance programme which satisfies the competent authority in order to ensure that each manufactured packaging meets the requirements of this Chapter.

*NOTE: ISO 16106:2006 "Packaging – Transport packages for dangerous goods – Dangerous goods packagings, intermediate bulk containers (IBCs) and large packagings – Guidelines for the application of ISO 9001" provides acceptable guidance on procedures which may be followed.*

6.6.1.3 The specific requirements for large packagings in 6.6.4 are based on large packagings currently used. In order to take into account progress in science and technology, there is no objection to the use of large packagings having specifications different from those in 6.6.4 provided they are equally effective, acceptable to the competent authority and able successfully to withstand the tests described in 6.6.5. Methods of testing other than those described in ADR are acceptable provided they are equivalent and are recognized by the competent authority.

6.6.1.4 Manufacturers and subsequent distributors of packagings shall provide information regarding procedures to be followed and a description of the types and dimensions of closures (including required gaskets) and any other components needed to ensure that packages as presented for carriage are capable of passing the applicable performance tests of this Chapter.

#### 6.6.2 Code for designating types of large packagings

6.6.2.1 The code used for large packagings consist of:

- (a) Two Arabic numerals:
  - 50 for rigid large packagings; or
  - 51 for flexible large packagings; and
- (b) A capital letter in Latin character indicating the nature of the material, e.g. wood, steel etc. The capital letters used shall be those shown in 6.1.2.6.

6.6.2.2 The letter "W" may follow the Large Packaging code. The letter "W" signifies that the large packaging, although of the same type indicated by the code, is manufactured to a specification different from those in 6.6.4 and is considered equivalent in accordance with the requirements in 6.6.1.3.



**6.6.3 Marking****6.6.3.1 Primary marking**

Each large packaging manufactured and intended for use in accordance with the provisions of ADR shall bear durable and legible markings showing:

- (a) The United Nations packaging symbol



This symbol shall not be used for any purpose other than certifying that a packaging complies with the relevant requirements in Chapter 6.1, 6.2, 6.3, 6.5 or 6.6.

For metal large packagings on which the marking is stamped or embossed, the capital letters "UN" may be applied instead of the symbol;

- (b) The number "50" designating a large rigid packaging or "51" for flexible large packagings, followed by the material type in accordance with 6.5.1.4.1 (b);
- (c) A capital letter designating the packing group(s) for which the design type has been approved:
- X for packing groups I, II and III  
Y for packing groups II and III  
Z for packing group III only;
- (d) The month and year (last two digits) of manufacture;
- (e) The State authorizing the allocation of the mark; indicated by the distinguishing sign for motor vehicles in international traffic <sup>1</sup>;
- (f) The name or symbol of the manufacturer and other identification of the large packagings as specified by the competent authority;
- (g) The stacking test load in kg. For large packagings not designed for stacking the figure "0" shall be shown;
- (h) The maximum permissible gross mass in kilograms.

The primary marking required above shall be applied in the sequence of the sub-paragraphs.

Each element of the marking applied in accordance with (a) to (h) shall be clearly separated, e.g. by a slash or space, so as to be easily identifiable.

**6.6.3.2 Examples of the marking:**

|  |                                 |   |
|--|---------------------------------|---|
|  | 50A/X/05 01/N/PQRS<br>2500/1000 | For a large steel packaging suitable for stacking; stacking load: 2 500 kg; maximum gross mass: 1 000 kg. |
|  | 50H/Y/04 02/D/ABCD 987<br>0/800 | For a large plastics packaging not suitable for stacking; maximum gross mass: 800 kg.                     |
|  | 51H/Z/06 01/S/1999<br>0/500     | For a large flexible packaging not suitable for stacking; maximum gross mass: 500 kg.                     |

<sup>1</sup> Distinguishing sign for motor vehicles in international traffic prescribed in the Vienna Convention on Road Traffic (1968).

**6.6.4 Specific requirements for large packagings****6.6.4.1 *Specific requirements for metal large packagings***

- 50A steel
- 50B aluminium
- 50N metal (other than steel or aluminium)

6.6.4.1.1 The large packaging shall be made of suitable ductile metal in which the weldability has been fully demonstrated. Welds shall be skilfully made and afford complete safety. Low-temperature performance shall be taken into account when appropriate.

6.6.4.1.2 Care shall be taken to avoid damage by galvanic action due to the juxtaposition of dissimilar metals.

**6.6.4.2 *Specific requirements for flexible material large packagings***

- 51H flexible plastics
- 51M flexible paper

6.6.4.2.1 The large packaging shall be manufactured from suitable materials. The strength of the material and the construction of the flexible large packagings shall be appropriate to its capacity and its intended use.

6.6.4.2.2 All materials used in the construction of flexible large packagings of types 51M shall, after complete immersion in water for not less than 24 hours, retain at least 85% of the tensile strength as measured originally on the material conditioned to equilibrium at 67% relative humidity or less.

6.6.4.2.3 Seams shall be formed by stitching, heat sealing, glueing or any equivalent method. All stitched seam-ends shall be secured.

6.6.4.2.4 Flexible large packagings shall provide adequate resistance to ageing and to degradation caused by ultraviolet radiation or the climatic conditions, or by the substance contained, thereby rendering them appropriate to their intended use.

6.6.4.2.5 For plastics flexible large packagings where protection against ultraviolet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the large packaging. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, re-testing may be waived if changes in the carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.

6.6.4.2.6 Additives may be incorporated into the material of the large packaging to improve the resistance to ageing or to serve other purposes, provided that these do not adversely affect the physical or chemical properties of the material.

6.6.4.2.7 When filled, the ratio of height to width shall be not more than 2:1.

**6.6.4.3**      *Specific requirements for plastics large packagings*

50H rigid plastics

- 6.6.4.3.1      The large packaging shall be manufactured from suitable plastics material of known specifications and be of adequate strength in relation to its capacity and its intended use. The material shall be adequately resistant to ageing and to degradation caused by the substance contained or, where relevant, by ultraviolet radiation. Low temperature performance shall be taken into account when appropriate. Any permeation of the substance contained shall not constitute a danger under normal conditions of carriage.
- 6.6.4.3.2      Where protection against ultraviolet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the outer packaging. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, re-testing may be waived if changes in the carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.
- 6.6.4.3.3      Additives may be incorporated in the material of the large packaging to improve the resistance to ageing or to serve other purposes, provided that these do not adversely affect the physical or chemical properties of the material.

**6.6.4.4**      *Specific requirements for fibreboard large packagings*

50G rigid fibreboard

- 6.6.4.4.1      Strong and good quality solid or double-faced corrugated fibreboard (single or multiwall) shall be used, appropriate to the capacity of the large packagings and to their intended use. The water resistance of the outer surface shall be such that the increase in mass, as determined in a test carried out over a period of 30 minutes by the Cobb method of determining water absorption, is not greater than  $155 \text{ g/m}^2$  - see ISO 535:1991. It shall have proper bending qualities. Fibreboard shall be cut, creased without scoring, and slotted so as to permit assembly without cracking, surface breaks or undue bending. The fluting or corrugated fibreboard shall be firmly glued to the facings.
- 6.6.4.4.2      The walls, including top and bottom, shall have a minimum puncture resistance of 15 J measured according to ISO 3036:1975.
- 6.6.4.4.3      Manufacturing joins in the outer packaging of large packagings shall be made with an appropriate overlap and shall be taped, glued, stitched with metal staples or fastened by other means at least equally effective. Where joins are effected by gluing or taping, a water resistant adhesive shall be used. Metal staples shall pass completely through all pieces to be fastened and be formed or protected so that any inner liner cannot be abraded or punctured by them.
- 6.6.4.4.4      Any integral pallet base forming part of a large packaging or any detachable pallet shall be suitable for mechanical handling with the large packaging filled to its maximum permissible gross mass.
- 6.6.4.4.5      The pallet or integral base shall be designed so as to avoid any protrusion of the base of the large packaging that might be liable to damage in handling.
- 6.6.4.4.6      The body shall be secured to any detachable pallet to ensure stability in handling and carriage. Where a detachable pallet is used, its top surface shall be free from sharp protrusions that might damage the large packaging.

6.6.4.4.7      Strengthening devices such as timber supports to increase stacking performance may be used but shall be external to the liner.

6.6.4.4.8      Where large packagings are intended for stacking, the bearing surface shall be such as to distribute the load in a safe manner.

**6.6.4.5      *Specific requirements for wooden large packagings***

50C    natural wood

50D    plywood

50F    reconstituted wood

6.6.4.5.1      The strength of the materials used and the method of construction shall be appropriate to the capacity and intended use of the large packagings.

6.6.4.5.2      Natural wood shall be well seasoned, commercially dry and free from defects that would materially lessen the strength of any part of the large packagings. Each part of the large packagings shall consist of one piece or be equivalent thereto. Parts are considered equivalent to one piece when a suitable method of glued assembly is used as for instance Lindermann joint, tongue and groove joint, ship lap or rabbet joint; or butt joint with at least two corrugated metal fasteners at each joint, or when other methods at least equally effective are used.

6.6.4.5.3      Large packagings of plywood shall be at least 3-ply. They shall be made of well seasoned rotary cut, sliced or sawn veneer, commercially dry and free from defects that would materially lessen the strength of the large packaging. All adjacent plies shall be glued with water resistant adhesive. Other suitable materials may be used with plywood for the construction of the large packaging.

6.6.4.5.4      Large packagings of reconstituted wood shall be made of water resistant reconstituted wood such as hardboard, particle board or other suitable type.

6.6.4.5.5      Large packagings shall be firmly nailed or secured to corner posts or ends or be assembled by equally suitable devices.

6.6.4.5.6      Any integral pallet base forming part of a large packaging or any detachable pallet shall be suitable for mechanical handling with the large packaging filled to its maximum permissible gross mass.

6.6.4.5.7      The pallet or integral base shall be designed so as to avoid any protrusion of the base of the large packaging that might be liable to damage in handling.

6.6.4.5.8      The body shall be secured to any detachable pallet to ensure stability in handling and carriage. Where a detachable pallet is used, its top surface shall be free from sharp protrusions that might damage the large packaging.

6.6.4.5.9      Strengthening devices such as timber supports to increase stacking performance may be used but shall be external to the liner.

6.6.4.5.10      Where large packagings are intended for stacking, the bearing surface shall be such as to distribute the load in a safe manner.

**6.6.5      Test requirements for large packagings****6.6.5.1      *Performance and frequency of test***

6.6.5.1.1      The design type of each large packaging shall be tested as provided in 6.6.5.3 in accordance with procedures established by the competent authority allowing the allocation of the mark and shall be approved by this competent authority.

6.6.5.1.2      Each large packaging design type shall successfully pass the tests prescribed in this Chapter before being used. A large packaging design type is defined by the design, size, material and thickness, manner of construction and packing, but may include various surface treatments. It also includes large packagings which differ from the design type only in their lesser design height.

6.6.5.1.3      Tests shall be repeated on production samples at intervals established by the competent authority. For such tests on fibreboard large packagings, preparation at ambient conditions is considered equivalent to the provisions of 6.6.5.2.4.

6.6.5.1.4      Tests shall also be repeated after each modification which alters the design, material or manner of construction of large packagings.

6.6.5.1.5      The competent authority may permit the selective testing of large packagings that differ only in minor respects from a tested type, e.g. smaller sizes of inner packagings or inner packagings of lower net mass; and large packagings which are produced with small reductions in external dimension(s).

6.6.5.1.6      (*Reserved*)

**NOTE:** *For the conditions for assembling different inner packagings in a large packaging and permissible variations in inner packagings, see 4.1.1.5.1.*

6.6.5.1.7      The competent authority may at any time require proof, by tests in accordance with this section, that serially-produced large packagings meet the requirements of the design type tests.

6.6.5.1.8      Provided the validity of the test results is not affected and with the approval of the competent authority, several tests may be made on one sample.

**6.6.5.2      *Preparation for testing***

6.6.5.2.1      Tests shall be carried out on large packagings prepared as for carriage including the inner packagings or articles used. Inner packagings shall be filled to not less than 98% of their maximum capacity for liquids or 95% for solids. For large packagings where the inner packagings are designed to carry liquids and solids, separate testing is required for both liquid and solid contents. The substances in the inner packagings or the articles to be carried in the large packagings may be replaced by other material or articles except where this would invalidate the results of the tests. When other inner packagings or articles are used they shall have the same physical characteristics (mass, etc) as the inner packagings or articles to be carried. It is permissible to use additives, such as bags of lead shot, to achieve the requisite total package mass, so long as they are placed so that the test results are not affected.

6.6.5.2.2      In the drop tests for liquids, when another substance is used, its relative density and viscosity shall be similar to those of the substance to be carried. Water may also be used for the liquid drop test under the following conditions:

- (a) where the substances to be carried have a relative density not exceeding 1.2, the drop heights shall be those shown in the table in 6.6.5.3.4.4;
- (b) where the substances to be carried have a relative density exceeding 1.2, the drop heights shall be calculated on the basis of the relative density (d) of the substance to be carried rounded up to the first decimal as follows:

| Packing group I          | Packing group II         | Packing group III         |
|--------------------------|--------------------------|---------------------------|
| $d \times 1.5 \text{ m}$ | $d \times 1.0 \text{ m}$ | $d \times 0.67 \text{ m}$ |

6.6.5.2.3 Large packagings made of plastics materials and large packagings containing inner packagings of plastic materials - other than bags intended to contain solids or articles - shall be drop tested when the temperature of the test sample and its contents has been reduced to  $-18^\circ\text{C}$  or lower. This conditioning may be disregarded if the materials in question are of sufficient ductility and tensile strength at low temperatures. Where test sample are prepared in this way, the conditioning in 6.6.5.2.4 may be waived. Test liquids shall be kept in the liquid state by the addition of anti-freeze if necessary.

6.6.5.2.4 Large packagings of fibreboard shall be conditioned for at least 24 hours in an atmosphere having a controlled temperature and relative humidity (r.h.). There are three options, one of which shall be chosen.

The preferred atmosphere is  $23^\circ\text{C} \pm 2^\circ\text{C}$  and  $50\% \pm 2\%$  r.h. The two other options are:  $20^\circ\text{C} \pm 2^\circ\text{C}$  and  $65\% \pm 2\%$  r.h.; or  $27^\circ\text{C} \pm 2^\circ\text{C}$  and  $65\% \pm 2\%$  r.h.

*NOTE: Average values shall fall within these limits. Short term fluctuations and measurement limitations may cause individual measurements to vary by up to  $\pm 5\%$  relative humidity without significant impairment of test reproducibility.*

### 6.6.5.3 Test requirements

#### 6.6.5.3.1 Bottom lift test

##### 6.6.5.3.1.1 Applicability

For all types of large packagings which are fitted with means of lifting from the base, as a design type test.

##### 6.6.5.3.1.2 Preparation of large packaging for test

The large packaging shall be loaded to 1.25 times its maximum permissible gross mass, the load being evenly distributed.

##### 6.6.5.3.1.3 Method of testing

The large packaging shall be raised and lowered twice by a lift truck with the forks centrally positioned and spaced at three quarters of the dimension of the side of entry (unless the points of entry are fixed). The forks shall penetrate to three quarters of the direction of entry. The test shall be repeated from each possible direction of entry.

##### 6.6.5.3.1.4 Criteria for passing the test

No permanent deformation which renders the large packaging unsafe for carriage and no loss of contents.

#### 6.6.5.3.2 *Top lift test*

##### 6.6.5.3.2.1 Applicability

For types of large packagings which are intended to be lifted from the top and fitted with means of lifting, as a design type test.

##### 6.6.5.3.2.2 Preparation of large packaging for test

The large packaging shall be loaded to twice its maximum permissible gross mass. A flexible large packaging shall be loaded to six times its maximum permissible gross mass, the load being evenly distributed.

##### 6.6.5.3.2.3 Method of testing

The large packaging shall be lifted in the manner for which it is designed until clear of the floor and maintained in that position for a period of five minutes.

##### 6.6.5.3.2.4 *Criteria for passing the test*

- (a) Metal and rigid plastics large packagings: no permanent deformation which renders the large packaging, including the base pallet, if any, unsafe for carriage and no loss of contents;
- (b) Flexible large packagings: no damage to the large packaging or its lifting devices which renders the large packaging unsafe for carriage or handling and no loss of contents.

#### 6.6.5.3.3 *Stacking test*

##### 6.6.5.3.3.1 Applicability

For all types of large packagings which are designed to be stacked on each other, as a design type test.

##### 6.6.5.3.3.2 Preparation of large packaging for test

The large packaging shall be filled to its maximum permissible gross mass.

##### 6.6.5.3.3.3 Method of testing

The large packaging shall be placed on its base on level hard ground and subjected to a uniformly distributed superimposed test load (see 6.6.5.3.3.4) for a period of at least five minutes, large packagings of wood, fibreboard and plastics materials for a period of 24 h.

##### 6.6.5.3.3.4 Calculation of superimposed test load

The load to be placed on the large packagings shall be 1.8 times the combined maximum permissible gross mass of the number of similar large packagings that may be stacked on top of the large packagings during carriage.

#### 6.6.5.3.3.5 *Criteria for passing the test*

- (a) All types of large packagings other than flexible large packagings: no permanent deformation which renders the large packaging including the base pallet, if any, unsafe for carriage and no loss of contents;
- (b) Flexible large packagings: no deterioration of the body which renders the large packaging unsafe for carriage and no loss of contents.

#### 6.6.5.3.4 *Drop test*

##### 6.6.5.3.4.1 Applicability

For all types of large packagings as a design type test.

##### 6.6.5.3.4.2 Preparation of large packaging for testing

The large packaging shall be filled in accordance with 6.6.5.2.1

##### 6.6.5.3.4.3 Method of testing

The large packaging shall be dropped onto a non resilient, horizontal, flat, massive and rigid surface in conformity with the requirements of 6.1.5.3.4, in such a manner as to ensure that the point of impact is that part of the base of the large packaging considered to be the most vulnerable.

##### 6.6.5.3.4.4 Drop height

| Packing group I | Packing group II | Packing group III |
|-----------------|------------------|-------------------|
| 1.8 m           | 1.2 m            | 0.8 m             |

**NOTE:** Large packagings for substances and articles of Class 1, self-reactive substances of Class 4.1 and organic peroxides of Class 5.2 shall be tested at the packing group II performance level.

#### 6.6.5.3.4.5 *Criteria for passing the test*

- 6.6.5.3.4.5.1 The large packaging shall not exhibit any damage liable to affect safety during carriage. There shall be no leakage of the filling substance from inner packaging(s) or article(s).
- 6.6.5.3.4.5.2 No rupture is permitted in large packagings for articles of Class 1 which would permit the spillage of loose explosive substances or articles from the large packaging.
- 6.6.5.3.4.5.3 Where a large packaging undergoes a drop test, the sample passes the test if the entire contents are retained even if the closure is no longer sift-proof.

#### **6.6.5.4** *Certification and test report*

- 6.6.5.4.1 In respect of each design type of large packaging a certificate and mark (as in 6.6.3) shall be issued attesting that the design type including its equipment meets the test requirements.



6.6.5.4.2      A test report containing at least the following particulars shall be drawn up and shall be made available to the users of the large packaging:

1.      Name and address of the test facility;
2.      Name and address of applicant (where appropriate);
3.      A unique test report identification;
4.      Date of the test report;
5.      Manufacturer of the large packaging;
6.      Description of the large packaging design type (e.g. dimensions, materials, closures, thickness, etc) and/or photograph(s);
7.      Maximum capacity/maximum permissible gross mass;
8.      Characteristics of test contents, e.g. types and descriptions of inner packagings or articles used;
9.      Test descriptions and results;
10.     The test report shall be signed with the name and status of the signatory.

6.6.5.4.3      The test report shall contain statements that the large packaging prepared as for carriage was tested in accordance with the appropriate provisions of this Chapter and that the use of other packaging methods or components may render it invalid. A copy of the test report shall be available to the competent authority.

## CHAPTER 6.7

### REQUIREMENTS FOR THE DESIGN, CONSTRUCTION, INSPECTION AND TESTING OF PORTABLE TANKS AND UN MULTIPLE-ELEMENT GAS CONTAINERS (MEGCs)

**NOTE:** *For fixed tanks (tank-vehicles), demountable tanks and tank-containers and tank swap bodies, with shells made of metallic materials, and battery-vehicles and multiple element gas containers (MEGCs) other than UN MEGCs, see Chapter 6.8; for fibre-reinforced plastics tanks, see Chapter 6.9; for vacuum operated waste tanks, see Chapter 6.10.*

#### 6.7.1 Application and general requirements

6.7.1.1 The requirements of this Chapter apply to portable tanks intended for the carriage of dangerous goods, and to MEGCs intended for the carriage of non-refrigerated gases of Class 2, by all modes of carriage. In addition to the requirements of this Chapter, unless otherwise specified, the applicable requirements of the International Convention for Safe Containers (CSC) 1972, as amended, shall be fulfilled by any multimodal portable tank or MEGC which meets the definition of a "container" within the terms of that Convention. Additional requirements may apply to offshore portable tanks or MEGCs that are handled in open seas.

6.7.1.2 In recognition of scientific and technological advances, the technical requirements of this Chapter may be varied by alternative arrangements. These alternative arrangements shall offer a level of safety not less than that given by the requirements of this Chapter with respect to the compatibility with substances carried and the ability of the portable tank or MEGC to withstand impact, loading and fire conditions. For international carriage, alternative arrangement portable tanks or MEGCs shall be approved by the applicable competent authorities.

6.7.1.3 When a substance is not assigned a portable tank instruction (T1 to T23, T50 or T75) in Column (10) of Table A of in Chapter 3.2, interim approval for carriage may be issued by the competent authority of the country of origin. The approval shall be included in the documentation of the consignment and contain as a minimum the information normally provided in the portable tank instructions and the conditions under which the substance shall be carried.

#### 6.7.2 Requirements for the design, construction, inspection and testing of portable tanks intended for the carriage of substances of Class 1 and Classes 3 to 9

##### 6.7.2.1 Definitions

For the purposes of this section:

*Alternative arrangement* means an approval granted by the competent authority for a portable tank or MEGC that has been designed, constructed or tested to technical requirements or testing methods other than those specified in this Chapter:

*Portable tank* means a multimodal tank used for the carriage of substances of Class 1 and Classes 3 to 9. The portable tank includes a shell fitted with service equipment and structural equipment necessary for the carriage of dangerous substances. The portable tank shall be capable of being filled and discharged without the removal of its structural equipment. It shall possess stabilizing members external to the shell, and shall be capable of being lifted when full. It shall be designed primarily to be loaded onto a vehicle, wagon or sea-going or

inland navigation vessel and shall be equipped with skids, mountings or accessories to facilitate mechanical handling. Tank-vehicles, tank-wagons, non-metallic tanks and intermediate bulk containers (IBCs) are not considered to fall within the definition for portable tanks;

*Shell* means the part of the portable tank which retains the substance intended for carriage (tank proper), including openings and their closures, but does not include service equipment or external structural equipment;

*Service equipment* means measuring instruments and filling, discharge, venting, safety, heating, cooling and insulating devices;

*Structural equipment* means the reinforcing, fastening, protective and stabilizing members external to the shell;

*Maximum allowable working pressure (MAWP)* means a pressure that shall be not less than the highest of the following pressures measured at the top of the shell while in operating position:

- (a) The maximum effective gauge pressure allowed in the shell during filling or discharge; or
- (b) The maximum effective gauge pressure to which the shell is designed which shall be not less than the sum of:
  - (i) the absolute vapour pressure (in bar) of the substance at 65 °C, minus 1 bar; and
  - (ii) the partial pressure (in bar) of air or other gases in the ullage space being determined by a maximum ullage temperature of 65 °C and a liquid expansion due to an increase in mean bulk temperature of  $t_r - t_f$  ( $t_f$  = filling temperature, usually 15 °C;  $t_r$  = maximum mean bulk temperature, 50 °C);

*Design pressure* means the pressure to be used in calculations required by a recognized pressure vessel code. The design pressure shall be not less than the highest of the following pressures:

- (a) The maximum effective gauge pressure allowed in the shell during filling or discharge; or
- (b) The sum of:
  - (i) the absolute vapour pressure (in bar) of the substance at 65 °C, minus 1 bar;
  - (ii) the partial pressure (in bar) of air or other gases in the ullage space being determined by a maximum ullage temperature of 65 °C and a liquid expansion due to an increase in mean bulk temperature of  $t_r - t_f$  ( $t_f$  = filling temperature usually 15 °C;  $t_r$  = maximum mean bulk temperature, 50 °C); and
  - (iii) a head pressure determined on the basis of the static forces specified in 6.7.2.2.12, but not less than 0.35 bar; or
- (c) Two thirds of the minimum test pressure specified in the applicable portable tank instruction in 4.2.5.2.6;

*Test pressure* means the maximum gauge pressure at the top of the shell during the hydraulic pressure test equal to not less than 1.5 times the design pressure. The minimum test pressure for portable tanks intended for specific substances is specified in the applicable portable tank instruction in 4.2.5.2.6;

*Leakproofness test* means a test using gas subjecting the shell and its service equipment to an effective internal pressure of not less than 25% of the MAWP;

*Maximum permissible gross mass (MPGM)* means the sum of the tare mass of the portable tank and the heaviest load authorized for carriage;

*Reference steel* means a steel with a tensile strength of  $370 \text{ N/mm}^2$  and an elongation at fracture of 27%;

*Mild steel* means a steel with a guaranteed minimum tensile strength of  $360 \text{ N/mm}^2$  to  $440 \text{ N/mm}^2$  and a guaranteed minimum elongation at fracture conforming to 6.7.2.3.3.3;

*Design temperature range* for the shell shall be  $-40^\circ\text{C}$  to  $50^\circ\text{C}$  for substances carried under ambient conditions. For the other substances handled under elevated temperature conditions the design temperature shall be not less than the maximum temperature of the substance during filling, discharge or carriage. More severe design temperatures shall be considered for portable tanks subjected to severe climatic conditions;

*Fine grain steel* means steel which has a ferritic grain size of 6 or finer when determined in accordance with ASTM E 112-96 or as defined in EN 10028-3, Part 3;

*Fusible element* means a non-reclosable pressure relief device that is thermally actuated;

*Offshore portable tank* means a portable tank specially designed for repeated use for carriage to, from and between offshore facilities. An offshore portable tank is designed and constructed in accordance with the guidelines for the approval of containers handled in open seas specified by the International Maritime Organization in document MSC/Circ.860.

## **6.7.2.2 General design and construction requirements**

- 6.7.2.2.1 Shells shall be designed and constructed in accordance with the requirements of a pressure vessel code recognized by the competent authority. Shells shall be made of metallic materials suitable for forming. The materials shall in principle conform to national or international material standards. For welded shells only a material whose weldability has been fully demonstrated shall be used. Welds shall be skilfully made and afford complete safety. When the manufacturing process or the materials make it necessary, the shells shall be suitably heat-treated to guarantee adequate toughness in the weld and in the heat affected zones. In choosing the material, the design temperature range shall be taken into account with respect to risk of brittle fracture, to stress corrosion cracking and to resistance to impact. When fine grain steel is used, the guaranteed value of the yield strength shall be not more than  $460 \text{ N/mm}^2$  and the guaranteed value of the upper limit of the tensile strength shall be not more than  $725 \text{ N/mm}^2$  according to the material specification. Aluminium may only be used as a construction material when indicated in a portable tank special provision assigned to a specific substance in Column (11) of Table A of Chapter 3.2 or when approved by the competent authority. When aluminium is authorized, it shall be insulated to prevent significant loss of physical properties when subjected to a heat load of  $110 \text{ kW/m}^2$  for a period of not less than 30 minutes. The insulation shall remain effective at all temperatures less than  $649^\circ\text{C}$  and shall be jacketed with a material with a melting point of not less than  $700^\circ\text{C}$ . Portable tank materials shall be suitable for the external environment in which they may be carried.

- 6.7.2.2.2      Portable tank shells, fittings, and pipework shall be constructed from materials which are:
- (a)      Substantially immune to attack by the substance(s) intended to be carried; or
  - (b)      Properly passivated or neutralized by chemical reaction; or
  - (c)      Lined with corrosion-resistant material directly bonded to the shell or attached by equivalent means.
- 6.7.2.2.3      Gaskets shall be made of materials not subject to attack by the substance(s) intended to be carried.
- 6.7.2.2.4      When shells are lined, the lining shall be substantially immune to attack by the substance(s) intended to be carried, homogeneous, non porous, free from perforations, sufficiently elastic and compatible with the thermal expansion characteristics of the shell. The lining of every shell, shell fittings and piping shall be continuous, and shall extend around the face of any flange. Where external fittings are welded to the tank, the lining shall be continuous through the fitting and around the face of external flanges.
- 6.7.2.2.5      Joints and seams in the lining shall be made by fusing the material together or by other equally effective means.
- 6.7.2.2.6      Contact between dissimilar metals which could result in damage by galvanic action shall be avoided.
- 6.7.2.2.7      The materials of the portable tank, including any devices, gaskets, linings and accessories, shall not adversely affect the substance(s) intended to be carried in the portable tank.
- 6.7.2.2.8      Portable tanks shall be designed and constructed with supports to provide a secure base during carriage and with suitable lifting and tie-down attachments.
- 6.7.2.2.9      Portable tanks shall be designed to withstand, without loss of contents, at least the internal pressure due to the contents, and the static, dynamic and thermal loads during normal conditions of handling and carriage. The design shall demonstrate that the effects of fatigue, caused by repeated application of these loads through the expected life of the portable tank, have been taken into account.
- 6.7.2.2.10      A shell which is to be equipped with a vacuum-relief device shall be designed to withstand, without permanent deformation, an external pressure of not less than 0.21 bar above the internal pressure. The vacuum-relief device shall be set to relieve at a vacuum setting not greater than minus (-) 0.21 bar unless the shell is designed for a higher external over pressure, in which case the vacuum-relief pressure of the device to be fitted shall be not greater than the tank design vacuum pressure. A shell used for the carriage of solid substances (powdery or granular) of packing groups II or III only, which do not liquefy during carriage, may be designed for a lower external pressure, subject to the approval of the competent authority. In this case, the vacuum valve shall be set to relieve at this lower pressure. A shell that is not to be fitted with a vacuum-relief device shall be designed to withstand, without permanent deformation an external pressure of not less than 0.4 bar above the internal pressure.
- 6.7.2.2.11      Vacuum-relief devices used on portable tanks intended for the carriage of substances meeting the flash-point criteria of Class 3, including elevated temperature substances carried at or above their flash-point, shall prevent the immediate passage of flame into the shell, or the portable tank shall have a shell capable of withstanding, without leakage an internal explosion resulting from the passage of flame into the shell.

- 6.7.2.2.12 Portable tanks and their fastenings shall, under the maximum permissible load, be capable of absorbing the following separately applied static forces:
- (a) In the direction of travel: twice the MPGM multiplied by the acceleration due to gravity (g)<sup>1</sup>;
  - (b) Horizontally at right angles to the direction of travel: the MPGM (when the direction of travel is not clearly determined, the forces shall be equal to twice the MPGM) multiplied by the acceleration due to gravity (g)<sup>1</sup>;
  - (c) Vertically upwards: the MPGM multiplied by the acceleration due to gravity (g)<sup>1</sup>; and
  - (d) Vertically downwards: twice the MPGM (total loading including the effect of gravity) multiplied by the acceleration due to gravity (g)<sup>1</sup>.
- 6.7.2.2.13 Under each of the forces in 6.7.2.2.12, the safety factor to be observed shall be as follows:
- (a) For metals having a clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed yield strength; or
  - (b) For metals with no clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed 0.2% proof strength and, for austenitic steels, the 1% proof strength.
- 6.7.2.2.14 The values of yield strength or proof strength shall be the values according to national or international material standards. When austenitic steels are used, the specified minimum values of yield strength or proof strength according to the material standards may be increased by up to 15% when these greater values are attested in the material inspection certificate. When no material standard exists for the metal in question, the value of yield strength or proof strength used shall be approved by the competent authority.
- 6.7.2.2.15 Portable tanks shall be capable of being electrically earthed when intended for the carriage of substances meeting the flash-point criteria of Class 3 including elevated temperature substances carried at or above their flash-point. Measures shall be taken to prevent dangerous electrostatic discharge.
- 6.7.2.2.16 When required for certain substances by the applicable portable tank instruction indicated in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6 or by a portable tank special provision indicated in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3, portable tanks shall be provided with additional protection, which may take the form of additional shell thickness or a higher test pressure, the additional shell thickness or higher test pressure being determined in the light of the inherent risks associated with the carriage of the substances concerned.
- 6.7.2.3** *Design criteria*
- 6.7.2.3.1 Shells shall be of a design capable of being stress-analysed mathematically or experimentally by resistance strain gauges, or by other methods approved by the competent authority.
- 6.7.2.3.2 Shells shall be designed and constructed to withstand a hydraulic test pressure not less than 1.5 times the design pressure. Specific requirements are laid down for certain substances in the applicable portable tank instruction indicated in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6 or by a portable tank special provision indicated in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3. Attention is drawn to the minimum shell thickness requirements specified in 6.7.2.4.1 to 6.7.2.4.10.

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<sup>1</sup> For calculation purposes  $g = 9.81 \text{ m/s}^2$ .

- 6.7.2.3.3 For metals exhibiting a clearly defined yield point or characterized by a guaranteed proof strength (0.2% proof strength, generally, or 1% proof strength for austenitic steels) the primary membrane stress  $\sigma$  (sigma) in the shell shall not exceed 0.75 Re or 0.50 Rm, whichever is lower, at the test pressure, where:

Re = yield strength in N/mm<sup>2</sup>, or 0.2% proof strength or, for austenitic steels, 1% proof strength;

Rm = minimum tensile strength in N/mm<sup>2</sup>.

- 6.7.2.3.3.1 The values of Re and Rm to be used shall be the specified minimum values according to national or international material standards. When austenitic steels are used, the specified minimum values for Re and Rm according to the material standards may be increased by up to 15% when greater values are attested in the material inspection certificate. When no material standard exists for the metal in question, the values of Re and Rm used shall be approved by the competent authority or its authorized body.

- 6.7.2.3.3.2 Steels which have a Re/Rm ratio of more than 0.85 are not allowed for the construction of welded shells. The values of Re and Rm to be used in determining this ratio shall be the values specified in the material inspection certificate.

- 6.7.2.3.3.3 Steels used in the construction of shells shall have an elongation at fracture, in %, of not less than 10 000/Rm with an absolute minimum of 16% for fine grain steels and 20% for other steels. Aluminium and aluminium alloys used in the construction of shells shall have an elongation at fracture, in %, of not less than 10 000/6Rm with an absolute minimum of 12%.

- 6.7.2.3.3.4 For the purpose of determining actual values for materials, it shall be noted that for sheet metal, the axis of the tensile test specimen shall be at right angles (transversely) to the direction of rolling. The permanent elongation at fracture shall be measured on test specimens of rectangular cross sections in accordance with ISO 6892:1998 using a 50 mm gauge length.

#### **6.7.2.4 *Minimum shell thickness***

- 6.7.2.4.1 The minimum shell thickness shall be the greater thickness based on:

- (a) The minimum thickness determined in accordance with the requirements of 6.7.2.4.2 to 6.7.2.4.10;
- (b) The minimum thickness determined in accordance with the recognized pressure vessel code including the requirements in 6.7.2.3; and
- (c) The minimum thickness specified in the applicable portable tank instruction indicated in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6 or by a portable tank special provision indicated in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3.

- 6.7.2.4.2 The cylindrical portions, ends (heads) and manhole covers of shells not more than 1.80 m in diameter shall be not less than 5 mm thick in the reference steel or of equivalent thickness in the metal to be used. Shells more than 1.80 m in diameter shall be not less than 6 mm thick in the reference steel or of equivalent thickness in the metal to be used, except that for powdered or granular solid substances of packing group II or III the minimum thickness requirement may be reduced to not less than 5 mm thick in the reference steel or of equivalent thickness in the metal to be used.



- 6.7.2.4.3 When additional protection against shell damage is provided, portable tanks with test pressures less than 2.65 bar may have the minimum shell thickness reduced, in proportion to the protection provided, as approved by the competent authority. However, shells not more than 1.80 m in diameter shall be not less than 3 mm thick in the reference steel or of equivalent thickness in the metal to be used. Shells more than 1.80 m in diameter shall be not less than 4 mm thick in the reference steel or of equivalent thickness in the metal to be used.
- 6.7.2.4.4 The cylindrical portions, ends (heads) and manhole covers of all shells shall be not less than 3 mm thick regardless of the material of construction.
- 6.7.2.4.5 The additional protection referred to in 6.7.2.4.3 may be provided by overall external structural protection, such as suitable "sandwich" construction with the outer sheathing (jacket) secured to the shell, double wall construction or by enclosing the shell in a complete framework with longitudinal and transverse structural members.
- 6.7.2.4.6 The equivalent thickness of a metal other than the thickness prescribed for the reference steel in 6.7.2.4.2 shall be determined using the following formula:

$$e_1 = \frac{21.4e_0}{\sqrt[3]{Rm_1 \times A_1}}$$

where:

- $e_1$  = required equivalent thickness (in mm) of the metal to be used;
- $e_0$  = minimum thickness (in mm) of the reference steel specified in the applicable portable tank instruction indicated in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6 or by a portable tank special provision indicated in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3;
- $Rm_1$  = guaranteed minimum tensile strength (in N/mm<sup>2</sup>) of the metal to be used (see 6.7.2.3.3);
- $A_1$  = guaranteed minimum elongation at fracture (in %) of the metal to be used according to national or international standards.

- 6.7.2.4.7 When in the applicable portable tank instruction in 4.2.5.2.6, a minimum thickness of 8 mm or 10 mm is specified, it shall be noted that these thicknesses are based on the properties of the reference steel and a shell diameter of 1.80 m. When a metal other than mild steel (see 6.7.2.1) is used or the shell has a diameter of more than 1.80 m, the thickness shall be determined using the following formula:

$$e_1 = \frac{21.4e_0 d_1}{1,8 \sqrt[3]{Rm_1 \times A_1}}$$

where:

- $e_1$  = required equivalent thickness (in mm) of the metal to be used;
- $e_0$  = minimum thickness (in mm) of the reference steel specified in the applicable portable tank instruction indicated in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6 or by a portable tank special provision indicated in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3;
- $d_1$  = diameter of the shell (in m), but not less than 1.80 m;
- $Rm_1$  = guaranteed minimum tensile strength (in N/mm<sup>2</sup>) of the metal to be used (see 6.7.2.3.3);
- $A_1$  = guaranteed minimum elongation at fracture (in %) of the metal to be used according to national or international standards.



- 6.7.2.4.8 In no case shall the wall thickness be less than that prescribed in 6.7.2.4.2, 6.7.2.4.3 and 6.7.2.4.4. All parts of the shell shall have a minimum thickness as determined by 6.7.2.4.2 to 6.7.2.4.4. This thickness shall be exclusive of any corrosion allowance.
- 6.7.2.4.9 When mild steel is used (see 6.7.2.1), calculation using the formula in 6.7.2.4.6 is not required.
- 6.7.2.4.10 There shall be no sudden change of plate thickness at the attachment of the ends (heads) to the cylindrical portion of the shell.

**6.7.2.5**      *Service equipment*

- 6.7.2.5.1 Service equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during handling and carriage. When the connection between the frame and the shell allows relative movement between the sub-assemblies, the equipment shall be so fastened as to permit such movement without risk of damage to working parts. The external discharge fittings (pipe sockets, shut-off devices), the internal stop-valve and its seating shall be protected against the danger of being wrenched off by external forces (for example using shear sections). The filling and discharge devices (including flanges or threaded plugs) and any protective caps shall be capable of being secured against unintended opening.
- 6.7.2.5.2 All openings in the shell, intended for filling or discharging the portable tank shall be fitted with a manually operated stop-valve located as close to the shell as reasonably practicable. Other openings, except for openings leading to venting or pressure-relief devices, shall be equipped with either a stop-valve or another suitable means of closure located as close to the shell as reasonably practicable.
- 6.7.2.5.3 All portable tanks shall be fitted with a manhole or other inspection openings of a suitable size to allow for internal inspection and adequate access for maintenance and repair of the interior. Compartmented portable tanks shall have a manhole or other inspection openings for each compartment.
- 6.7.2.5.4 As far as reasonably practicable, external fittings shall be grouped together. For insulated portable tanks, top fittings shall be surrounded by a spill collection reservoir with suitable drains.
- 6.7.2.5.5 Each connection to a portable tank shall be clearly marked to indicate its function.
- 6.7.2.5.6 Each stop-valve or other means of closure shall be designed and constructed to a rated pressure not less than the MAWP of the shell taking into account the temperatures expected during carriage. All stop-valves with screwed spindles shall close by a clockwise motion of the handwheel. For other stop-valves the position (open and closed) and direction of closure shall be clearly indicated. All stop-valves shall be designed to prevent unintentional opening.
- 6.7.2.5.7 No moving parts, such as covers, components of closures, etc., shall be made of unprotected corrodible steel when they are liable to come into frictional or percussive contact with aluminium portable tanks intended for the carriage of substances meeting the flash-point criteria of Class 3 including elevated temperature substances carried at or above their flash-point.
- 6.7.2.5.8 Piping shall be designed, constructed and installed so as to avoid the risk of damage due to thermal expansion and contraction, mechanical shock and vibration. All piping shall be of a suitable metallic material. Welded pipe joints shall be used wherever possible.

- 6.7.2.5.9 Joints in copper tubing shall be brazed or have an equally strong metal union. The melting point of brazing materials shall be no lower than 525 °C. The joints shall not decrease the strength of the tubing as may happen when cutting threads.
- 6.7.2.5.10 The burst pressure of all piping and pipe fittings shall be not less than the highest of four times the MAWP of the shell or four times the pressure to which it may be subjected in service by the action of a pump or other device (except pressure-relief devices).
- 6.7.2.5.11 Ductile metals shall be used in the construction of valves and accessories.

**6.7.2.6** *Bottom openings*

- 6.7.2.6.1 Certain substances shall not be carried in portable tanks with bottom openings. When the applicable portable tank instruction identified in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6 indicates that bottom openings are prohibited there shall be no openings below the liquid level of the shell when it is filled to its maximum permissible filling limit. When an existing opening is closed it shall be accomplished by internally and externally welding one plate to the shell.

- 6.7.2.6.2 Bottom discharge outlets for portable tanks carrying certain solid, crystallizable or highly viscous substances shall be equipped with not less than two serially fitted and mutually independent shut-off devices. The design of the equipment shall be to the satisfaction of the competent authority or its authorized body and shall include:

- (a) An external stop-valve fitted as close to the shell as reasonably practicable; and
- (b) A liquid tight closure at the end of the discharge pipe, which may be a bolted blank flange or a screw cap.

- 6.7.2.6.3 Every bottom discharge outlet, except as provided in 6.7.2.6.2, shall be equipped with three serially fitted and mutually independent shut-off devices. The design of the equipment shall be to the satisfaction of the competent authority or its authorized body and include:

- (a) A self-closing internal stop-valve, that is a stop-valve within the shell or within a welded flange or its companion flange, such that:
  - (i) The control devices for the operation of the valve are designed so as to prevent any unintended opening through impact or other inadvertent act;
  - (ii) The valve may be operable from above or below;
  - (iii) If possible, the setting of the valve (open or closed) shall be capable of being verified from the ground;
  - (iv) Except for portable tanks having a capacity of not more than 1 000 litres, it shall be possible to close the valve from an accessible position of the portable tank that is remote from the valve itself; and
  - (v) The valve shall continue to be effective in the event of damage to the external device for controlling the operation of the valve;
- (b) An external stop-valve fitted as close to the shell as reasonably practicable; and
- (c) A liquid tight closure at the end of the discharge pipe, which may be a bolted blank flange or a screw cap.

- 6.7.2.6.4 For a lined shell, the internal stop-valve required by 6.7.2.6.3 (a) may be replaced by an additional external stop-valve. The manufacturer shall satisfy the requirements of the competent authority or its authorized body.

**6.7.2.7      *Safety-relief devices***

- 6.7.2.7.1      All portable tanks shall be fitted with at least one pressure-relief device. All relief devices shall be designed, constructed and marked to the satisfaction of the competent authority or its authorized body.

**6.7.2.8      *Pressure-relief devices***

- 6.7.2.8.1      Every portable tank with a capacity not less than 1 900 litres and every independent compartment of a portable tank with a similar capacity, shall be provided with one or more pressure-relief devices of the spring-loaded type and may in addition have a frangible disc or fusible element in parallel with the spring-loaded devices except when prohibited by reference to 6.7.2.8.3 in the applicable portable tank instruction in 4.2.5.2.6. The pressure-relief devices shall have sufficient capacity to prevent rupture of the shell due to over pressurization or vacuum resulting from filling, discharging, or from heating of the contents.

- 6.7.2.8.2      Pressure-relief devices shall be designed to prevent the entry of foreign matter, the leakage of liquid and the development of any dangerous excess pressure.

- 6.7.2.8.3      When required for certain substances by the applicable portable tank instruction indicated in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6, portable tanks shall have a pressure-relief device approved by the competent authority. Unless a portable tank in dedicated service is fitted with an approved relief device constructed of materials compatible with the substance carried, the relief device shall comprise a frangible disc preceding a spring-loaded pressure-relief device. When a frangible disc is inserted in series with the required pressure-relief device, the space between the frangible disc and the pressure-relief device shall be provided with a pressure gauge or suitable tell-tale indicator for the detection of disc rupture, pinholing, or leakage which could cause a malfunction of the pressure-relief system. The frangible disc shall rupture at a nominal pressure 10% above the start to discharge pressure of the relief device.

- 6.7.2.8.4      Every portable tank with a capacity less than 1 900 litres shall be fitted with a pressure-relief device which may be a frangible disc when this disc complies with the requirements of 6.7.2.11.1. When no spring-loaded pressure-relief device is used, the frangible disc shall be set to rupture at a nominal pressure equal to the test pressure.

- 6.7.2.8.5      When the shell is fitted for pressure discharge, the inlet line shall be provided with a suitable pressure-relief device set to operate at a pressure not higher than the MAWP of the shell, and a stop-valve shall be fitted as close to the shell as reasonably practicable.

**6.7.2.9      *Setting of pressure-relief devices***

- 6.7.2.9.1      It shall be noted that the pressure-relief devices shall operate only in conditions of excessive rise in temperature, since the shell shall not be subject to undue fluctuations of pressure during normal conditions of carriage (see 6.7.2.12.2).

- 6.7.2.9.2      The required pressure-relief device shall be set to start-to-discharge at a nominal pressure of five-sixths of the test pressure for shells having a test pressure of not more than 4.5 bar and 110% of two-thirds of the test pressure for shells having a test pressure of more than 4.5 bar. After discharge the device shall close at a pressure not more than 10% below the pressure at which the discharge starts. The device shall remain closed at all lower pressures. This requirement does not prevent the use of vacuum-relief or combination pressure-relief and vacuum-relief devices.

**6.7.2.10** *Fusible elements*

- 6.7.2.10.1 Fusible elements shall operate at a temperature between 110 °C and 149 °C on condition that the pressure in the shell at the fusing temperature will be not more than the test pressure. They shall be placed at the top of the shell with their inlets in the vapour space and in no case shall they be shielded from external heat. Fusible elements shall not be utilized on portable tanks with a test pressure which exceeds 2.65 bar. Fusible elements used on portable tanks intended for the carriage of elevated temperature substances shall be designed to operate at a temperature higher than the maximum temperature that will be experienced during carriage and shall be to the satisfaction of the competent authority or its authorized body.

**6.7.2.11** *Frangible discs*

- 6.7.2.11.1 Except as specified in 6.7.2.8.3, frangible discs shall be set to rupture at a nominal pressure equal to the test pressure throughout the design temperature range. Particular attention shall be given to the requirements of 6.7.2.5.1 and 6.7.2.8.3 if frangible discs are used.
- 6.7.2.11.2 Frangible discs shall be appropriate for the vacuum pressures which may be produced in the portable tank.

**6.7.2.12** *Capacity of pressure-relief devices*

- 6.7.2.12.1 The spring-loaded pressure-relief device required by 6.7.2.8.1 shall have a minimum cross sectional flow area equivalent to an orifice of 31.75 mm diameter. Vacuum-relief devices, when used, shall have a cross sectional flow area not less than 284 mm<sup>2</sup>.
- 6.7.2.12.2 The combined delivery capacity of the pressure relief system (taking into account the reduction of the flow when the portable tank is fitted with frangible-discs preceding spring-loaded pressure-relief devices or when the spring-loaded pressure-relief devices are provided with a device to prevent the passage of the flame), in condition of complete fire engulfment of the portable tank shall be sufficient to limit the pressure in the shell to 20% above the start-to-discharge pressure of the pressure limiting device. Emergency pressure-relief devices may be used to achieve the full relief capacity prescribed. These devices may be fusible, spring loaded or frangible disc components, or a combination of spring-loaded and frangible disc devices. The total required capacity of the relief devices may be determined using the formula in 6.7.2.12.2.1 or the table in 6.7.2.12.2.3.
- 6.7.2.12.2.1 To determine the total required capacity of the relief devices, which shall be regarded as being the sum of the individual capacities of all the contributing devices, the following formula shall be used:

$$Q = 12.4 \frac{FA^{0.82}}{LC} \sqrt{\frac{ZT}{M}}$$

where:

Q = minimum required rate of discharge in cubic metres of air per second (m<sup>3</sup>/s) at standard conditions: 1 bar and 0 °C (273 K);

F = is a coefficient with the following value:

for uninsulated shells: F = 1;

for insulated shells: F = U(649 - t)/13.6 but in no case is less than 0.25

where:

U = thermal conductance of the insulation, in kW.m<sup>-2</sup>.K<sup>-1</sup>, at 38 °C;

t = actual temperature of the substance during filling (in °C); when this temperature is unknown, let t = 15 °C;

The value of F given above for insulated shells may be taken provided that the insulation is in accordance with 6.7.2.12.2.4;

- A = total external surface area of shell in m<sup>2</sup>;  
 Z = the gas compressibility factor in the accumulating condition (when this factor is unknown, let Z = 1.0);  
 T = absolute temperature in Kelvin (°C + 273) above the pressure-relief devices in the accumulating condition;  
 L = the latent heat of vaporization of the liquid, in kJ/kg, in the accumulating condition;  
 M = molecular mass of the discharged gas;  
 C = a constant which is derived from one of the following formulae as a function of the ratio k of specific heats:

$$k = \frac{c_p}{c_v}$$

where:

$c_p$  is the specific heat at constant pressure; and  
 $c_v$  is the specific heat at constant volume.

When  $k > 1$ :

$$C = \sqrt{k \left( \frac{2}{k+1} \right)^{\frac{k+1}{k-1}}}$$

When  $k = 1$  or  $k$  is unknown:

$$C = \frac{1}{\sqrt{e}} = 0.607$$

where  $e$  is the mathematical constant 2.7183

C may also be taken from the following table:

| k    | C     | k    | C     | k    | C     |
|------|-------|------|-------|------|-------|
| 1.00 | 0.607 | 1.26 | 0.660 | 1.52 | 0.704 |
| 1.02 | 0.611 | 1.28 | 0.664 | 1.54 | 0.707 |
| 1.04 | 0.615 | 1.30 | 0.667 | 1.56 | 0.710 |
| 1.06 | 0.620 | 1.32 | 0.671 | 1.58 | 0.713 |
| 1.08 | 0.624 | 1.34 | 0.674 | 1.60 | 0.716 |
| 1.10 | 0.628 | 1.36 | 0.678 | 1.62 | 0.719 |
| 1.12 | 0.633 | 1.38 | 0.681 | 1.64 | 0.722 |
| 1.14 | 0.637 | 1.40 | 0.685 | 1.66 | 0.725 |
| 1.16 | 0.641 | 1.42 | 0.688 | 1.68 | 0.728 |
| 1.18 | 0.645 | 1.44 | 0.691 | 1.70 | 0.731 |
| 1.20 | 0.649 | 1.46 | 0.695 | 2.00 | 0.770 |
| 1.22 | 0.652 | 1.48 | 0.698 | 2.20 | 0.793 |
| 1.24 | 0.656 | 1.50 | 0.701 |      |       |

- 6.7.2.12.2.2 As an alternative to the formula above, shells designed for the carriage of liquids may have their relief devices sized in accordance with the table in 6.7.2.12.2.3. This table assumes an insulation value of  $F = 1$  and shall be adjusted accordingly when the shell is insulated. Other values used in determining this table are:

|   |   |              |   |   |       |
|---|---|--------------|---|---|-------|
| M | = | 86.7         | T | = | 394 K |
| L | = | 334.94 kJ/kg | C | = | 0.607 |
| Z | = | 1            |   |   |       |

- 6.7.2.12.2.3 Minimum required rate of discharge, Q, in cubic metres per air per second at 1 bar and 0 °C (273 K)

| A<br>Exposed area<br>(square metres) | Q<br>(cubic metres of<br>air per second) | A<br>Exposed area<br>(square metres) | Q<br>(cubic metres of<br>air per second) |
|--------------------------------------|--|--------------------------------------|--|
| 2                                    | 0.230                                    | 37.5                                 | 2.539                                    |
| 3                                    | 0.320                                    | 40                                   | 2.677                                    |
| 4                                    | 0.405                                    | 42.5                                 | 2.814                                    |
| 5                                    | 0.487                                    | 45                                   | 2.949                                    |
| 6                                    | 0.565                                    | 47.5                                 | 3.082                                    |
| 7                                    | 0.641                                    | 50                                   | 3.215                                    |
| 8                                    | 0.715                                    | 52.5                                 | 3.346                                    |
| 9                                    | 0.788                                    | 55                                   | 3.476                                    |
| 10                                   | 0.859                                    | 57.5                                 | 3.605                                    |
| 12                                   | 0.998                                    | 60                                   | 3.733                                    |
| 14                                   | 1.132                                    | 62.5                                 | 3.860                                    |
| 16                                   | 1.263                                    | 65                                   | 3.987                                    |
| 18                                   | 1.391                                    | 67.5                                 | 4.112                                    |
| 20                                   | 1.517                                    | 70                                   | 4.236                                    |
| 22.5                                 | 1.670                                    | 75                                   | 4.483                                    |
| 25                                   | 1.821                                    | 80                                   | 4.726                                    |
| 27.5                                 | 1.969                                    | 85                                   | 4.967                                    |
| 30                                   | 2.115                                    | 90                                   | 5.206                                    |
| 32.5                                 | 2.258                                    | 95                                   | 5.442                                    |
| 35                                   | 2.400                                    | 100                                  | 5.676                                    |

- 6.7.2.12.2.4 Insulation systems, used for the purpose of reducing venting capacity, shall be approved by the competent authority or its authorized body. In all cases, insulation systems approved for this purpose shall:

- (a) Remain effective at all temperatures up to 649 °C; and
- (b) Be jacketed with a material having a melting point of 700 °C or greater.

**6.7.2.13      *Marking of pressure-relief devices***

6.7.2.13.1      Every pressure-relief device shall be clearly and permanently marked with the following particulars:

- (a)    The pressure (in bar or kPa) or temperature (in °C) at which it is set to discharge;
- (b)    The allowable tolerance at the discharge pressure for spring-loaded devices;
- (c)    The reference temperature corresponding to the rated pressure for frangible discs;
- (d)    The allowable temperature tolerance for fusible elements; and
- (e)    The rated flow capacity of the spring-loaded pressure relief devices, frangible discs or fusible elements in standard cubic metres of air per second (m<sup>3</sup>/s);

When practicable, the following information shall also be shown:

- (f)    The manufacturer's name and relevant catalogue number of the device.

6.7.2.13.2      The rated flow capacity marked on the spring-loaded pressure-relief devices shall be determined according to ISO 4126-1:1991.

**6.7.2.14      *Connections to pressure-relief devices***

6.7.2.14.1      Connections to pressure-relief devices shall be of sufficient size to enable the required discharge to pass unrestricted to the safety device. No stop-valve shall be installed between the shell and the pressure-relief devices except where duplicate devices are provided for maintenance or other reasons and the stop-valves serving the devices actually in use are locked open or the stop-valves are interlocked so that at least one of the duplicate devices is always in use. There shall be no obstruction in an opening leading to a vent or pressure-relief device which might restrict or cut-off the flow from the shell to that device. Vents or pipes from the pressure-relief device outlets, when used, shall deliver the relieved vapour or liquid to the atmosphere in conditions of minimum back-pressure on the relieving devices.

**6.7.2.15      *Siting of pressure-relief devices***

6.7.2.15.1      Each pressure-relief device inlet shall be situated on top of the shell in a position as near the longitudinal and transverse centre of the shell as reasonably practicable. All pressure-relief device inlets shall under maximum filling conditions be situated in the vapour space of the shell and the devices shall be so arranged as to ensure the escaping vapour is discharged unrestrictedly. For flammable substances, the escaping vapour shall be directed away from the shell in such a manner that it cannot impinge upon the shell. Protective devices which deflect the flow of vapour are permissible provided the required relief-device capacity is not reduced.

6.7.2.15.2      Arrangements shall be made to prevent access to the pressure-relief devices by unauthorized persons and to protect the devices from damage caused by the portable tank overturning.

**6.7.2.16      *Gauging devices***

6.7.2.16.1      Glass level-gauges and gauges made of other fragile material, which are in direct communication with the contents of the tank shall not be used.



**6.7.2.17      *Portable tank supports, frameworks, lifting and tie-down attachments***

6.7.2.17.1      Portable tanks shall be designed and constructed with a support structure to provide a secure base during carriage. The forces specified in 6.7.2.2.12 and the safety factor specified in 6.7.2.2.13 shall be considered in this aspect of the design. Skids, frameworks, cradles or other similar structures are acceptable.

6.7.2.17.2      The combined stresses caused by portable tank mountings (e.g. cradles, framework, etc.) and portable tank lifting and tie-down attachments shall not cause excessive stress in any portion of the shell. Permanent lifting and tie-down attachments shall be fitted to all portable tanks. Preferably they shall be fitted to the portable tank supports but may be secured to reinforcing plates located on the shell at the points of support.

6.7.2.17.3      In the design of supports and frameworks the effects of environmental corrosion shall be taken into account.

6.7.2.17.4      Forklift pockets shall be capable of being closed off. The means of closing forklift pockets shall be a permanent part of the framework or permanently attached to the framework. Single compartment portable tanks with a length less than 3.65 m need not have closed off forklift pockets provided that:

- (a)      The shell including all the fittings are well protected from being hit by the forklift blades; and
- (b)      The distance between the centres of the forklift pockets is at least half of the maximum length of the portable tank.

6.7.2.17.5      When portable tanks are not protected during carriage, according to 4.2.1.2, the shells and service equipment shall be protected against damage to the shell and service equipment resulting from lateral or longitudinal impact or overturning. External fittings shall be protected so as to preclude the release of the shell contents upon impact or overturning of the portable tank on its fittings. Examples of protection include:

- (a)      Protection against lateral impact which may consist of longitudinal bars protecting the shell on both sides at the level of the median line;
- (b)      Protection of the portable tank against overturning which may consist of reinforcement rings or bars fixed across the frame;
- (c)      Protection against rear impact which may consist of a bumper or frame;
- (d)      Protection of the shell against damage from impact or overturning by use of an ISO frame in accordance with ISO 1496-3:1995.

**6.7.2.18      *Design approval***

6.7.2.18.1      The competent authority or its authorized body shall issue a design approval certificate for any new design of a portable tank. This certificate shall attest that a portable tank has been surveyed by that authority, is suitable for its intended purpose and meets the requirements of this Chapter and where appropriate, the provisions for substances provided in Chapter 4.2 and in Table A of Chapter 3.2. When a series of portable tanks are manufactured without change in the design, the certificate shall be valid for the entire series. The certificate shall refer to the prototype test report, the substances or group of substances allowed to be carried, the materials of construction of the shell and lining (when applicable) and an approval number. The approval number shall consist of the distinguishing sign or mark of the State in whose territory the approval was granted, i.e. the distinguishing sign for use in international



traffic as prescribed by the Convention on Road Traffic, Vienna 1968, and a registration number. Any alternative arrangements according to 6.7.1.2 shall be indicated on the certificate. A design approval may serve for the approval of smaller portable tanks made of materials of the same kind and thickness, by the same fabrication techniques and with identical supports, equivalent closures and other appurtenances.

6.7.2.18.2 The prototype test report for the design approval shall include at least the following:

- (a) The results of the applicable framework test specified in ISO 1496-3:1995;
- (b) The results of the initial inspection and test according to 6.7.2.19.3; and
- (c) The results of the impact test in 6.7.2.19.1, when applicable.

**6.7.2.19 *Inspection and testing***

6.7.2.19.1 Portable tanks meeting the definition of container in the International Convention for Safe Containers (CSC), 1972, as amended, shall not be used unless they are successfully qualified by subjecting a representative prototype of each design to the Dynamic, Longitudinal Impact Test prescribed in the Manual of Tests and Criteria, Part IV, Section 41.

6.7.2.19.2 The shell and items of equipment of each portable tank shall be inspected and tested before being put into service for the first time (initial inspection and test) and thereafter at not more than five-year intervals (5 year periodic inspection and test) with an intermediate periodic inspection and test (2.5 year periodic inspection and test) midway between the 5 year periodic inspections and tests. The 2.5 year inspection and test may be performed within 3 months of the specified date. An exceptional inspection and test shall be performed regardless of the date of the last periodic inspection and test when necessary according to 6.7.2.19.7.

6.7.2.19.3 The initial inspection and test of a portable tank shall include a check of the design characteristics, an internal and external examination of the portable tank and its fittings with due regard to the substances to be carried, and a pressure test. Before the portable tank is placed into service, a leakproofness test and a check of the satisfactory operation of all service equipment shall also be performed. When the shell and its fittings have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.

6.7.2.19.4 The 5-year periodic inspection and test shall include an internal and external examination and, as a general rule, a hydraulic pressure test. Sheathing, thermal insulation and the like shall be removed only to the extent required for reliable appraisal of the condition of the portable tank. When the shell and equipment have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.

6.7.2.19.5 The intermediate 2.5 year periodic inspection and test shall at least include an internal and external examination of the portable tank and its fittings with due regard to the substances intended to be carried, a leakproofness test and a check of the satisfactory operation of all service equipment. Sheathing, thermal insulation and the like shall be removed only to the extent required for reliable appraisal of the condition of the portable tank. For portable tanks intended for the carriage of a single substance, the 2.5 year internal examination may be waived or substituted by other test methods or inspection procedures specified by the competent authority or its authorized body.

- 6.7.2.19.6 A portable tank may not be filled and offered for carriage after the date of expiry of the last 5 year or 2.5 year periodic inspection and test as required by 6.7.2.19.2. However, a portable tank filled prior to the date of expiry of the last periodic inspection and test may be carried for a period not to exceed three months beyond the date of expiry of the last periodic test or inspection. In addition, a portable tank may be carried after the date of expiry of the last periodic test and inspection:
- (a) After emptying but before cleaning, for purposes of performing the next required test or inspection prior to refilling; and
  - (b) Unless otherwise approved by the competent authority, for a period not to exceed six months beyond the date of expiry of the last periodic test or inspection, in order to allow the return of dangerous goods for proper disposal or recycling. Reference to this exemption shall be mentioned in the transport document.
- 6.7.2.19.7 The exceptional inspection and test is necessary when the portable tank shows evidence of damaged or corroded areas, or leakage, or other conditions that indicate a deficiency that could affect the integrity of the portable tank. The extent of the exceptional inspection and test shall depend on the amount of damage or deterioration of the portable tank. It shall include at least the 2.5 year inspection and test according to 6.7.2.19.5.
- 6.7.2.19.8 The internal and external examinations shall ensure that:
- (a) The shell is inspected for pitting, corrosion, or abrasions, dents, distortions, defects in welds or any other conditions, including leakage, that might render the portable tank unsafe for carriage;
  - (b) The piping, valves, heating/cooling system, and gaskets are inspected for corroded areas, defects, or any other conditions, including leakage, that might render the portable tank unsafe for filling, discharge or carriage;
  - (c) Devices for tightening manhole covers are operative and there is no leakage at manhole covers or gaskets;
  - (d) Missing or loose bolts or nuts on any flanged connection or blank flange are replaced or tightened;
  - (e) All emergency devices and valves are free from corrosion, distortion and any damage or defect that could prevent their normal operation. Remote closure devices and self-closing stop-valves shall be operated to demonstrate proper operation;
  - (f) Linings, if any, are inspected in accordance with criteria outlined by the lining manufacturer;
  - (g) Required markings on the portable tank are legible and in accordance with the applicable requirements; and
  - (h) The framework, supports and arrangements for lifting the portable tank are in a satisfactory condition.
- 6.7.2.19.9 The inspections and tests in 6.7.2.19.1, 6.7.2.19.3, 6.7.2.19.4, 6.7.2.19.5 and 6.7.2.19.7 shall be performed or witnessed by an expert approved by the competent authority or its authorized body. When the pressure test is a part of the inspection and test, the test pressure shall be the one indicated on the data plate of the portable tank. While under pressure, the portable tank shall be inspected for any leaks in the shell, piping or equipment.

6.7.2.19.10 In all cases when cutting, burning or welding operations on the shell have been effected, that work shall be to the approval of the competent authority or its authorized body taking into account the pressure vessel code used for the construction of the shell. A pressure test to the original test pressure shall be performed after the work is completed.

6.7.2.19.11 When evidence of any unsafe condition is discovered, the portable tank shall not be returned to service until it has been corrected and the test is repeated and passed.

#### **6.7.2.20      *Marking***

6.7.2.20.1 Every portable tank shall be fitted with a corrosion resistant metal plate permanently attached to the portable tank in a conspicuous place readily accessible for inspection. When for reasons of portable tank arrangements the plate cannot be permanently attached to the shell, the shell shall be marked with at least the information required by the pressure vessel code. As a minimum at least the following information shall be marked on the plate by stamping or by any other similar method.

Country of manufacture

|   |          |          |  |
|---|----------|----------|--|
| U | Approval | Approval | For Alternative Arrangements (see 6.7.1.2) |
| N | country  | number   |  |

"AA"

Manufacturer's name or mark

Manufacturer's serial number

Authorized body for the design approval

Owner's registration number

Year of manufacture

Pressure vessel code to which the shell is designed

Test pressure \_\_\_\_\_ bar/kPa gauge <sup>2</sup>

MAWP \_\_\_\_\_ bar/kPa gauge <sup>2</sup>

External design pressure <sup>3</sup> \_\_\_\_\_ bar/kPa gauge <sup>2</sup>

Design temperature range \_\_\_\_\_ °C to \_\_\_\_\_ °C

Water capacity at 20 °C \_\_\_\_\_ litres

Water capacity of each compartment at 20 °C \_\_\_\_\_ litres

Initial pressure test date and witness identification

MAWP for heating/cooling system \_\_\_\_\_ bar/kPa gauge <sup>2</sup>

Shell material(s) and material standard reference(s)

Equivalent thickness in reference steel \_\_\_\_\_ mm

Lining material (when applicable)

Date and type of most recent periodic test(s)

Month \_\_\_\_\_ Year \_\_\_\_\_ Test pressure \_\_\_\_\_ bar/kPa gauge <sup>2</sup>

Stamp of expert who performed or witnessed the most recent test

6.7.2.20.2 The following particulars shall be marked either on the portable tank itself or on a metal plate firmly secured to the portable tank:

Name of the operator

Name of substance(s) being carried and maximum mean bulk temperature when higher than 50 °C

Maximum permissible gross mass (MPGM) \_\_\_\_\_ kg

Unladen (tare) mass \_\_\_\_\_ kg

**NOTE:** For the identification of the substances being carried, see also Part 5.

6.7.2.20.3 If a portable tank is designed and approved for handling in open seas, the words "OFFSHORE PORTABLE TANK" shall be marked on the identification plate.

<sup>2</sup> The unit used shall be marked.

<sup>3</sup> See 6.7.2.2.10.

### 6.7.3 Requirements for the design, construction, inspection and testing of portable tanks intended for the carriage of non-refrigerated liquefied gases

#### 6.7.3.1 Definitions

For the purposes of this section:

*Alternative arrangement* means an approval granted by the competent authority for a portable tank or MEGC that has been designed, constructed or tested to technical requirements or testing methods other than those specified in this Chapter;

*Portable tank* means a multimodal tank having a capacity of more than 450 litres used for the carriage of non-refrigerated liquefied gases of Class 2. The portable tank includes a shell fitted with service equipment and structural equipment necessary for the carriage of gases. The portable tank shall be capable of being filled and discharged without the removal of its structural equipment. It shall possess stabilizing members external to the shell, and shall be capable of being lifted when full. It shall be designed primarily to be loaded onto a vehicle, wagon or sea-going or inland navigation vessel and shall be equipped with skids, mountings or accessories to facilitate mechanical handling. Tank-vehicles, tank-wagons, non-metallic tanks, intermediate bulk containers (IBCs), gas cylinders and large receptacles are not considered to fall within the definition for portable tanks;

*Shell* means the part of the portable tank which retains the non-refrigerated liquefied gas intended for carriage (tank proper), including openings and their closures, but does not include service equipment or external structural equipment;

*Service equipment* means measuring instruments and filling, discharge, venting, safety and insulating devices;

*Structural equipment* means the reinforcing, fastening, protective and stabilizing members external to the shell;

*Maximum allowable working pressure (MAWP)* means a pressure that shall be not less than the highest of the following pressures measured at the top of the shell while in operating position, but in no case less than 7 bar:

- (a) The maximum effective gauge pressure allowed in the shell during filling or discharge; or
- (b) The maximum effective gauge pressure to which the shell is designed, which shall be:
  - (i) for a non-refrigerated liquefied gas listed in the portable tank instruction T50 in 4.2.5.2.6, the MAWP (in bar) given in T50 portable tank instruction for that gas;
  - (ii) for other non-refrigerated liquefied gases, not less than the sum of:
    - the absolute vapour pressure (in bar) of the non-refrigerated liquefied gas at the design reference temperature minus 1 bar; and
    - the partial pressure (in bar) of air or other gases in the ullage space being determined by the design reference temperature and the liquid phase expansion due to an increase of the mean bulk temperature of  $t_r$  -  $t_f$  ( $t_f$  = filling temperature, usually 15 °C,  $t_r$  = maximum mean bulk temperature, 50 °C);

*Design pressure* means the pressure to be used in calculations required by a recognized pressure vessel code. The design pressure shall be not less than the highest of the following pressures:

- (a) The maximum effective gauge pressure allowed in the shell during filling or discharge; or
- (b) The sum of:
  - (i) the maximum effective gauge pressure to which the shell is designed as defined in (b) of the MAWP definition (see above); and
  - (ii) a head pressure determined on the basis of the static forces specified in 6.7.3.2.9, but not less than 0.35 bar;

*Test pressure* means the maximum gauge pressure at the top of the shell during the pressure test;

*Leakproofness test* means a test using gas subjecting the shell and its service equipment to an effective internal pressure of not less than 25% of the MAWP;

*Maximum permissible gross mass (MPGM)* means the sum of the tare mass of the portable tank and the heaviest load authorized for carriage;

*Reference steel* means a steel with a tensile strength of  $370 \text{ N/mm}^2$  and an elongation at fracture of 27%;

*Mild steel* means a steel with a guaranteed minimum tensile strength of  $360 \text{ N/mm}^2$  to  $440 \text{ N/mm}^2$  and a guaranteed minimum elongation at fracture conforming to 6.7.3.3.3;

*Design temperature range* for the shell shall be  $-40 \text{ }^\circ\text{C}$  to  $50 \text{ }^\circ\text{C}$  for non-refrigerated liquefied gases carried under ambient conditions. More severe design temperatures shall be considered for portable tanks subjected to severe climatic conditions;

*Design reference temperature* means the temperature at which the vapour pressure of the contents is determined for the purpose of calculating the MAWP. The design reference temperature shall be less than the critical temperature of the non-refrigerated liquefied gas intended to be carried to ensure that the gas at all times is liquefied. This value for each portable tank type is as follows:

- (a) Shell with a diameter of 1.5 metres or less:  $65 \text{ }^\circ\text{C}$ ;
- (b) Shell with a diameter of more than 1.5 metres:
  - (i) without insulation or sun shield:  $60 \text{ }^\circ\text{C}$ ;
  - (ii) with sun shield (see 6.7.3.2.12):  $55 \text{ }^\circ\text{C}$ ; and
  - (iii) with insulation (see 6.7.3.2.12) :  $50 \text{ }^\circ\text{C}$ ;

*Filling density* means the average mass of non-refrigerated liquefied gas per litre of shell capacity (kg/l). The filling density is given in portable tank instruction T50 in 4.2.5.2.6.

### **6.7.3.2 General design and construction requirements**

- 6.7.3.2.1 Shells shall be designed and constructed in accordance with the requirements of a pressure vessel code recognized by the competent authority. Shells shall be made of steel suitable for forming. The materials shall in principle conform to national or international material standards. For welded shells, only a material whose weldability has been fully demonstrated

shall be used. Welds shall be skilfully made and afford complete safety. When the manufacturing process or the materials make it necessary, the shells shall be suitably heat-treated to guarantee adequate toughness in the weld and in the heat affected zones. In choosing the material the design temperature range shall be taken into account with respect to risk of brittle fracture, to stress corrosion cracking and to resistance to impact. When fine grain steel is used, the guaranteed value of the yield strength shall be not more than 460 N/mm<sup>2</sup> and the guaranteed value of the upper limit of the tensile strength shall be not more than 725 N/mm<sup>2</sup> according to the material specification. Portable tank materials shall be suitable for the external environment in which they may be carried.

- 6.7.3.2.2 Portable tank shells, fittings and pipework shall be constructed of materials which are:
- (a) Substantially immune to attack by the non-refrigerated liquefied gas(es) intended to be carried; or
  - (b) Properly passivated or neutralized by chemical reaction.
- 6.7.3.2.3 Gaskets shall be made of materials compatible with the non-refrigerated liquefied gas(es) intended to be carried.
- 6.7.3.2.4 Contact between dissimilar metals which could result in damage by galvanic action shall be avoided.
- 6.7.3.2.5 The materials of the portable tank, including any devices, gaskets, and accessories, shall not adversely affect the non-refrigerated liquefied gas(es) intended for carriage in the portable tank.
- 6.7.3.2.6 Portable tanks shall be designed and constructed with supports to provide a secure base during carriage and with suitable lifting and tie-down attachments.
- 6.7.3.2.7 Portable tanks shall be designed to withstand, without loss of contents, at least the internal pressure due to the contents, and the static, dynamic and thermal loads during normal conditions of handling and carriage. The design shall demonstrate that the effects of fatigue, caused by repeated application of these loads through the expected life of the portable tank, have been taken into account.
- 6.7.3.2.8 Shells shall be designed to withstand an external pressure of at least 0.4 bar (gauge pressure) above the internal pressure without permanent deformation. When the shell is to be subjected to a significant vacuum before filling or during discharge it shall be designed to withstand an external pressure of at least 0.9 bar (gauge pressure) above the internal pressure and shall be proven at that pressure.
- 6.7.3.2.9 Portable tanks and their fastenings shall, under the maximum permissible load, be capable of absorbing the following separately applied static forces:
- (a) In the direction of travel: twice the MPGM multiplied by the acceleration due to gravity (g)<sup>1</sup>;
  - (b) Horizontally at right angles to the direction of travel: the MPGM (when the direction of travel is not clearly determined, the forces shall be equal to twice the MPGM) multiplied by the acceleration due to gravity (g)<sup>1</sup>;
  - (c) Vertically upwards: the MPGM multiplied by the acceleration due to gravity (g)<sup>1</sup>; and
  - (d) Vertically downwards: twice the MPGM (total loading including the effect of gravity) multiplied by the acceleration due to gravity (g)<sup>1</sup>.

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<sup>1</sup> For calculation purposes  $g = 9.81 \text{ m/s}^2$ .

- 6.7.3.2.10 Under each of the forces in 6.7.3.2.9, the safety factor to be observed shall be as follows:
- (a) For steels having a clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed yield strength; or
  - (b) For steels with no clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed 0.2% proof strength and, for austenitic steels, the 1% proof strength.
- 6.7.3.2.11 The values of yield strength or proof strength shall be the values according to national or international material standards. When austenitic steels are used, the specified minimum values of yield strength and proof strength according to the material standards may be increased by up to 15% when these greater values are attested in the material inspection certificate. When no material standard exists for the steel in question, the value of yield strength or proof strength used shall be approved by the competent authority.
- 6.7.3.2.12 When the shells intended for the carriage of non-refrigerated liquefied gases are equipped with thermal insulation, the thermal insulation systems shall satisfy the following requirements:
- (a) It shall consist of a shield covering not less than the upper third but not more than the upper half of the surface of the shell and separated from the shell by an air space about 40 mm across;
  - (b) It shall consist of a complete cladding of adequate thickness of insulating materials protected so as to prevent the ingress of moisture and damage under normal conditions of carriage and so as to provide a thermal conductance of not more than  $0.67 \text{ (W.m}^{-2}\text{.K}^{-1}\text{)}$ ;
  - (c) When the protective covering is so closed as to be gas-tight, a device shall be provided to prevent any dangerous pressure from developing in the insulating layer in the event of inadequate gas tightness of the shell or of its items of equipment; and
  - (d) The thermal insulation shall not inhibit access to the fittings and discharge devices.
- 6.7.3.2.13 Portable tanks intended for the carriage of flammable non-refrigerated liquefied gases shall be capable of being electrically earthed.

### **6.7.3.3**      *Design criteria*

- 6.7.3.3.1 Shells shall be of a circular cross-section.
- 6.7.3.3.2 Shells shall be designed and constructed to withstand a test pressure not less than 1.3 times the design pressure. The shell design shall take into account the minimum MAWP values provided in portable tank instruction T50 in 4.2.5.2.6 for each non-refrigerated liquefied gas intended for carriage. Attention is drawn to the minimum shell thickness requirements for these shells specified in 6.7.3.4.
- 6.7.3.3.3 For steels exhibiting a clearly defined yield point or characterized by a guaranteed proof strength (0.2% proof strength, generally, or 1% proof strength for austenitic steels) the primary membrane stress  $\sigma$  (sigma) in the shell shall not exceed  $0.75 R_e$  or  $0.50 R_m$ , whichever is lower, at the test pressure, where:
- $R_e$  = yield strength in  $\text{N/mm}^2$ , or 0.2% proof strength or, for austenitic steels, 1% proof stress;
- $R_m$  = minimum tensile strength in  $\text{N/mm}^2$ .



- 6.7.3.3.3.1 The values of Re and Rm to be used shall be the specified minimum values according to national or international material standards. When austenitic steels are used, the specified minimum values for Re and Rm according to the material standards may be increased by up to 15% when these greater values are attested in the material inspection certificate. When no material standard exists for the steel in question, the values of Re and Rm used shall be approved by the competent authority or its authorized body.
- 6.7.3.3.3.2 Steels which have a Re/Rm ratio of more than 0.85 are not allowed for the construction of welded shells. The values of Re and Rm to be used in determining this ratio shall be the values specified in the material inspection certificate.
- 6.7.3.3.3.3 Steels used in the construction of shells shall have an elongation at fracture, in %, of not less than 10 000/Rm with an absolute minimum of 16% for fine grain steels and 20% for other steels.
- 6.7.3.3.3.4 For the purpose of determining actual values for materials, it shall be noted that for sheet metal, the axis of the tensile test specimen shall be at right angles (transversely) to the direction of rolling. The permanent elongation at fracture shall be measured on test specimens of rectangular cross sections in accordance with ISO 6892:1998 using a 50 mm gauge length.

#### **6.7.3.4 Minimum shell thickness**

- 6.7.3.4.1 The minimum shell thickness shall be the greater thickness based on:
- (a) The minimum thickness determined in accordance with the requirements in 6.7.3.4; and
  - (b) The minimum thickness determined in accordance with the recognized pressure vessel code including the requirements in 6.7.3.3.
- 6.7.3.4.2 The cylindrical portions, ends (heads) and manhole covers of shells of not more than 1.80 m in diameter shall be not less than 5 mm thick in the reference steel or of equivalent thickness in the steel to be used. Shells of more than 1.80 m in diameter shall be not less than 6 mm thick in the reference steel or of equivalent thickness in the steel to be used.
- 6.7.3.4.3 The cylindrical portions, ends (heads) and manhole covers of all shells shall be not less than 4 mm thick regardless of the material of construction.
- 6.7.3.4.4 The equivalent thickness of a steel other than the thickness prescribed for the reference steel in 6.7.3.4.2 shall be determined using the following formula:

$$e_1 = \frac{21,4e_0}{\sqrt[3]{Rm_1 \times A_1}}$$

where:

- $e_1$  = required equivalent thickness (in mm) of the steel to be used;
- $e_0$  = minimum thickness (in mm) for the reference steel specified in 6.7.3.4.2;
- $Rm_1$  = guaranteed minimum tensile strength (in N/mm<sup>2</sup>) of the steel to be used (see 6.7.3.3.3);
- $A_1$  = guaranteed minimum elongation at fracture (in %) of the steel to be used according to national or international standards.



- 6.7.3.4.5 In no case shall the wall thickness be less than that prescribed in 6.7.3.4.1 to 6.7.3.4.3. All parts of the shell shall have a minimum thickness as determined by 6.7.3.4.1 to 6.7.3.4.3. This thickness shall be exclusive of any corrosion allowance.
- 6.7.3.4.6 When mild steel is used (see 6.7.3.1), calculation using the formula in 6.7.3.4.4 is not required.
- 6.7.3.4.7 There shall be no sudden change of plate thickness at the attachment of the ends (heads) to the cylindrical portion of the shell.

**6.7.3.5      *Service equipment***

- 6.7.3.5.1 Service equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during handling and carriage. When the connection between the frame and the shell allows relative movement between the sub-assemblies, the equipment shall be so fastened as to permit such movement without risk of damage to working parts. The external discharge fittings (pipe sockets, shut-off devices), the internal stop-valve and its seating shall be protected against the danger of being wrenched off by external forces (for example using shear sections). The filling and discharge devices (including flanges or threaded plugs) and any protective caps shall be capable of being secured against unintended opening.
- 6.7.3.5.2 All openings with a diameter of more than 1.5 mm in shells of portable tanks, except openings for pressure-relief devices, inspection openings and closed bleed holes, shall be fitted with at least three mutually independent shut-off devices in series, the first being an internal stop-valve, excess flow valve or equivalent device, the second being an external stop-valve and the third being a blank flange or equivalent device.
- 6.7.3.5.2.1 When a portable tank is fitted with an excess flow valve, the excess flow valve shall be so fitted that its seating is inside the shell or inside a welded flange or, when fitted externally, its mountings shall be designed so that in the event of impact its effectiveness shall be maintained. The excess flow valves shall be selected and fitted so as to close automatically when the rated flow specified by the manufacturer is reached. Connections and accessories leading to or from such a valve shall have a capacity for a flow more than the rated flow of the excess flow valve.
- 6.7.3.5.3 For filling and discharge openings, the first shut-off device shall be an internal stop-valve and the second shall be a stop-valve placed in an accessible position on each discharge and filling pipe.
- 6.7.3.5.4 For filling and discharge bottom openings of portable tanks intended for the carriage of flammable and/or toxic non-refrigerated liquefied gases the internal stop-valve shall be a quick closing safety device which closes automatically in the event of unintended movement of the portable tank during filling or discharge or fire engulfment. Except for portable tanks having a capacity of not more than 1 000 litres, it shall be possible to operate this device by remote control.
- 6.7.3.5.5 In addition to filling, discharge and gas pressure equalizing orifices, shells may have openings in which gauges, thermometers and manometers can be fitted. Connections for such instruments shall be made by suitable welded nozzles or pockets and not be screwed connections through the shell.
- 6.7.3.5.6 All portable tanks shall be fitted with manholes or other inspection openings of suitable size to allow for internal inspection and adequate access for maintenance and repair of the interior.

- 6.7.3.5.7 External fittings shall be grouped together so far as reasonably practicable.
- 6.7.3.5.8 Each connection on a portable tank shall be clearly marked to indicate its function.
- 6.7.3.5.9 Each stop-valve or other means of closure shall be designed and constructed to a rated pressure not less than the MAWP of the shell taking into account the temperatures expected during carriage. All stop-valves with a screwed spindle shall close by a clockwise motion of the handwheel. For other stop-valves the position (open and closed) and direction of closure shall be clearly indicated. All stop-valves shall be designed to prevent unintentional opening.
- 6.7.3.5.10 Piping shall be designed, constructed and installed so as to avoid the risk of damage due to thermal expansion and contraction, mechanical shock and vibration. All piping shall be of suitable metallic material. Welded pipe joints shall be used wherever possible.
- 6.7.3.5.11 Joints in copper tubing shall be brazed or have an equally strong metal union. The melting point of brazing materials shall be no lower than 525 °C. The joints shall not decrease the strength of tubing as may happen when cutting threads.
- 6.7.3.5.12 The burst pressure of all piping and pipe fittings shall be not less than the highest of four times the MAWP of the shell or four times the pressure to which it may be subjected in service by the action of a pump or other device (except pressure-relief devices).
- 6.7.3.5.13 Ductile metals shall be used in the construction of valves and accessories.

**6.7.3.6** *Bottom openings*

- 6.7.3.6.1 Certain non-refrigerated liquefied gases shall not be carried in portable tanks with bottom openings when portable tank instruction T50 in 4.2.5.2.6 indicates that bottom openings are not allowed. There shall be no openings below the liquid level of the shell when it is filled to its maximum permissible filling limit.

**6.7.3.7** *Pressure-relief devices*

- 6.7.3.7.1 Portable tanks shall be provided with one or more spring-loaded pressure-relief devices. The pressure-relief devices shall open automatically at a pressure not less than the MAWP and be fully open at a pressure equal to 110% of the MAWP. These devices shall, after discharge, close at a pressure not lower than 10% below the pressure at which discharge starts and shall remain closed at all lower pressures. The pressure-relief devices shall be of a type that will resist dynamic forces including liquid surge. Frangible discs not in series with a spring-loaded pressure-relief device are not permitted.
- 6.7.3.7.2 Pressure-relief devices shall be designed to prevent the entry of foreign matter, the leakage of gas and the development of any dangerous excess pressure.
- 6.7.3.7.3 Portable tanks intended for the carriage of certain non-refrigerated liquefied gases identified in portable tank instruction T50 in 4.2.5.2.6 shall have a pressure-relief device approved by the competent authority. Unless a portable tank in dedicated service is fitted with an approved relief device constructed of materials compatible with the load, such device shall comprise a frangible disc preceding a spring-loaded device. The space between the frangible disc and the device shall be provided with a pressure gauge or a suitable tell-tale indicator. This arrangement permits the detection of disc rupture, pinholing or leakage which could cause a malfunction of the pressure-relief device. The frangible discs shall rupture at a nominal pressure 10% above the start-to-discharge pressure of the relief device.

- 6.7.3.7.4 In the case of multi-purpose portable tanks, the pressure-relief devices shall open at a pressure indicated in 6.7.3.7.1 for the gas having the highest maximum allowable pressure of the gases allowed to be carried in the portable tank.

#### 6.7.3.8 *Capacity of relief devices*

- 6.7.3.8.1 The combined delivery capacity of the relief devices shall be sufficient that, in the event of total fire engulfment, the pressure (including accumulation) inside the shell does not exceed 120% of the MAWP. Spring-loaded relief devices shall be used to achieve the full relief capacity prescribed. In the case of multi-purpose tanks, the combined delivery capacity of the pressure-relief devices shall be taken for the gas which requires the highest delivery capacity of the gases allowed to be carried in portable tanks.

- 6.7.3.8.1.1 To determine the total required capacity of the relief devices, which shall be regarded as being the sum of the individual capacities of the several devices, the following formulae <sup>4</sup> shall be used:

$$Q = 12.4 \frac{FA^{0.82}}{LC} \sqrt{\frac{ZT}{M}}$$

where:

Q = minimum required rate of discharge in cubic metres of air per second (m<sup>3</sup>/s) at standard conditions: 1 bar and 0 °C (273 K);

F = is a coefficient with the following value:

for uninsulated shells: F = 1;

for insulated shells: F = U(649-t)/13.6 but in no case is less than 0.25

where:

U = thermal conductance of the insulation, in Kw.m<sup>-2</sup>.K<sup>-1</sup>, at 38 °C;

t = actual temperature of the non-refrigerated liquefied gas during filling (°C); when this temperature is unknown, let t=15 °C;

The value of F given above for insulated shells may be taken provided that the insulation is in accordance with 6.7.3.8.1.2;

where:

A = total external surface area of shell in square metres;

Z = the gas compressibility factor in the accumulating condition (when this factor is unknown, let Z=1.0);

T = absolute temperature in Kelvin (°C + 273) above the pressure relief devices in the accumulating condition;

<sup>4</sup> This formula applies only to non-refrigerated liquefied gases which have critical temperatures well above the temperature at the accumulating condition. For gases which have critical temperatures near or below the temperature at the accumulating condition, the calculation of the pressure-relief device delivery capacity shall consider further thermodynamic properties of the gas (see for example CGA S-1.2-2003 "Pressure Relief Device Standards - Part 2 - Cargo and Portable Tanks for Compressed Gases").

L = the latent heat of vaporization of the liquid, in kJ/kg, in the accumulating condition;

M = molecular mass of the discharged gas;

C = a constant which is derived from one of the following formulae as a function of the ratio k of specific heats

$$k = \frac{c_p}{c_v}$$

where

$c_p$  is the specific heat at constant pressure; and

$c_v$  is the specific heat at constant volume.

when  $k > 1$ :

$$C = \sqrt{k \left( \frac{2}{k+1} \right)^{\frac{k+1}{k-1}}}$$

when  $k = 1$  or  $k$  is unknown:

$$C = \frac{1}{\sqrt{e}} = 0.607$$

where e is the mathematical constant 2.7183

C may also be taken from the following table:

| k    | C     | k    | C     | k    | C     |
|------|-------|------|-------|------|-------|
| 1.00 | 0.607 | 1.26 | 0.660 | 1.52 | 0.704 |
| 1.02 | 0.611 | 1.28 | 0.664 | 1.54 | 0.707 |
| 1.04 | 0.615 | 1.30 | 0.667 | 1.56 | 0.710 |
| 1.06 | 0.620 | 1.32 | 0.671 | 1.58 | 0.713 |
| 1.08 | 0.624 | 1.34 | 0.674 | 1.60 | 0.716 |
| 1.10 | 0.628 | 1.36 | 0.678 | 1.62 | 0.719 |
| 1.12 | 0.633 | 1.38 | 0.681 | 1.64 | 0.722 |
| 1.14 | 0.637 | 1.40 | 0.685 | 1.66 | 0.725 |
| 1.16 | 0.641 | 1.42 | 0.688 | 1.68 | 0.728 |
| 1.18 | 0.645 | 1.44 | 0.691 | 1.70 | 0.731 |
| 1.20 | 0.649 | 1.46 | 0.695 | 2.00 | 0.770 |
| 1.22 | 0.652 | 1.48 | 0.698 | 2.20 | 0.793 |
| 1.24 | 0.656 | 1.50 | 0.701 |      |       |

#### 6.7.3.8.1.2

Insulation systems, used for the purpose of reducing the venting capacity, shall be approved by the competent authority or its authorized body. In all cases, insulation systems approved for this purpose shall:

- (a) Remain effective at all temperatures up to 649 °C; and
- (b) Be jacketed with a material having a melting point of 700 °C or greater.

**6.7.3.9      *Marking of pressure-relief devices***

6.7.3.9.1      Every pressure-relief device shall be plainly and permanently marked with the following particulars:

- (a)      The pressure (in bar or kPa) at which it is set to discharge;
- (b)      The allowable tolerance at the discharge pressure for spring-loaded devices;
- (c)      The reference temperature corresponding to the rated pressure for frangible discs; and
- (d)      The rated flow capacity of the device in standard cubic metres of air per second (m<sup>3</sup>/s).

When practicable, the following information shall also be shown:

- (e)      The manufacturer's name and relevant catalogue number of the device.

6.7.3.9.2      The rated flow capacity marked on the pressure-relief devices shall be determined according to ISO 4126-1:1991.

**6.7.3.10      *Connections to pressure-relief devices***

6.7.3.10.1      Connections to pressure-relief devices shall be of sufficient size to enable the required discharge to pass unrestricted to the safety device. No stop-valve shall be installed between the shell and the pressure-relief devices except when duplicate devices are provided for maintenance or other reasons and the stop-valves serving the devices actually in use are locked open or the stop-valves are interlocked so that at least one of the duplicate devices is always operable and capable of meeting the requirements of 6.7.3.8. There shall be no obstruction in an opening leading to a vent or pressure-relief device which might restrict or cut-off the flow from the shell to that device. Vents from the pressure-relief devices, when used, shall deliver the relieved vapour or liquid to the atmosphere in conditions of minimum back-pressure on the relieving device.

**6.7.3.11      *Siting of pressure-relief devices***

6.7.3.11.1      Each pressure-relief device inlet shall be situated on top of the shell in a position as near the longitudinal and transverse centre of the shell as reasonably practicable. All pressure relief device inlets shall under maximum filling conditions be situated in the vapour space of the shell and the devices shall be so arranged as to ensure that the escaping vapour is discharged unrestrictedly. For flammable non-refrigerated liquefied gases, the escaping vapour shall be directed away from the shell in such a manner that it cannot impinge upon the shell. Protective devices which deflect the flow of vapour are permissible provided the required relief-device capacity is not reduced.

6.7.3.11.2      Arrangements shall be made to prevent access to the pressure-relief devices by unauthorized persons and to protect the devices from damage caused by the portable tank overturning.

**6.7.3.12      *Gauging devices***

6.7.3.12.1      Unless a portable tank is intended to be filled by weight it shall be equipped with one or more gauging devices. Glass level-gauges and gauges made of other fragile material, which are in direct communication with the contents of the shell shall not be used.

**6.7.3.13      *Portable tank supports, frameworks, lifting and tie-down attachments***

- 6.7.3.13.1      Portable tanks shall be designed and constructed with a support structure to provide a secure base during carriage. The forces specified in 6.7.3.2.9 and the safety factor specified in 6.7.3.2.10 shall be considered in this aspect of the design. Skids, frameworks, cradles or other similar structures are acceptable.
- 6.7.3.13.2      The combined stresses caused by portable tank mountings (e.g. cradles, frameworks, etc.) and portable tank lifting and tie-down attachments shall not cause excessive stress in any portion of the shell. Permanent lifting and tie-down attachments shall be fitted to all portable tanks. Preferably they shall be fitted to the portable tank supports but may be secured to reinforcing plates located on the shell at the points of support.
- 6.7.3.13.3      In the design of supports and frameworks the effects of environmental corrosion shall be taken into account.
- 6.7.3.13.4      Forklift pockets shall be capable of being closed off. The means of closing forklift pockets shall be a permanent part of the framework or permanently attached to the framework. Single compartment portable tanks with a length less than 3.65 m need not have closed off forklift pockets provided that:
- (a)      The shell and all the fittings are well protected from being hit by the forklift blades; and
  - (b)      The distance between the centres of the forklift pockets is at least half of the maximum length of the portable tank.
- 6.7.3.13.5      When portable tanks are not protected during carriage, according to 4.2.2.3, the shells and service equipment shall be protected against damage to the shell and service equipment resulting from lateral or longitudinal impact or overturning. External fittings shall be protected so as to preclude the release of the shell contents upon impact or overturning of the portable tank on its fittings. Examples of protection include:
- (a)      Protection against lateral impact which may consist of longitudinal bars protecting the shell on both sides at the level of the median line;
  - (b)      Protection of the portable tank against overturning which may consist of reinforcement rings or bars fixed across the frame;
  - (c)      Protection against rear impact which may consist of a bumper or frame;
  - (d)      Protection of the shell against damage from impact or overturning by use of an ISO frame in accordance with ISO 1496-3:1995.

**6.7.3.14      *Design approval***

- 6.7.3.14.1      The competent authority or its authorized body shall issue a design approval certificate for any new design of a portable tank. This certificate shall attest that a portable tank has been surveyed by that authority, is suitable for its intended purpose and meets the requirements of this Chapter and where appropriate the provisions for gases provided in portable tank instruction T50 in 4.2.5.2.6. When a series of portable tanks are manufactured without change in the design, the certificate shall be valid for the entire series. The certificate shall refer to the prototype test report, the gases allowed to be carried, the materials of construction of the shell and an approval number. The approval number shall consist of the distinguishing sign or mark of the State in whose territory the approval was granted, i.e. the distinguishing sign for use in international traffic, as prescribed by the Convention on Road

Traffic, Vienna 1968, and a registration number. Any alternative arrangements according to 6.7.1.2 shall be indicated on the certificate. A design approval may serve for the approval of smaller portable tanks made of materials of the same kind and thickness, by the same fabrication techniques and with identical supports, equivalent closures and other appurtenances.

6.7.3.14.2 The prototype test report for the design approval shall include at least the following:

- (a) The results of the applicable framework test specified in ISO 1496-3:1995;
- (b) The results of the initial inspection and test in 6.7.3.15.3; and
- (c) The results of the impact test in 6.7.3.15.1, when applicable.

#### **6.7.3.15** *Inspection and testing*

6.7.3.15.1 Portable tanks meeting the definition of container in the International Convention for Safe Containers (CSC), 1972, as amended, shall not be used unless they are successfully qualified by subjecting a representative prototype of each design to the Dynamic, Longitudinal Impact Test prescribed in the Manual of Tests and Criteria, Part IV, Section 41.

6.7.3.15.2 The shell and items of equipment of each portable tank shall be inspected and tested before being put into service for the first time (initial inspection and test) and thereafter at not more than five-year intervals (5 year periodic inspection and test) with an intermediate periodic inspection and test (2.5 year periodic inspection and test) midway between the 5 year periodic inspections and tests. The 2.5 year inspection and test may be performed within 3 months of the specified date. An exceptional inspection and test shall be performed regardless of the last periodic inspection and test when necessary according to 6.7.3.15.7.

6.7.3.15.3 The initial inspection and test of a portable tank shall include a check of the design characteristics, an internal and external examination of the portable tank and its fittings with due regard to the non-refrigerated liquefied gases to be carried, and a pressure test referring to the test pressures according to 6.7.3.3.2. The pressure test may be performed as a hydraulic test or by using another liquid or gas with the agreement of the competent authority or its authorized body. Before the portable tank is placed into service, a leakproofness test and a test of the satisfactory operation of all service equipment shall also be performed. When the shell and its fittings have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test. All welds subject to full stress level in the shell shall be inspected during the initial test by radiographic, ultrasonic, or another suitable non-destructive test method. This does not apply to the jacket.

6.7.3.15.4 The 5 year periodic inspection and test shall include an internal and external examination and, as a general rule, a hydraulic pressure test. Sheathing, thermal insulation and the like shall be removed only to the extent required for reliable appraisal of the condition of the portable tank. When the shell and equipment have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.

6.7.3.15.5 The intermediate 2.5 year periodic inspection and test shall at least include an internal and external examination of the portable tank and its fittings with due regard to the non-refrigerated liquefied gases intended to be carried, a leakproofness test and a check of the satisfactory operation of all service equipment. Sheathing thermal insulation and the like shall be removed only to the extent required for reliable appraisal of the condition of the portable tank. For portable tanks intended for the carriage of a single non-refrigerated liquefied gas, the 2.5 year internal examination may be waived or substituted by other test methods or inspection procedures specified by the competent authority or its authorized body.



- 6.7.3.15.6 A portable tank may not be filled and offered for carriage after the date of expiry of the last 5 year or 2.5 year periodic inspection and test as required by 6.7.3.15.2. However a portable tank filled prior to the date of expiry of the last periodic inspection and test may be carried for a period not to exceed three months beyond the date of expiry of the last periodic test or inspection. In addition, a portable tank may be carried after the date of expiry of the last periodic test and inspection:
- (a) After emptying but before cleaning, for purposes of performing the next required test or inspection prior to refilling; and
  - (b) Unless otherwise approved by the competent authority, for a period not to exceed six months beyond the date of expiry of the last periodic test or inspection, in order to allow the return of dangerous goods for proper disposal or recycling. Reference to this exemption shall be mentioned in the transport document.
- 6.7.3.15.7 The exceptional inspection and test is necessary when the portable tank shows evidence of damaged or corroded areas, or leakage, or other conditions that indicate a deficiency that could affect the integrity of the portable tank. The extent of the exceptional inspection and test shall depend on the amount of damage or deterioration of the portable tank. It shall include at least the 2.5 year inspection and test according to 6.7.3.15.5.
- 6.7.3.15.8 The internal and external examinations shall ensure that:
- (a) The shell is inspected for pitting, corrosion, or abrasions, dents, distortions, defects in welds or any other conditions, including leakage, that might render the portable tank unsafe for carriage;
  - (b) The piping, valves, and gaskets are inspected for corroded areas, defects, or any other conditions, including leakage, that might render the portable tank unsafe for filling, discharge or carriage;
  - (c) Devices for tightening manhole covers are operative and there is no leakage at manhole covers or gaskets;
  - (d) Missing or loose bolts or nuts on any flanged connection or blank flange are replaced or tightened;
  - (e) All emergency devices and valves are free from corrosion, distortion and any damage or defect that could prevent their normal operation. Remote closure devices and self-closing stop-valves shall be operated to demonstrate proper operation;
  - (f) Required markings on the portable tank are legible and in accordance with the applicable requirements; and
  - (g) The framework, the supports and the arrangements for lifting the portable tank are in satisfactory condition.
- 6.7.3.15.9 The inspections and tests in 6.7.3.15.1, 6.7.3.15.3, 6.7.3.15.4, 6.7.3.15.5 and 6.7.3.15.7 shall be performed or witnessed by an expert approved by the competent authority or its authorized body. When the pressure test is a part of the inspection and test, the test pressure shall be the one indicated on the data plate of the portable tank. While under pressure, the portable tank shall be inspected for any leaks in the shell, piping or equipment.



6.7.3.15.10 In all cases when cutting, burning or welding operations on the shell have been effected, that work shall be to the approval of the competent authority or its authorized body taking into account the pressure vessel code used for the construction of the shell. A pressure test to the original test pressure shall be performed after the work is completed.

6.7.3.15.11 When evidence of any unsafe condition is discovered, the portable tank shall not be returned to service until it has been corrected and the pressure test is repeated and passed.

#### 6.7.3.16 *Marking*

6.7.3.16.1 Every portable tank shall be fitted with a corrosion resistant metal plate permanently attached to the portable tank in a conspicuous place readily accessible for inspection. When for reasons of portable tank arrangements, the plate cannot be permanently attached to the shell, the shell shall be marked with at least the information required by the pressure vessel code. As a minimum at least the following information shall be marked on the plate by stamping or by any other similar method:

|  |          |          |  |
|--|----------|----------|--|
| Country of manufacture   |          |          |  |
| U  | Approval | Approval | For Alternative Arrangements (see 6.7.1.2) |
| N  | country  | number   | "AA"                                       |
| Manufacturer's name or mark  |          |          |  |
| Manufacturer's serial number   |          |          |  |
| Authorized body for the design approval                                |          |          |  |
| Owner's registration number  |          |          |  |
| Year of manufacture  |          |          |  |
| Pressure vessel code to which the shell is designed                    |          |          |  |
| Test pressure _____ bar/kPa gauge <sup>2</sup>                         |          |          |  |
| MAWP _____ bar/kPa gauge <sup>2</sup>                                  |          |          |  |
| External design pressure <sup>5</sup> _____ bar/kPa gauge <sup>2</sup> |          |          |  |
| Design temperature range _____ °C to _____ °C                          |          |          |  |
| Design reference temperature _____ °C                                  |          |          |  |
| Water capacity at 20°C _____ litres                                    |          |          |  |
| Initial pressure test date and witness identification                  |          |          |  |
| Shell material(s) and material standard reference(s)                   |          |          |  |
| Equivalent thickness in reference steel _____ mm                       |          |          |  |
| Date and type of most recent periodic test(s)                          |          |          |  |
| Month _____ Year _____ Test pressure _____ bar/kPa gauge <sup>2</sup>  |          |          |  |
| Stamp of expert who performed or witnessed the most recent test        |          |          |  |

6.7.3.16.2 The following information shall be marked either on the portable tank itself or on a metal plate firmly secured to the portable tank:

Name of the operator  
 Name of non-refrigerated liquefied gas(es) permitted for carriage  
 Maximum permissible load mass for each non-refrigerated liquefied gas permitted \_\_\_\_\_ kg  
 Maximum permissible gross mass (MPGM) \_\_\_\_\_ kg  
 Unladen (tare) mass \_\_\_\_\_ kg

**NOTE:** For the identification of the non-refrigerated liquefied gases being carried, see also Part 5.

6.7.3.16.3 If a portable tank is designed and approved for handling in open seas, the words "OFFSHORE PORTABLE TANK" shall be marked on the identification plate.

<sup>2</sup> The unit used shall be marked.

<sup>5</sup> See 6.7.3.2.8.

#### **6.7.4 Requirements for the design, construction, inspection and testing of portable tanks intended for the carriage of refrigerated liquefied gases**

##### **6.7.4.1 Definitions**

For the purposes of this section:

*Alternative arrangement* means an approval granted by the competent authority for a portable tank or MEGC that has been designed, constructed or tested to technical requirements or testing methods other than those specified in this Chapter;

*Portable tank* means a thermally insulated multimodal tank having a capacity of more than 450 litres fitted with service equipment and structural equipment necessary for the carriage of refrigerated liquefied gases. The portable tank shall be capable of being filled and discharged without the removal of its structural equipment. It shall possess stabilizing members external to the tank, and shall be capable of being lifted when full. It shall be designed primarily to be loaded onto a vehicle, wagon or sea-going or inland navigation vessel and shall be equipped with skids, mountings or accessories to facilitate mechanical handling. Tank-vehicles, tank-wagons, non-metallic tanks, intermediate bulk containers (IBCs), gas cylinders and large receptacles are not considered to fall within the definition for portable tanks;

*Tank* means a construction which normally consists of either :

- (a) A jacket and one or more inner shells where the space between the shell(s) and the jacket is exhausted of air (vacuum insulation) and may incorporate a thermal insulation system; or
- (b) A jacket and an inner shell with an intermediate layer of solid thermally insulating material (e.g. solid foam);

*Shell* means the part of the portable tank which retains the refrigerated liquefied gas intended for carriage, including openings and their closures, but does not include service equipment or external structural equipment;

*Jacket* means the outer insulation cover or cladding which may be part of the insulation system;

*Service equipment* means measuring instruments and filling, discharge, venting, safety, pressurizing, cooling and thermal insulation devices;

*Structural equipment* means the reinforcing, fastening, protective and stabilizing members external to the shell;

*Maximum allowable working pressure (MAWP)* means the maximum effective gauge pressure permissible at the top of the shell of a loaded portable tank in its operating position including the highest effective pressure during filling and discharge;

*Test pressure* means the maximum gauge pressure at the top of the shell during the pressure test;

*Leakproofness test* means a test using gas subjecting the shell and its service equipment, to an effective internal pressure not less than 90% of the MAWP;

*Maximum permissible gross mass (MPGM)* means the sum of the tare mass of the portable tank and the heaviest load authorized for carriage;

*Holding time* means the time that will elapse from the establishment of the initial filling condition until the pressure has risen due to heat influx to the lowest set pressure of the pressure limiting device(s);

*Reference steel* means a steel with a tensile strength of 370 N/mm<sup>2</sup> and an elongation at fracture of 27%;

*Minimum design temperature* means the temperature which is used for the design and construction of the shell not higher than the lowest (coldest) temperature (service temperature) of the contents during normal conditions of filling, discharge and carriage.

#### **6.7.4.2 General design and construction requirements**

- 6.7.4.2.1 Shells shall be designed and constructed in accordance with the requirements of a pressure vessel code recognized by the competent authority. Shells and jackets shall be made of metallic materials suitable for forming. Jackets shall be made of steel. Non-metallic materials may be used for the attachments and supports between the shell and jacket, provided their material properties at the minimum design temperature are proven to be sufficient. The materials shall in principle conform to national or international material standards. For welded shells and jackets only materials whose weldability has been fully demonstrated shall be used. Welds shall be skilfully made and afford complete safety. When the manufacturing process or the materials make it necessary, the shell shall be suitably heat treated to guarantee adequate toughness in the weld and in the heat affected zones. In choosing the material, the minimum design temperature shall be taken into account with respect to risk of brittle fracture, to hydrogen embrittlement, to stress corrosion cracking and to resistance to impact. When fine grain steel is used, the guaranteed value of the yield strength shall be not more than 460 N/mm<sup>2</sup> and the guaranteed value of the upper limit of the tensile strength shall be not more than 725 N/mm<sup>2</sup> in accordance with the material specifications. Portable tank materials shall be suitable for the external environment in which they may be carried.
- 6.7.4.2.2 Any part of a portable tank, including fittings, gaskets and pipe-work, which can be expected normally to come into contact with the refrigerated liquefied gas carried shall be compatible with that refrigerated liquefied gas.
- 6.7.4.2.3 Contact between dissimilar metals which could result in damage by galvanic action shall be avoided.
- 6.7.4.2.4 The thermal insulation system shall include a complete covering of the shell(s) with effective insulating materials. External insulation shall be protected by a jacket so as to prevent the ingress of moisture and other damage under normal carriage conditions.
- 6.7.4.2.5 When a jacket is so closed as to be gas-tight, a device shall be provided to prevent any dangerous pressure from developing in the insulation space.
- 6.7.4.2.6 Portable tanks intended for the carriage of refrigerated liquefied gases having a boiling point below minus (-) 182 °C at atmospheric pressure shall not include materials which may react with oxygen or oxygen enriched atmospheres in a dangerous manner, when located in parts of the thermal insulation when there is a risk of contact with oxygen or with oxygen enriched fluid.

- 6.7.4.2.7 Insulating materials shall not deteriorate unduly in service.
- 6.7.4.2.8 A reference holding time shall be determined for each refrigerated liquefied gas intended for carriage in a portable tank.
- 6.7.4.2.8.1 The reference holding time shall be determined by a method recognized by the competent authority on the basis of the following:
- (a) The effectiveness of the insulation system, determined in accordance with 6.7.4.2.8.2;
  - (b) The lowest set pressure of the pressure limiting device(s);
  - (c) The initial filling conditions;
  - (d) An assumed ambient temperature of 30 °C;
  - (e) The physical properties of the individual refrigerated liquefied gas intended to be carried.
- 6.7.4.2.8.2 The effectiveness of the insulation system (heat influx in watts) shall be determined by type testing the portable tank in accordance with a procedure recognized by the competent authority. This test shall consist of either:
- (a) A constant pressure test (for example at atmospheric pressure) when the loss of refrigerated liquefied gas is measured over a period of time; or
  - (b) A closed system test when the rise in pressure in the shell is measured over a period of time.
- When performing the constant pressure test, variations in atmospheric pressure shall be taken into account. When performing either tests corrections shall be made for any variation of the ambient temperature from the assumed ambient temperature reference value of 30 °C.
- NOTE:** For the determination of the actual holding time before each journey, refer to 4.2.3.7.
- 6.7.4.2.9 The jacket of a vacuum-insulated double-wall tank shall have either an external design pressure not less than 100 kPa (1 bar) (gauge pressure) calculated in accordance with a recognized technical code or a calculated critical collapsing pressure of not less than 200 kPa (2 bar) (gauge pressure). Internal and external reinforcements may be included in calculating the ability of the jacket to resist the external pressure.
- 6.7.4.2.10 Portable tanks shall be designed and constructed with supports to provide a secure base during carriage and with suitable lifting and tie-down attachments.
- 6.7.4.2.11 Portable tanks shall be designed to withstand, without loss of contents, at least the internal pressure due to the contents, and the static, dynamic and thermal loads during normal conditions of handling and carriage. The design shall demonstrate that the effects of fatigue, caused by repeated application of these loads through the expected life of the portable tank, have been taken into account.

6.7.4.2.12 Portable tanks and their fastenings under the maximum permissible load shall be capable of absorbing the following separately applied static forces:

- (a) In the direction of travel: twice the MPGM multiplied by the acceleration due to gravity (g)<sup>1</sup>;
- (b) Horizontally at right angles to the direction of travel: the MPGM (when the direction of travel is not clearly determined, the forces shall be equal to twice the MPGM) multiplied by the acceleration due to gravity (g)<sup>1</sup>;
- (c) Vertically upwards: the MPGM multiplied by the acceleration due to gravity (g)<sup>1</sup>; and
- (d) Vertically downwards: twice the MPGM (total loading including the effect of gravity) multiplied by the acceleration due to gravity (g)<sup>1</sup>.

6.7.4.2.13 Under each of the forces in 6.7.4.2.12, the safety factor to be observed shall be as follows:

- (a) For materials having a clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed yield strength; and
- (b) For materials with no clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed 0.2% proof strength or, in case of austenitic steels, the 1% proof strength.

6.7.4.2.14 The values of yield strength or proof strength shall be the values according to national or international material standards. When austenitic steels are used, the specified minimum values according to the material standards may be increased by up to 15% when greater values are attested in the material inspection certificate. When no material standard exists for the metal in question, or when non-metallic materials are used the values of yield strength or proof strength shall be approved by the competent authority.

6.7.4.2.15 Portable tanks intended for the carriage of flammable refrigerated liquefied gases shall be capable of being electrically earthed.

### **6.7.4.3**     *Design criteria*

6.7.4.3.1 Shells shall be of a circular cross section.

6.7.4.3.2 Shells shall be designed and constructed to withstand a test pressure not less than 1.3 times the MAWP. For shells with vacuum insulation the test pressure shall not be less than 1.3 times the sum of the MAWP and 100 kPa (1 bar). In no case shall the test pressure be less than 300 kPa (3 bar) (gauge pressure). Attention is drawn to the minimum shell thickness requirements, specified in 6.7.4.4.2 to 6.7.4.4.7.

6.7.4.3.3 For metals exhibiting a clearly defined yield point or characterized by a guaranteed proof strength (0.2% proof strength, generally, or 1% proof strength for austenitic steels) the primary membrane stress  $\sigma$  (sigma) in the shell shall not exceed 0.75 Re or 0.50 Rm, whichever is lower, at the test pressure, where:

Re = yield strength in N/mm<sup>2</sup>, or 0.2% proof strength or, for austenitic steels, 1% proof strength;

Rm = minimum tensile strength in N/mm<sup>2</sup>.

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<sup>1</sup> For calculation purposes  $g = 9.81 \text{ m/s}^2$ .

- 6.7.4.3.3.1 The values of Re and Rm to be used shall be the specified minimum values according to national or international material standards. When austenitic steels are used, the specified minimum values for Re and Rm according to the material standards may be increased by up to 15% when greater values are attested in the material inspection certificate. When no material standard exists for the metal in question, the values of Re and Rm used shall be approved by the competent authority or its authorized body.
- 6.7.4.3.3.2 Steels which have a Re/Rm ratio of more than 0.85 are not allowed for the construction of welded shells. The values of Re and Rm to be used in determining this ratio shall be the values specified in the material inspection certificate.
- 6.7.4.3.3.3 Steels used in the construction of shells shall have an elongation at fracture, in %, of not less than 10 000/Rm with an absolute minimum of 16% for fine grain steels and 20% for other steels. Aluminium and aluminium alloys used in the construction of shells shall have an elongation at fracture, in %, of not less than 10 000/6Rm with an absolute minimum of 12%.
- 6.7.4.3.3.4 For the purpose of determining actual values for materials, it shall be noted that for sheet metal, the axis of the tensile test specimen shall be at right angles (transversely) to the direction of rolling. The permanent elongation at fracture shall be measured on test specimens of rectangular cross sections in accordance with ISO 6892:1988 using a 50 mm gauge length.

#### **6.7.4.4** *Minimum shell thickness*

- 6.7.4.4.1 The minimum shell thickness shall be the greater thickness based on:
- (a) The minimum thickness determined in accordance with the requirements in 6.7.4.4.2 to 6.7.4.4.7; or
  - (b) The minimum thickness determined in accordance with the recognized pressure vessel code including the requirements in 6.7.4.3.
- 6.7.4.4.2 Shells of not more than 1.80 m in diameter shall be not less than 5 mm thick in the reference steel or of equivalent thickness in the metal to be used. Shells of more than 1.80 m in diameter shall be not less than 6 mm thick in the reference steel or of equivalent thickness in the metal to be used.
- 6.7.4.4.3 Shells of vacuum-insulated tanks of not more than 1.80 m in diameter shall be not less than 3 mm thick in the reference steel or of equivalent thickness in the metal to be used. Such shells of more than 1.80 m in diameter shall be not less than 4 mm thick in the reference steel or of equivalent thickness in the metal to be used.
- 6.7.4.4.4 For vacuum-insulated tanks, the aggregate thickness of the jacket and the shell shall correspond to the minimum thickness prescribed in 6.7.4.4.2, the thickness of the shell itself being not less than the minimum thickness prescribed in 6.7.4.4.3.
- 6.7.4.4.5 Shells shall be not less than 3 mm thick regardless of the material of construction.
- 6.7.4.4.6 The equivalent thickness of a metal other than the thickness prescribed for the reference steel in 6.7.4.4.2 and 6.7.4.4.3 shall be determined using the following formula:

$$e_1 = \frac{21.4e_o}{\sqrt[3]{Rm_1 \times A_1}}$$

where:

- $e_1$  = required equivalent thickness (in mm) of the metal to be used;
- $e_0$  = minimum thickness (in mm) of the reference steel specified in 6.7.4.4.2 and 6.7.4.4.3;
- $Rm_1$  = guaranteed minimum tensile strength (in N/mm<sup>2</sup>) of the metal to be used (see 6.7.4.3.3);
- $A_1$  = guaranteed minimum elongation at fracture (in %) of the metal to be used according to national or international standards.

6.7.4.4.7 In no case shall the wall thickness be less than that prescribed in 6.7.4.4.1 to 6.7.4.4.5. All parts of the shell shall have a minimum thickness as determined by 6.7.4.4.1 to 6.7.4.4.6. This thickness shall be exclusive of any corrosion allowance.

6.7.4.4.8 There shall be no sudden change of plate thickness at the attachment of the ends (heads) to the cylindrical portion of the shell.

#### **6.7.4.5 Service equipment**

6.7.4.5.1 Service equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during handling and carriage. When the connection between the frame and the tank or the jacket and the shell allows relative movement, the equipment shall be so fastened as to permit such movement without risk of damage to working parts. The external discharge fittings (pipe sockets, shut-off devices), the stop-valve and its seating shall be protected against the danger of being wrenched off by external forces (for example using shear sections). The filling and discharge devices (including flanges or threaded plugs) and any protective caps shall be capable of being secured against unintended opening.

6.7.4.5.2 Each filling and discharge opening in portable tanks used for the carriage of flammable refrigerated liquefied gases shall be fitted with at least three mutually independent shut-off devices in series, the first being a stop-valve situated as close as reasonably practicable to the jacket, the second being a stop-valve and the third being a blank flange or equivalent device. The shut-off device closest to the jacket shall be a quick closing device, which closes automatically in the event of unintended movement of the portable tank during filling or discharge or fire engulfment. This device shall also be possible to operate by remote control.

6.7.4.5.3 Each filling and discharge opening in portable tanks used for the carriage of non-flammable refrigerated liquefied gases shall be fitted with at least two mutually independent shut-off devices in series, the first being a stop-valve situated as close as reasonably practicable to the jacket, the second a blank flange or equivalent device.

6.7.4.5.4 For sections of piping which can be closed at both ends and where liquid product can be trapped, a method of automatic pressure relief shall be provided to prevent excess pressure build-up within the piping.

6.7.4.5.5 Vacuum insulated tanks need not have an opening for inspection.

6.7.4.5.6 External fittings shall be grouped together so far as reasonably practicable.

6.7.4.5.7 Each connection on a portable tank shall be clearly marked to indicate its function.

6.7.4.5.8 Each stop-valve or other means of closure shall be designed and constructed to a rated pressure not less than the MAWP of the shell taking into account the temperature expected



during carriage. All stop-valves with a screwed spindle shall be closed by a clockwise motion of the handwheel. In the case of other stop-valves the position (open and closed) and direction of closure shall be clearly indicated. All stop-valves shall be designed to prevent unintentional opening.

6.7.4.5.9 When pressure-building units are used, the liquid and vapour connections to that unit shall be provided with a valve as close to the jacket as reasonably practicable to prevent the loss of contents in case of damage to the pressure-building unit.

6.7.4.5.10 Piping shall be designed, constructed and installed so as to avoid the risk of damage due to thermal expansion and contraction, mechanical shock and vibration. All piping shall be of a suitable material. To prevent leakage due to fire, only steel piping and welded joints shall be used between the jacket and the connection to the first closure of any outlet. The method of attaching the closure to this connection shall be to the satisfaction of the competent authority or its authorized body. Elsewhere pipe joints shall be welded when necessary.

6.7.4.5.11 Joints in copper tubing shall be brazed or have an equally strong metal union. The melting point of brazing materials shall be no lower than 525 °C. The joints shall not decrease the strength of the tubing as may happen when cutting threads.

6.7.4.5.12 The materials of construction of valves and accessories shall have satisfactory properties at the lowest operating temperature of the portable tank.

6.7.4.5.13 The burst pressure of all piping and pipe fittings shall be not less than the highest of four times the MAWP of the shell or four times the pressure to which it may be subjected in service by the action of a pump or other device (except pressure-relief devices).

#### **6.7.4.6** *Pressure-relief devices*

6.7.4.6.1 Every shell shall be provided with not less than two independent spring-loaded pressure-relief devices. The pressure-relief devices shall open automatically at a pressure not less than the MAWP and be fully open a pressure equal to 110% of the MAWP. These devices shall, after discharge, close at a pressure not lower than 10% below the pressure at which discharge starts and shall remain closed at all lower pressures. The pressure-relief devices shall be of the type that will resist dynamic forces including surge.

6.7.4.6.2 Shells for non-flammable refrigerated liquefied gases and hydrogen may in addition have frangible discs in parallel with the spring-loaded devices as specified in 6.7.4.7.2 and 6.7.4.7.3.

6.7.4.6.3 Pressure-relief devices shall be designed to prevent the entry of foreign matter, the leakage of gas and the development of any dangerous excess pressure.

6.7.4.6.4 Pressure-relief devices shall be approved by the competent authority or its authorized body.

#### **6.7.4.7** *Capacity and setting of pressure-relief devices*

6.7.4.7.1 In the case of the loss of vacuum in a vacuum-insulated tank or of loss of 20% of the insulation of a tank insulated with solid materials, the combined capacity of all pressure-relief devices installed shall be sufficient so that the pressure (including accumulation) inside the shell does not exceed 120% of the MAWP.

6.7.4.7.2 For non-flammable refrigerated liquefied gases (except oxygen) and hydrogen, this capacity may be achieved by the use of frangible discs in parallel with the required safety-relief devices. Frangible discs shall rupture at nominal pressure equal to the test pressure of the shell.



6.7.4.7.3 Under the circumstances described in 6.7.4.7.1 and 6.7.4.7.2 together with complete fire engulfment the combined capacity of all pressure-relief devices installed shall be sufficient to limit the pressure in the shell to the test pressure.

6.7.4.7.4 The required capacity of the relief devices shall be calculated in accordance with a well-established technical code recognized by the competent authority<sup>6</sup>.

#### **6.7.4.8      *Marking of pressure-relief devices***

6.7.4.8.1 Every pressure-relief device shall be plainly and permanently marked with the following particulars:

- (a) The pressure (in bar or kPa) at which it is set to discharge;
- (b) The allowable tolerance at the discharge pressure for spring-loaded devices;
- (c) The reference temperature corresponding to the rated pressure for frangible discs; and
- (d) The rated flow capacity of the device in standard cubic meters of air per second (m<sup>3</sup>/s).

When practicable, the following information shall also be shown:

- (e) The manufacturer's name and relevant catalogue number of the device.

6.7.4.8.2 The rated flow capacity marked on the pressure-relief devices shall be determined according to ISO 4126-1:1991.

#### **6.7.4.9      *Connections to pressure-relief devices***

6.7.4.9.1 Connections to pressure-relief devices shall be of sufficient size to enable the required discharge to pass unrestricted to the safety device. No stop-valve shall be installed between the shell and the pressure-relief devices except when duplicate devices are provided for maintenance or other reasons and the stop-valves serving the devices actually in use are locked open or the stop-valves are interlocked so that the requirements of 6.7.4.7 are always fulfilled. There shall be no obstruction in an opening leading to a vent or pressure-relief device which might restrict or cut-off the flow from the shell to that device. Pipework to vent the vapour or liquid from the outlet of the pressure-relief devices, when used, shall deliver the relieved vapour or liquid to the atmosphere in conditions of minimum back-pressure on the relieving device.

#### **6.7.4.10     *Siting of pressure-relief devices***

6.7.4.10.1 Each pressure-relief device inlet shall be situated on top of the shell in a position as near the longitudinal and transverse centre of the shell as reasonably practicable. All pressure-relief device inlets shall under maximum filling conditions be situated in the vapour space of the shell and the devices shall be so arranged as to ensure that the escaping vapour is discharged unrestrictedly. For refrigerated liquefied gases, the escaping vapour shall be directed away from the tank and in such a manner that it cannot impinge upon the tank. Protective devices which deflect the flow of vapour are permissible provided the required relief-device capacity is not reduced.

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<sup>6</sup> See for example CGA S-1.2-2003 "Pressure Relief Device Standards - Part 2 - Cargo and Portable Tanks for Compressed Gases".

- 6.7.4.10.2 Arrangements shall be made to prevent access to the devices by unauthorized persons and to protect the devices from damage caused by the portable tank overturning.

**6.7.4.11 *Gauging devices***

- 6.7.4.11.1 Unless a portable tank is intended to be filled by weight, it shall be equipped with one or more gauging devices. Glass level-gauges and gauges made of other fragile material, which are in direct communication with the contents of the shell shall not be used.

- 6.7.4.11.2 A connection for a vacuum gauge shall be provided in the jacket of a vacuum-insulated portable tank.

**6.7.4.12 *Portable tank supports, frameworks, lifting and tie-down attachments***

- 6.7.4.12.1 Portable tanks shall be designed and constructed with a support structure to provide a secure base during carriage. The forces specified in 6.7.4.2.12 and the safety factor specified in 6.7.4.2.13 shall be considered in this aspect of the design. Skids, frameworks, cradles or other similar structures are acceptable.

- 6.7.4.12.2 The combined stresses caused by portable tank mountings (e.g. cradles, frameworks, etc.) and portable tank lifting and tie-down attachments shall not cause excessive stress in any portion of the tank. Permanent lifting and tie-down attachments shall be fitted to all portable tanks. Preferably they shall be fitted to the portable tank supports but may be secured to reinforcing plates located on the tank at the points of support.

- 6.7.4.12.3 In the design of supports and frameworks the effects of environmental corrosion shall be taken into account.

- 6.7.4.12.4 Forklift pockets shall be capable of being closed off. The means of closing forklift pockets shall be a permanent part of the framework or permanently attached to the framework. Single compartment portable tanks with a length less than 3.65 m need not have closed off forklift pockets provided that:

- (a) The tank and all the fittings are well protected from being hit by the forklift blades; and
- (b) The distance between the centres of the forklift pockets is at least half of the maximum length of the portable tank.

- 6.7.4.12.5 When portable tanks are not protected during carriage, according to 4.2.3.3, the shells and service equipment shall be protected against damage to the shell and service equipment resulting from lateral or longitudinal impact or overturning. External fittings shall be protected so as to preclude the release of the shell contents upon impact or overturning of the portable tank on its fittings. Examples of protection include:

- (a) Protection against lateral impact which may consist of longitudinal bars protecting the shell on both sides at the level of the median line;
- (b) Protection of the portable tank against overturning which may consist of reinforcement rings or bars fixed across the frame;
- (c) Protection against rear impact which may consist of a bumper or frame;
- (d) Protection of the shell against damage from impact or overturning by use of an ISO frame in accordance with ISO 1496-3:1995;
- (e) Protection of the portable tank from impact or overturning by a vacuum insulation jacket.

**6.7.4.13      *Design approval***

6.7.4.13.1      The competent authority or its authorized body shall issue a design approval certificate for any new design of a portable tank. This certificate shall attest that a portable tank has been surveyed by that authority, is suitable for its intended purpose and meets the requirements of this Chapter. When a series of portable tanks are manufactured without change in the design, the certificate shall be valid for the entire series. The certificate shall refer to the prototype test report, the refrigerated liquefied gases allowed to be carried, the materials of construction of the shell and jacket and an approval number. The approval number shall consist of the distinguishing sign or mark of the State in whose territory the approval was granted, i.e. the distinguishing sign for use in international traffic, as prescribed by the Convention on Road Traffic, Vienna 1968, and a registration number. Any alternative arrangements according to 6.7.1.2 shall be indicated on the certificate. A design approval may serve for the approval of smaller portable tanks made of materials of the same kind and thickness, by the same fabrication techniques and with identical supports, equivalent closures and other appurtenances.

6.7.4.13.2      The prototype test report for the design approval shall include at least the following:

- (a)      The results of the applicable frame-work test specified in ISO 1496-3:1995;
- (b)      The results of the initial inspection and test in 6.7.4.14.3; and
- (c)      The results of the impact test in 6.7.4.14.1, when applicable.

**6.7.4.14      *Inspection and testing***

6.7.4.14.1      Portable tanks meeting the definition of container in the International Convention for Safe Containers (CSC), 1972, as amended, shall not be used unless they are successfully qualified by subjecting a representative prototype of each design to the Dynamic, Longitudinal Impact Test prescribed in the Manual of Tests and Criteria, Part IV, Section 41.

6.7.4.14.2      The tank and items of equipment of each portable tank shall be inspected and tested before being put into service for the first time (initial inspection and test) and thereafter at not more than five-year intervals (5 year periodic inspection and test) with an intermediate periodic inspection and test (2.5 year periodic inspection and test) midway between the 5 year periodic inspections and tests. The 2.5 year inspection and test may be performed within 3 months of the specified date. An exceptional inspection and test shall be performed regardless of the last periodic inspection and test when necessary according to 6.7.4.14.7.

6.7.4.14.3      The initial inspection and test of a portable tank shall include a check of the design characteristics, an internal and external examination of the portable tank shell and its fittings with due regard to the refrigerated liquefied gases to be carried, and a pressure test referring to the test pressures according to 6.7.4.3.2. The pressure test may be performed as a hydraulic test or by using another liquid or gas with the agreement of the competent authority or its authorized body. Before the portable tank is placed into service, a leakproofness test and a check of the satisfactory operation of all service equipment shall also be performed. When the shell and its fittings have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test. All welds subject to full stress level shall be inspected during the initial test by radiographic, ultrasonic, or another suitable non-destructive test method. This does not apply to the jacket.

6.7.4.14.4      The 5 and 2.5 year periodic inspections and tests shall include an external examination of the portable tank and its fittings with due regard to the refrigerated liquefied gases carried, a leakproofness test, a check of the satisfactory operation of all service equipment and a vacuum reading, when applicable. In the case of non-vacuum insulated tanks, the jacket and

insulation shall be removed during the 2.5 year and the 5 year periodic inspections and tests but only to the extent necessary for a reliable appraisal.

6.7.4.14.5 *(Deleted)*

6.7.4.14.6 A portable tank may not be filled and offered for carriage after the date of expiry of the last 5 year or 2.5 year periodic inspection and test as required by 6.7.4.14.2. However a portable tank filled prior to the date of expiry of the last periodic inspection and test may be carried for a period not to exceed three months beyond the date of expiry of the last periodic test or inspection. In addition, a portable tank may be carried after the date of expiry of the last periodic test and inspection:

- (a) After emptying but before cleaning, for purposes of performing the next required test or inspection prior to refilling; and
- (b) Unless otherwise approved by the competent authority, for a period not to exceed six months beyond the date of expiry of the last periodic test or inspection, in order to allow the return of dangerous goods for proper disposal or recycling. Reference to this exemption shall be mentioned in the transport document.

6.7.4.14.7 The exceptional inspection and test is necessary when the portable tank shows evidence of damaged or corroded areas, leakage, or any other conditions that indicate a deficiency that could affect the integrity of the portable tank. The extent of the exceptional inspection and test shall depend on the amount of damage or deterioration of the portable tank. It shall include at least the 2.5 year inspection and test according to 6.7.4.14.4.

6.7.4.14.8 The internal examination during the initial inspection and test shall ensure that the shell is inspected for pitting, corrosion, or abrasions, dents, distortions, defects in welds or any other conditions, that might render the portable tank unsafe for carriage.

6.7.4.14.9 The external examination shall ensure that:

- (a) The external piping, valves, pressurizing/cooling systems when applicable and gaskets are inspected for corroded areas, defects, or any other conditions, including leakage, that might render the portable tank unsafe for filling, discharge or carriage;
- (b) There is no leakage at any manhole covers or gaskets;
- (c) Missing or loose bolts or nuts on any flanged connection or blank flange are replaced or tightened;
- (d) All emergency devices and valves are free from corrosion, distortion and any damage or defect that could prevent their normal operation. Remote closure devices and self-closing stop-valves shall be operated to demonstrate proper operation;
- (e) Required markings on the portable tank are legible and in accordance with the applicable requirements; and
- (f) The framework, the supports and the arrangements for lifting the portable tank are in satisfactory condition.

6.7.4.14.10 The inspections and tests in 6.7.4.14.1, 6.7.4.14.3, 6.7.4.14.4, 6.7.4.14.5 and 6.7.4.14.7 shall be performed or witnessed by an expert approved by the competent authority or its authorized body. When the pressure test is a part of the inspection and test, the test pressure shall be the one indicated on the data plate of the portable tank. While under pressure, the portable tank shall be inspected for any leaks in the shell, piping or equipment.

- 6.7.4.14.11 In all cases when cutting, burning or welding operations on the shell of a portable tank have been effected, that work shall be to the approval of the competent authority or its authorized body taking into account the pressure vessel code used for the construction of the shell. A pressure test to the original test pressure shall be performed after the work is completed.
- 6.7.4.14.12 When evidence of any unsafe condition is discovered, the portable tank shall not be returned to service until it has been corrected and the test is repeated and passed.

#### 6.7.4.15 *Marking*

- 6.7.4.15.1 Every portable tank shall be fitted with a corrosion resistant metal plate permanently attached to the portable tank in a conspicuous place readily accessible for inspection. When for reasons of portable tank arrangements, the plate cannot be permanently attached to the shell, the shell shall be marked with at least the information required by the pressure vessel code. As a minimum at least the following information shall be marked on the plate by stamping or by any other similar method:

|                        |          |          |  |
|------------------------|----------|----------|--|
| Country of manufacture |          |          |  |
| U                      | Approval | Approval | For Alternative Arrangements (see 6.7.1.2) |
| N                      | country  | number   | "AA"                                       |

Manufacturer's name or mark  
 Manufacturer's serial number  
 Authorized body for the design approval  
 Owner's registration number  
 Year of manufacture  
 Pressure vessel code to which the tank is designed  
 Test pressure \_\_\_\_\_ bar/kPa gauge <sup>2</sup>  
 MAWP \_\_\_\_\_ bar/kPa gauge <sup>2</sup>  
 Minimum design temperature \_\_\_\_\_ °C  
 Water capacity at 20 °C \_\_\_\_\_ litres  
 Initial pressure test date and witness identification  
 Shell material(s) and material standard reference(s)  
 Equivalent thickness in reference steel \_\_\_\_\_ mm  
 Date and type of most recent periodic test(s)  
 Month \_\_\_\_\_ Year \_\_\_\_\_ Test pressure \_\_\_\_\_ bar/kPa gauge <sup>2</sup>  
 Stamp of expert who performed or witnessed the most recent test  
 The name, in full, of the gas(es) for whose carriage the portable tank is approved  
 Either "thermally insulated" or "vacuum insulated" \_\_\_\_\_  
 Effectiveness of the insulation system (heat influx) \_\_\_\_\_ Watts (W)  
 Reference holding time \_\_\_\_\_ days (or hours) and initial  
 pressure \_\_\_\_\_ bar/kPa gauge <sup>2</sup> and degree of filling \_\_\_\_\_ in kg for each  
 refrigerated liquefied gas permitted for carriage.

<sup>2</sup> The unit used shall be marked.

- 6.7.4.15.2 The following particulars shall be durably marked either on the portable tank itself or on a metal plate firmly secured to the portable tank.

Name of the owner and the operator

Name of the refrigerated liquefied gas being carried (and minimum mean bulk temperature)

Maximum permissible gross mass (MPGM) \_\_\_\_\_ kg

Unladen (tare) mass \_\_\_\_\_ kg

Actual holding time for gas being carried \_\_\_\_\_ days (or hours)

**NOTE:** For the identification of the refrigerated liquefied gas(es) being carried, see also Part 5.

- 6.7.4.15.3 If a portable tank is designed and approved for handling in open seas, the words "OFFSHORE PORTABLE TANK" shall be marked on the identification plate.

## **6.7.5 Requirements for the design, construction, inspection and testing of UN multiple-element gas containers (MEGCs) intended for the carriage of non-refrigerated gases**

### **6.7.5.1 Definitions**

For the purposes of this section:

*Alternative arrangement* means an approval granted by the competent authority for a portable tank or MEGC that has been designed, constructed or tested to technical requirements or testing methods other than those specified in this Chapter;

*Elements* are cylinders, tubes or bundles of cylinders;

*Leakproofness test* means a test using gas subjecting the elements and the service equipment of the MEGC to an effective internal pressure of not less than 20% of the test pressure;

*Manifold* means an assembly of piping and valves connecting the filling and/or discharge openings of the elements;

*Maximum permissible gross mass (MPGM)* means the sum of the tare mass of the MEGC and the heaviest load authorized for carriage;

*UN Multiple-element gas containers (MEGCs)* are multimodal assemblies of cylinders, tubes and bundles of cylinders which are interconnected by a manifold and which are assembled within a framework. The MEGC includes service equipment and structural equipment necessary for the carriage of gases;

*Service equipment* means measuring instruments and filling, discharge, venting and safety devices;

*Structural equipment* means the reinforcing, fastening, protective and stabilizing members external to the elements.

### **6.7.5.2 General design and construction requirements**

- 6.7.5.2.1 The MEGC shall be capable of being filled and discharged without the removal of its structural equipment. It shall possess stabilizing members external to the elements to provide structural integrity for handling and carriage. MEGCs shall be designed and constructed with supports to provide a secure base during carriage and with lifting and tie-down attachments which are adequate for lifting the MEGC including when filled to its maximum permissible

gross mass. The MEGC shall be designed to be loaded onto a vehicle, wagon or sea-going or inland navigation vessel and shall be equipped with skids, mountings or accessories to facilitate mechanical handling.

- 6.7.5.2.2 MEGCs shall be designed, manufactured and equipped in such a way as to withstand all conditions to which they will be subjected during normal conditions of handling and carriage. The design shall take into account the effects of dynamic loading and fatigue.
- 6.7.5.2.3 Elements of an MEGC shall be made of seamless steel and be constructed and tested according to 6.2.1 and 6.2.2. All of the elements in an MEGC shall be of the same design type.
- 6.7.5.2.4 Elements of MEGCs, fittings and pipework shall be:
- (a) Compatible with the substances intended to be carried (see ISO 11114-1:1997 and ISO 11114-2:2000); or
  - (b) Properly passivated or neutralized by chemical reaction.
- 6.7.5.2.5 Contact between dissimilar metals which could result in damage by galvanic action shall be avoided.
- 6.7.5.2.6 The materials of the MEGC, including any devices, gaskets, and accessories, shall not adversely affect the gas(es) intended for carriage in the MEGC.
- 6.7.5.2.7 MEGCs shall be designed to withstand, without loss of contents, at least the internal pressure due to the contents, and the static, dynamic and thermal loads during normal conditions of handling and carriage. The design shall demonstrate that the effects of fatigue, caused by repeated application of these loads through the expected life of the multiple-element gas container, have been taken into account.
- 6.7.5.2.8 MEGCs and their fastenings shall, under the maximum permissible load, be capable of withstanding the following separately applied static forces:
- (a) In the direction of travel: twice the MPGM multiplied by the acceleration due to gravity ( $g$ )<sup>1</sup>;
  - (b) Horizontally at right angles to the direction of travel: the MPGM (when the direction of travel is not clearly determined, the forces shall be equal to twice the MPGM) multiplied by the acceleration due to gravity ( $g$ )<sup>1</sup>;
  - (c) Vertically upwards: the MPGM multiplied by the acceleration due to gravity ( $g$ )<sup>1</sup>; and
  - (d) Vertically downwards: twice the MPGM (total loading including the effect of gravity) multiplied by the acceleration due to gravity ( $g$ )<sup>1</sup>.
- 6.7.5.2.9 Under the forces defined in 6.7.5.2.8, the stress at the most severely stressed point of the elements shall not exceed the values given in either the relevant standards of 6.2.2.1 or, if the elements are not designed, constructed and tested according to those standards, in the technical code or standard recognised or approved by the competent authority of the country of use (see 6.2.5).

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<sup>1</sup> For calculation purposes  $g = 9.81 \text{ m/s}^2$ .



- 6.7.5.2.10 Under each of the forces in 6.7.5.2.8, the safety factor for the framework and fastenings to be observed shall be as follows:
- (a) for steels having a clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed yield strength; or
  - (b) for steels with no clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed 0.2% proof strength and, for austenitic steels, the 1% proof strength.

6.7.5.2.11 MEGCs intended for the carriage of flammable gases shall be capable of being electrically earthed.

6.7.5.2.12 The elements shall be secured in a manner that prevents undesired movement in relation to the structure and the concentration of harmful localized stresses.

### **6.7.5.3** *Service equipment*

6.7.5.3.1 Service equipment shall be configured or designed to prevent damage that could result in the release of the pressure receptacle contents during normal conditions of handling and carriage. When the connection between the frame and the elements allows relative movement between the sub-assemblies, the equipment shall be so fastened as to permit such movement without damage to working parts. The manifolds, the discharge fittings (pipe sockets, shut-off devices), and the stop-valves shall be protected from being wrenched off by external forces. Manifold piping leading to shut-off valves shall be sufficiently flexible to protect the valves and the piping from shearing, or releasing the pressure receptacle contents. The filling and discharge devices (including flanges or threaded plugs) and any protective caps shall be capable of being secured against unintended opening.

6.7.5.3.2 Each element intended for the carriage of toxic gases (gases of groups T, TF, TC, TO, TFC and TOC) shall be fitted with a valve. The manifold for liquefied toxic gases (gases of classification codes 2T, 2TF, 2TC, 2TO, 2TFC and 2TOC) shall be so designed that the elements can be filled separately and be kept isolated by a valve capable of being sealed. For the carriage of flammable gases (gases of group F), the elements shall be divided into groups of not more than 3 000 litres each isolated by a valve.

6.7.5.3.3 For filling and discharge openings of the MEGC, two valves in series shall be placed in an accessible position on each discharge and filling pipe. One of the valves may be a non-return valve. The filling and discharge devices may be fitted to a manifold. For sections of piping which can be closed at both ends and where a liquid product can be trapped, a pressure-relief valve shall be provided to prevent excessive pressure build-up. The main isolation valves on an MEGC shall be clearly marked to indicate their directions of closure. Each stop-valve or other means of closure shall be designed and constructed to withstand a pressure equal to or greater than 1.5 times the test pressure of the MEGC. All stop-valves with screwed spindles shall close by a clockwise motion of the handwheel. For other stop-valves, the position (open and closed) and direction of closure shall be clearly indicated. All stop-valves shall be designed and positioned to prevent unintentional opening. Ductile metals shall be used in the construction of valves or accessories.

6.7.5.3.4 Piping shall be designed, constructed and installed so as to avoid damage due to expansion and contraction, mechanical shock and vibration. Joints in tubing shall be brazed or have an equally strong metal union. The melting point of brazing materials shall be no lower than 525 °C. The rated pressure of the service equipment and of the manifold shall be not less than two thirds of the test pressure of the elements.



**6.7.5.4      *Pressure-relief devices***

- 6.7.5.4.1      The elements of MEGCs used for the carriage of UN No. 1013 carbon dioxide and UN No. 1070 nitrous oxide shall be divided into groups of not more than 3 000 litres each isolated by a valve. Each group shall be fitted with one or more pressure relief devices. MEGCs for other gases shall be fitted with pressure relief devices as specified by the competent authority for the country of use.
- 6.7.5.4.2      When pressure relief devices are fitted, every element or group of elements of an MEGC that can be isolated shall then be fitted with one or more pressure relief devices. Pressure relief devices shall be of a type that will resist dynamic forces including liquid surge and shall be designed to prevent the entry of foreign matter, the leakage of gas and the development of any dangerous excess pressure.
- 6.7.5.4.3      MEGCs used for the carriage of certain non-refrigerated gases identified in portable tank instruction T50 in 4.2.5.2.6 may have a pressure-relief device as required by the competent authority of the country of use. Unless an MEGC in dedicated service is fitted with an approved pressure relief device constructed of materials compatible with the gas carried, such a device shall comprise a frangible disc preceding a spring-loaded device. The space between the frangible disc and the spring-loaded device may be equipped with a pressure gauge or a suitable telltale indicator. This arrangement permits the detection of disc rupture, pinholing or leakage which could cause a malfunction of the pressure relief device. The frangible disc shall rupture at a nominal pressure 10% above the start-to-discharge pressure of the spring-loaded device.
- 6.7.5.4.4      In the case of multi-purpose MEGCs used for the carriage of low-pressure liquefied gases, the pressure-relief devices shall open at a pressure as specified in 6.7.3.7.1 for the gas having the highest maximum allowable working pressure of the gases allowed to be carried in the MEGC.

**6.7.5.5      *Capacity of pressure relief devices***

- 6.7.5.5.1      The combined delivery capacity of the pressure relief devices when fitted shall be sufficient that, in the event of total fire engulfment of the MEGC, the pressure (including accumulation) inside the elements does not exceed 120% of the set pressure of the pressure relief device. The formula provided in CGA S-1.2-2003 "Pressure Relief Device Standards - Part 2 - Cargo and Portable Tanks for Compressed Gases" shall be used to determine the minimum total flow capacity for the system of pressure relief devices. CGA S-1.1-2003 "Pressure Relief Device Standards - Part 1 - Cylinders for Compressed Gases" may be used to determine the relief capacity of individual elements. Spring-loaded pressure relief devices may be used to achieve the full relief capacity prescribed in the case of low pressure liquefied gases. In the case of multi-purpose MEGCs, the combined delivery capacity of the pressure-relief devices shall be taken for the gas which requires the highest delivery capacity of the gases allowed to be carried in the MEGC.
- 6.7.5.5.2      To determine the total required capacity of the pressure relief devices installed on the elements for the carriage of liquefied gases, the thermodynamic properties of the gas shall be considered (see, for example, CGA S-1.2-2003 "Pressure Relief Device Standards - Part 2 - Cargo and Portable Tanks for Compressed Gases" for low pressure liquefied gases and CGA S-1.1-2003 "Pressure Relief Device Standards - Part 1 - Cylinders for Compressed Gases" for high pressure liquefied gases).

**6.7.5.6**      *Marking of pressure-relief devices*

6.7.5.6.1      Pressure relief devices shall be clearly and permanently marked with the following:

- (a)    The manufacturer's name and relevant catalogue number;
- (b)    The set pressure and/or the set temperature;
- (c)    The date of the last test.

6.7.5.6.2      The rated flow capacity marked on spring loaded pressure relief devices for low pressure liquefied gases shall be determined according to ISO 4126-1:1991.

**6.7.5.7**      *Connections to pressure-relief devices*

6.7.5.7.1      Connections to pressure-relief devices shall be of sufficient size to enable the required discharge to pass unrestricted to the pressure relief device. No stop-valve shall be installed between the element and the pressure-relief devices, except when duplicate devices are provided for maintenance or other reasons, and the stop-valves serving the devices actually in use are locked open, or the stop-valves are interlocked so that at least one of the duplicate devices is always operable and capable of meeting the requirements of 6.7.5.5. There shall be no obstruction in an opening leading to or leaving from a vent or pressure-relief device which might restrict or cut-off the flow from the element to that device. The opening through all piping and fittings shall have at least the same flow area as the inlet of the pressure relief device to which it is connected. The nominal size of the discharge piping shall be at least as large as that of the pressure relief device outlet. Vents from the pressure-relief devices, when used, shall deliver the relieved vapour or liquid to the atmosphere in conditions of minimum back-pressure on the relieving device.

**6.7.5.8**      *Siting of pressure-relief devices*

6.7.5.8.1      Each pressure relief device shall, under maximum filling conditions, be in communication with the vapour space of the elements for the carriage of liquefied gases. The devices, when fitted, shall be so arranged as to ensure that the escaping vapour is discharged upwards and unrestrictedly as to prevent any impingement of escaping gas or liquid upon the MEGC, its elements or personnel. For flammable, pyrophoric and oxidizing gases, the escaping gas shall be directed away from the element in such a manner that it cannot impinge upon the other elements. Heat resistant protective devices which deflect the flow of gas are permissible provided the required pressure relief device capacity is not reduced.

6.7.5.8.2      Arrangements shall be made to prevent access to the pressure-relief devices by unauthorized persons and to protect the devices from damage caused by the MEGC overturning.

**6.7.5.9**      *Gauging devices*

6.7.5.9.1      When an MEGC is intended to be filled by mass, it shall be equipped with one or more gauging devices. Level-gauges made of glass or other fragile material shall not be used.

**6.7.5.10**     *MEGC supports, frameworks, lifting and tie-down attachments*

6.7.5.10.1     MEGCs shall be designed and constructed with a support structure to provide a secure base during carriage. The forces specified in 6.7.5.2.8 and the safety factor specified in 6.7.5.2.10 shall be considered in this aspect of the design. Skids, frameworks, cradles or other similar structures are acceptable.

- 6.7.5.10.2      The combined stresses caused by element mountings (e.g. cradles, frameworks, etc.) and MEGC lifting and tie-down attachments shall not cause excessive stress in any element. Permanent lifting and tie-down attachments shall be fitted to all MEGCs. In no case shall mountings or attachments be welded onto the elements.
- 6.7.5.10.3      In the design of supports and frameworks, the effects of environmental corrosion shall be taken into account.
- 6.7.5.10.4      When MEGCs are not protected during carriage, according to 4.2.5.3, the elements and service equipment shall be protected against damage resulting from lateral or longitudinal impact or overturning. External fittings shall be protected so as to preclude the release of the elements' contents upon impact or overturning of the MEGC on its fittings. Particular attention shall be paid to the protection of the manifold. Examples of protection include:
- (a)      Protection against lateral impact which may consist of longitudinal bars;
  - (b)      Protection against overturning which may consist of reinforcement rings or bars fixed across the frame;
  - (c)      Protection against rear impact which may consist of a bumper or frame;
  - (d)      Protection of the elements and service equipment against damage from impact or overturning by use of an ISO frame in accordance with the relevant provisions of ISO 1496-3:1995.

**6.7.5.11      *Design approval***

- 6.7.5.11.1      The competent authority or its authorized body shall issue a design approval certificate for any new design of an MEGC. This certificate shall attest that the MEGC has been surveyed by that authority, is suitable for its intended purpose and meets the requirements of this Chapter, the applicable provisions for gases of Chapter 4.1 and of packing instruction P200. When a series of MEGCs are manufactured without change in the design, the certificate shall be valid for the entire series. The certificate shall refer to the prototype test report, the materials of construction of the manifold, the standards to which the elements are made and an approval number. The approval number shall consist of the distinguishing sign or mark of the country granting the approval, i.e. the distinguishing sign for use in international traffic, as prescribed by the Convention on Road Traffic, Vienna 1968, and a registration number. Any alternative arrangements according to 6.7.1.2 shall be indicated on the certificate. A design approval may serve for the approval of smaller MEGCs made of materials of the same type and thickness, by the same fabrication techniques and with identical supports, equivalent closures and other appurtenances.
- 6.7.5.11.2      The prototype test report for the design approval shall include at least the following:
- (a)      The results of the applicable framework test specified in ISO1496-3:1995;
  - (b)      The results of the initial inspection and test specified in 6.7.5.12.3;
  - (c)      The results of the impact test specified in 6.7.5.12.1; and
  - (d)      Certification documents verifying that the cylinders and tubes comply with the applicable standards.

**6.7.5.12      *Inspection and testing***

- 6.7.5.12.1      MEGCs meeting the definition of container in the International Convention for Safe Containers (CSC), 1972, as amended, shall not be used unless they are successfully qualified by subjecting a representative prototype of each design to the Dynamic, Longitudinal Impact Test prescribed in the Manual of Tests and Criteria, Part IV, Section 41.
- 6.7.5.12.2      The elements and items of equipment of each MEGC shall be inspected and tested before being put into service for the first time (initial inspection and test). Thereafter, MEGCs shall be inspected at no more than five-year intervals (5 year periodic inspection). An exceptional inspection and test shall be performed, regardless of the last periodic inspection and test, when necessary according to 6.7.5.12.5.
- 6.7.5.12.3      The initial inspection and test of an MEGC shall include a check of the design characteristics, an external examination of the MEGC and its fittings with due regard to the gases to be carried, and a pressure test performed at the test pressures according to packing instruction P200 of 4.1.4.1. The pressure test of the manifold may be performed as a hydraulic test or by using another liquid or gas with the agreement of the competent authority or its authorized body. Before the MEGC is placed into service, a leakproofness test and a test of the satisfactory operation of all service equipment shall also be performed. When the elements and their fittings have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.
- 6.7.5.12.4      The 5-year periodic inspection and test shall include an external examination of the structure, the elements and the service equipment in accordance with 6.7.5.12.6. The elements and the piping shall be tested at the periodicity specified in packing instruction P200 and in accordance with the provisions described in 6.2.1.6. When the elements and equipment have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.
- 6.7.5.12.5      An exceptional inspection and test is necessary when the MEGC shows evidence of damaged or corroded areas, leakage, or other conditions that indicate a deficiency that could affect the integrity of the MEGC. The extent of the exceptional inspection and test shall depend on the amount of damage or deterioration of the MEGC. It shall include at least the examinations required under 6.7.5.12.6.
- 6.7.5.12.6      The examinations shall ensure that:
- (a)      The elements are inspected externally for pitting, corrosion, abrasions, dents, distortions, defects in welds or any other conditions, including leakage, that might render the MEGC unsafe for carriage;
  - (b)      The piping, valves, and gaskets are inspected for corroded areas, defects, and other conditions, including leakage, that might render the MEGC unsafe for filling, discharge or carriage;
  - (c)      Missing or loose bolts or nuts on any flanged connection or blank flange are replaced or tightened;
  - (d)      All emergency devices and valves are free from corrosion, distortion and any damage or defect that could prevent their normal operation. Remote closure devices and self-closing stop-valves shall be operated to demonstrate proper operation;
  - (e)      Required markings on the MEGC are legible and in accordance with the applicable requirements; and
  - (f)      The framework, the supports and the arrangements for lifting the MEGC are in satisfactory condition.

6.7.5.12.7 The inspections and tests in 6.7.5.12.1, 6.7.5.12.3, 6.7.5.12.4 and 6.7.5.12.5 shall be performed or witnessed by a body authorized by the competent authority. When the pressure test is a part of the inspection and test, the test pressure shall be the one indicated on the data plate of the MEGC. While under pressure, the MEGC shall be inspected for any leaks in the elements, piping or equipment.

6.7.5.12.8 When evidence of any unsafe condition is discovered, the MEGC shall not be returned to service until it has been corrected and the applicable tests and verifications are passed.

### 6.7.5.13 *Marking*

6.7.5.13.1 Every MEGC shall be fitted with a corrosion resistant metal plate permanently attached to the MEGC in a conspicuous place readily accessible for inspection. The elements shall be marked in accordance with Chapter 6.2. At least the following information shall be marked on the plate by stamping or by any other similar method:

|  |          |          |  |
|--|----------|----------|--|
| Country of manufacture   |          |          |  |
| U  | Approval | Approval | For Alternative Arrangements (see 6.7.1.2) |
| N  | country  | number   | "AA"                                       |
| Manufacturer's name or mark  |          |          |  |
| Manufacturer's serial number   |          |          |  |
| Authorized body for the design approval  |          |          |  |
| Year of manufacture  |          |          |  |
| Test pressure: _____ bar gauge   |          |          |  |
| Design temperature range _____ °C to _____ °C                                  |          |          |  |
| Number of elements _____   |          |          |  |
| Total water capacity _____ litres  |          |          |  |
| Initial pressure test date and identification of the authorized body           |          |          |  |
| Date and type of most recent periodic tests                                    |          |          |  |
| Month _____ Year _____   |          |          |  |
| Stamp of the authorized body which performed or witnessed the most recent test |          |          |  |

**NOTE:** *No metal plate may be fixed to the elements.*

6.7.5.13.2 The following information shall be marked on a metal plate firmly secured to the MEGC:

Name of the operator  
 Maximum permissible load mass \_\_\_\_\_ kg  
 Working pressure at 15°C: \_\_\_\_\_ bar gauge  
 Maximum permissible gross mass (MPGM) \_\_\_\_\_ kg  
 Unladen (tare) mass \_\_\_\_\_ kg

## CHAPTER 6.8

### REQUIREMENTS FOR THE CONSTRUCTION, EQUIPMENT, TYPE APPROVAL, INSPECTIONS AND TESTS, AND MARKING OF FIXED TANKS (TANK-VEHICLES), DEMOUNTABLE TANKS AND TANK-CONTAINERS AND TANK SWAP BODIES, WITH SHELLS MADE OF METALLIC MATERIALS, AND BATTERY-VEHICLES AND MULTIPLE ELEMENT GAS CONTAINERS (MEGCs)

**NOTE:** *For portable tanks and UN multiple-element gas containers (MEGCs) see Chapter 6.7, for fibre-reinforced plastics tanks see Chapter 6.9, for vacuum operated waste tanks see Chapter 6.10.*

#### 6.8.1 Scope

6.8.1.1 The requirements across the whole width of the page apply both to fixed tanks (tank-vehicles), to demountable tanks and battery-vehicles, and to tank-containers, tank swap bodies and MEGCs. Those contained in a single column apply only:

- to fixed tanks (tank-vehicles), to demountable tanks and battery-vehicles (left hand column);
- to tank-containers, tank swap bodies and MEGCs (right hand column).

6.8.1.2 These requirements shall apply to

|   |  |   |
|---|--|---|
| fixed tanks (tank-vehicles), demountable tanks and battery-vehicles |  | tank-containers, tank swap bodies and MEGCs |
|---|--|---|

used for the carriage of gaseous, liquid, powdery or granular substances.

6.8.1.3 Section 6.8.2 sets out the requirements applicable to fixed tanks (tank-vehicles), to demountable tanks, tank-containers, tank swap bodies intended for the carriage of substances of all classes and battery-vehicles and MEGCs for gases of Class 2. Sections 6.8.3 to 6.8.5 contain special requirements supplementing or modifying the requirements of section 6.8.2.

6.8.1.4 For provisions concerning use of these tanks, see Chapter 4.3.

#### 6.8.2 Requirements applicable to all classes

##### 6.8.2.1 Construction

##### *Basic principles*

6.8.2.1.1 Shells, their attachments and their service and structural equipment shall be designed to withstand without loss of contents (other than quantities of gas escaping through any degassing vents):

- static and dynamic stresses in normal conditions of carriage as defined in 6.8.2.1.2 and 6.8.2.1.13;
- prescribed minimum stresses as defined in 6.8.2.1.15.

- |           |  |  |
|-----------|--|--|
| 6.8.2.1.2 | <p>The tanks and their fastenings shall be capable of absorbing, under the maximum permissible load, the forces exerted by:</p> <ul style="list-style-type: none"> <li>- in the direction of travel: twice the total mass;</li> <li>- at right angles to the direction of travel: the total mass;</li> <li>- vertically upwards: the total mass;</li> <li>- vertically downwards: twice the total mass.</li> </ul> | <p>Tank-containers and their fastenings shall, under the maximum permissible load be capable of absorbing the forces equal to those exerted by:</p> <ul style="list-style-type: none"> <li>- in the direction of travel: twice the total mass;</li> <li>- horizontally at right angles to the direction of travel: the total mass; (where the direction of travel is not clearly determined, twice the total mass in each direction);</li> <li>- vertically upwards: the total mass;</li> <li>- vertically downwards: twice the total mass.</li> </ul> |
|-----------|--|--|
- 6.8.2.1.3      The walls of the shells shall have at least the thickness specified in
- |                          |                           |
|--------------------------|---------------------------|
| 6.8.2.1.17 to 6.8.2.1.21 | 6.8.2.1.17 to 6.8.2.1.20. |
|--------------------------|---------------------------|
- 6.8.2.1.4      Shells shall be designed and constructed in accordance with the requirements of standards listed in 6.8.2.6 or of a technical code recognized by the competent authority, in accordance with 6.8.2.7, in which the material is chosen and the shell thickness determined taking into account maximum and minimum filling and working temperatures, but the following minimum requirements of 6.8.2.1.6 to 6.8.2.1.26 shall be met.
- 6.8.2.1.5      Tanks intended to contain certain dangerous substances shall be provided with additional protection. This may take the form of additional thickness of the shell (increased calculation pressure) determined in the light of the dangers inherent in the substances concerned or of a protective device (see the special provisions of 6.8.4).
- 6.8.2.1.6      Welds shall be skilfully made and shall afford the fullest safety. The execution and checking of welds shall comply with the requirements of 6.8.2.1.23.
- 6.8.2.1.7      Measures shall be taken to protect shells against the risk of deformation as a result of a negative internal pressure. Shells, other than shells according to 6.8.2.2.6, designed to be equipped with vacuum valves shall be able to withstand, without permanent deformation, an external pressure of not less than 21 kPa (0.21 bar) above the internal pressure. Shells used for the carriage of solid substances (powdery or granular) of packing groups II or III only, which do not liquefy during carriage, may be designed for a lower external pressure but not less than 5 kPa (0.05 bar). The vacuum valves shall be set to relieve at a vacuum setting not greater than the tank's design vacuum pressure. Shells, which are not designed to be equipped with a vacuum valve shall be able to withstand, without permanent deformation an external pressure of not less than 40 kPa (0.4 bar) above the internal pressure.
- Materials for shells***
- 6.8.2.1.8      Shells shall be made of suitable metallic materials which, unless other temperature ranges are prescribed in the various classes, shall be resistant to brittle fracture and to stress corrosion cracking between -20 °C and +50 °C.
- 6.8.2.1.9      The materials of shells or of their protective linings which are in contact with the contents shall not contain substances liable to react dangerously (see "Dangerous reaction" in 1.2.1) with the contents, to form dangerous compounds, or substantially to weaken the material.



If contact between the substance carried and the material used for the construction of the shell entails a progressive decrease in the shell thickness, this thickness shall be increased at manufacture by an appropriate amount. This additional thickness to allow for corrosion shall not be taken into consideration in calculating the shell thickness.

- 6.8.2.1.10 For welded shells only materials of faultless weldability whose adequate impact strength at an ambient temperature of  $-20\text{ }^{\circ}\text{C}$  can be guaranteed, particularly in the weld seams and the zones adjacent thereto, shall be used.

If fine-grained steel is used, the guaranteed value of the yield strength  $R_e$  shall not exceed  $460\text{ N/mm}^2$  and the guaranteed value of the upper limit of tensile strength  $R_m$  shall not exceed  $725\text{ N/mm}^2$ , in accordance with the specifications of the material.

- 6.8.2.1.11 Ratios of  $R_e/R_m$  exceeding 0.85 are not allowed for steels used in the construction of welded tanks.

$R_e$  = apparent yield strength for steels having a clearly-defined yield point or  
guaranteed 0.2% proof strength for steels with no clearly-defined yield point  
(1% for austenitic steels)

$R_m$  = tensile strength.

The values specified in the inspection certificate for the material shall be taken as a basis in determining this ratio in each case.

- 6.8.2.1.12 For steel, the elongation at fracture, in % shall be not less than

$$\frac{10\,000}{\text{determined tensile strength in N/mm}^2}$$

but in any case for fine-grained steels it shall be not less than 16% and not less than 20% for other steels.

For aluminium alloys the elongation at fracture shall be not less than 12% <sup>1</sup>.

#### ***Calculation of the shell thickness***

- 6.8.2.1.13 The pressure on which the shell thickness is based shall not be less than the calculation pressure, but the stresses referred to in 6.8.2.1.1 shall also be taken into account, and, if necessary, the following stresses:

In the case of vehicles in which the tank constitutes a stressed self-supporting member, the shell shall be designed to withstand the stresses thus imposed in addition to stresses from other sources.

<sup>1</sup> In the case of sheet metal the axis of the tensile test-piece shall be at right angles to the direction of rolling. The permanent elongation at fracture shall be measured on test-pieces of circular cross-section in which the gauge length  $l$  is equal to five times the diameter  $d$  ( $l = 5d$ ); if test-pieces of rectangular section are used, the gauge length shall be calculated by the formula

$$l = 5,65 \sqrt{F_o},$$

where  $F_o$  indicates the initial cross-section area of the test-piece.



Under these stresses, the stress at the most severely stressed point of the shell and its fastenings shall not exceed the value  $\sigma$  defined in 6.8.2.1.16.

Under each of these stresses the safety factors to be observed shall be the following:

- for metals having a clearly-defined yield point: a safety factor of 1.5 in relation to the apparent yield strength; or
- for metals with no clearly-defined yield point: a safety factor of 1.5 in relation to the guaranteed 0.2% proof strength (1% maximum elongation for austenitic steels).

6.8.2.1.14 The calculation pressure is in the second part of the code (see 4.3.4.1) according to Column (12) of Table A of Chapter 3.2.

When "G" appears, the following requirements shall apply:

- (a) Gravity-discharge shells intended for the carriage of substances having a vapour pressure not exceeding 110 kPa (1.1 bar) (absolute pressure) at 50 °C shall be designed for a calculation pressure of twice the static pressure of the substance to be carried but not less than twice the static pressure of water;
- (b) Pressure-filled or pressure-discharge shells intended for the carriage of substances having a vapour pressure not exceeding 110 kPa (1.1 bar) (absolute pressure) at 50 °C shall be designed for a calculation pressure equal to 1.3 times the filling or discharge pressure;

When the numerical value of the minimum calculation pressure is given (gauge pressure) the shell shall be designed for this pressure which shall not be less than 1.3 times the filling or discharge pressure. The following minimum requirements shall apply in these cases:

- (c) Shells intended for the carriage of substances having a vapour pressure of more than 110 kPa (1.1 bar) at 50 °C and a boiling point of more than 35 °C shall, whatever their filling or discharge system, be designed for a calculation pressure of not less than 150 kPa (1.5 bar) gauge pressure or 1.3 times the filling or discharge pressure, whichever is the higher;
- (d) Shells intended for the carriage of substances having a boiling point of not more than 35 °C shall, whatever their filling or discharge system, be designed for a calculation pressure equal to 1.3 times the filling or discharge pressure but not less than 0.4 MPa (4 bar) (gauge pressure).

6.8.2.1.15 At the test pressure, the stress  $\sigma$  at the most severely stressed point of the shell shall not exceed the material-dependent limits prescribed below. Allowance shall be made for any weakening due to the welds.

6.8.2.1.16 For all metals and alloys, the stress  $\sigma$  at the test pressure shall be lower than the smaller of the values given by the following formulae:

$$\sigma \leq 0.75 Re \text{ or } \sigma \leq 0.5 Rm$$

where

Re = apparent yield strength for steels having a clearly-defined yield point; or  
guaranteed 0.2% proof strength for steels with no clearly-defined yield point  
(1% for austenitic steels)

Rm = tensile strength.

The values of  $R_e$  and  $R_m$  to be used shall be specified minimum values according to material standards. If no material standard exists for the metal or alloy in question, the values of  $R_e$  and  $R_m$  used shall be approved by the competent authority or by a body designated by that authority.

When austenitic steels are used, the specified minimum values according to the material standards may be exceeded by up to 15% if these higher values are attested in the inspection certificate. The minimum values shall, however, not be exceeded when the formula given in 6.8.2.1.18 is applied.

**Minimum shell thickness**

- 6.8.2.1.17 The shell thickness shall not be less than the greater of the values determined by the following formulae:

$$e = \frac{P_T D}{2 \sigma \lambda} \qquad e = \frac{P_C D}{2 \sigma}$$

where:

- $e$  = minimum shell thickness in mm  
 $P_T$  = test pressure in MPa  
 $P_C$  = calculation pressure in MPa as specified in 6.8.2.1.14  
 $D$  = internal diameter of shell in mm  
 $\sigma$  = permissible stress, as defined in 6.8.2.1.16, in N/mm<sup>2</sup>  
 $\lambda$  = a coefficient not exceeding 1, allowing for any weakening due to welds, and linked to the inspection methods defined in 6.8.2.1.23.

The thickness shall in no case be less than that defined in

6.8.2.1.18 to 6.8.2.1.21.

6.8.2.1.18 to 6.8.2.1.20.

- |            |   |  |
|------------|---|--|
| 6.8.2.1.18 | <p>Shells of circular cross-section<sup>2</sup> not more than 1.80 m in diameter other than those referred to in 6.8.2.1.21, shall not be less than 5 mm thick if of mild steel<sup>3</sup>, or of equivalent thickness if of another metal.</p> <p>Where the diameter is more than 1.80 m, this thickness shall be increased to 6 mm except in the case of shells intended for the carriage of powdery or granular substances, if the shell is of mild steel<sup>3</sup>, or to an equivalent thickness if of another metal.</p> | <p>Shells shall be not less than 5 mm thick if of mild steel<sup>3</sup> (in conformity with the requirements of 6.8.2.1.11 and 6.8.2.1.12) or of equivalent thickness if of another metal.</p> <p>Where the diameter is more than 1.80 m, this thickness shall be increased to 6 mm except in the case of tanks intended for the carriage of powdery or granular substances, if the shell is of mild steel<sup>3</sup> or to an equivalent thickness if of another metal.</p> <p>Whatever the metal used, the shell thickness shall in no case be less than 3 mm.</p> |
|------------|---|--|

<sup>2</sup> For shells not of a circular cross-section, for example box-shaped or elliptical shells, the indicated diameters shall correspond to those calculated on the basis of a circular cross-section of the same area. For such shapes of cross-section the radius of convexity of the shell wall shall not exceed 2 000 mm at the sides or 3 000 mm at the top and bottom.

<sup>3</sup> For the definitions of "mild steel" and "reference steel" see 1.2.1.

"Equivalent thickness" means the thickness obtained by the following formula<sup>4</sup>:

$$e_1 = \frac{464e_0}{\sqrt[3]{(R_{m1}A_1)^2}}$$

6.8.2.1.19

Where protection of the tank against damage through lateral impact or overturning is provided according to 6.8.2.1.20, the competent authority may allow the aforesaid minimum thicknesses to be reduced in proportion to the protection provided; however, the said thicknesses shall not be less than 3 mm in the case of mild steel<sup>3</sup>, or than an equivalent thickness in the case of other materials, for shells not more than 1.80 m in diameter. For shells with a diameter exceeding 1.80 m the aforesaid minimum thickness shall be increased to 4 mm in the case of mild steel<sup>3</sup> and to an equivalent thickness in the case of other metals.

Equivalent thickness means the thickness given by the formula in 6.8.2.1.18.

Except in cases for which 6.8.2.1.21 provide, the thickness of shells with protection against damage in accordance with 6.8.2.1.20 (a) or (b) shall not be less than the values given in the table below.

Where protection of the tank against damage is provided according to 6.8.2.1.20, the competent authority may allow the aforesaid minimum thicknesses to be reduced in proportion to the protection provided; however, the said thicknesses shall be not less than 3 mm in the case of mild steel<sup>3</sup>, or than an equivalent thickness in the case of other materials, for shells not more than 1.80 m in diameter. For shells of a diameter exceeding 1.80 m this minimum thickness shall be increased to 4 mm in the case of mild steel<sup>3</sup>, and to an equivalent thickness in the case of other metals.

Equivalent thickness means the thickness given by the formula in 6.8.2.1.18.

The thickness of shells with protection against damage in accordance with 6.8.2.1.20 shall not be less than the values given in the table below.

| Minimum thickness of shells | Diameter of shell           | ≤ 1.80 m | > 1.80 m |
|-----------------------------|-----------------------------|----------|----------|
|                             | Stainless austenitic steels | 2.5 mm   | 3 mm     |
|                             | Other steels                | 3 mm     | 4 mm     |
|                             | Aluminium alloys            | 4 mm     | 5 mm     |
|                             | Pure aluminium of 99.80%    | 6 mm     | 8 mm     |

<sup>3</sup> For the definitions of "mild steel" and "reference steel" see 1.2.1.

<sup>4</sup> This formula is derived from the general formula:

$$e_1 = e_0 \sqrt[3]{\left(\frac{R_{m0}A_0}{R_{m1}A_1}\right)^2}$$

where

- $e_1$  = minimum shell thickness for the metal chosen, in mm;
- $e_0$  = minimum shell thickness for mild steel, in mm, according to 6.8.2.1.18 and 6.8.2.1.19;
- $R_{m0}$  = 370 (tensile strength for reference steel, see definition 1.2.1, in N/mm<sup>2</sup>);
- $A_0$  = 27 (elongation at fracture for reference steel, in %);
- $R_{m1}$  = minimum tensile strength of the metal chosen, in N/mm<sup>2</sup>; and
- $A_1$  = minimum elongation at fracture of the metal chosen under tensile stress, in %.

|            |  |  |
|------------|--|--|
| 6.8.2.1.20 | <p>For tanks built after 1 January 1990, there is protection against damage as referred to in 6.8.2.1.19 when the following measures or equivalent measures are adopted:</p> <p>(a) For tanks intended for the carriage of powdery or granular substances, the protection against damage shall satisfy the competent authority.</p> <p>(b) For tanks intended for the carriage of other substances, there is protection against damage when:</p> <p>1. For shells with a circular or elliptical cross-section having a maximum radius of curvature of 2 m, the shell is equipped with strengthening members comprising partitions, surge-plates or external or internal rings, so placed that at least one of the following conditions is met:</p> <ul style="list-style-type: none"> <li>- Distance between two adjacent strengthening elements of not more than 1.75 m.</li> <li>- Volume contained between two partitions or surge-plates of not more than 7 500 l.</li> </ul> <p>The vertical cross-section of a ring, with the associated coupling, shall have a section modulus of at least 10 cm<sup>3</sup>.</p> <p>External rings shall not have projecting edges with a radius of less than 2.5 mm.</p> <p>Partitions and surge-plates shall conform to the requirements of 6.8.2.1.22.</p> <p>The thickness of the partitions and surge-plates shall in no case be less than that of the shell.</p> <p>2. For tanks made with double walls, the space between being evacuated of air, the aggregate thickness of the outer metal wall and the shell wall corresponds to the wall thickness prescribed in 6.8.2.1.18, and the thickness of the wall of the shell itself is not less than the minimum thickness prescribed in 6.8.2.1.19.</p> | <p>The protection referred to in 6.8.2.1.19 may consist of:</p> <ul style="list-style-type: none"> <li>- overall external structural protection as in "sandwich" construction where the sheathing is secured to the shell; or</li> <li>- a structure in which the shell is supported by a complete skeleton including longitudinal and transverse structural members; or</li> <li>- double-wall construction.</li> </ul> <p>Where the tanks are made with double walls, the space between being evacuated of air, the aggregate thickness of the outer metal wall and the shell wall shall correspond to the minimum wall thickness prescribed in 6.8.2.1.18, the thickness of the wall of the shell itself being not less than the minimum thickness prescribed in 6.8.2.1.19.</p> <p>Where tanks are made with double walls with an intermediate layer of solid materials at least 50 mm thick, the outer wall shall have a thickness of not less than 0.5 mm if it is made of mild steel<sup>3</sup> or at least 2 mm if it is made of a plastics material reinforced with glass fibre. Solid foam with an impact absorption capacity such as that, for example, of polyurethane foam, may be used as the intermediate layer of solid material.</p> |
|------------|--|--|

<sup>3</sup> For the definitions of "mild steel" and "reference steel" see 1.2.1.

3. For tanks made with double walls having an intermediate layer of solid materials at least 50 mm thick, the outer wall has a thickness of at least 0.5 mm of mild steel <sup>3</sup> or at least 2 mm of a plastics material reinforced with glass fibre. Solid foam (with an impact absorption capacity like that, for example, of polyurethane foam) may be used as the intermediate layer of solid material.
4. Shells of forms other than in 1, especially box-shaped shells, are provided, all round the mid-point of their vertical height and over at least 30% of their height with a protection designed in such a way as to offer specific resilience at least equal to that of a shell constructed in mild steel <sup>3</sup> of a thickness of 5 mm (for a shell diameter not exceeding 1.80 m) or 6 mm (for a shell diameter exceeding 1.80 m). The protection shall be applied in a durable manner to the outside of the shell.

This requirement shall be considered to have been met without further proof of the specific resilience when the protection involves the welding of a plate of the same material as the shell to the area to be strengthened, so that the minimum wall thickness is in accordance with 6.8.2.1.18.

This protection is dependent upon the possible stresses exerted on mild steel <sup>3</sup> shells in the event of an accident, where the ends and walls have a thickness of at least 5 mm for a diameter not exceeding 1.80 m or at least 6 mm for a diameter exceeding 1.80 m. If another metal is used, the equivalent thickness shall be obtained in accordance with the formula in 6.8.2.1.18.

For demountable tanks this protection is not required when they are protected on all sides by the drop sides of the carrying vehicle.

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<sup>3</sup> For the definitions of "mild steel" and "reference steel" see 1.2.1.

- 6.8.2.1.21 The thickness of shells designed in accordance with 6.8.2.1.14 (a) which either are of not more than 5 000 litres capacity or are divided into leakproof compartments of not more than 5 000 litres unit capacity may be adjusted to a level which, unless prescribed otherwise in 6.8.3 or 6.8.4, shall however not be less than the appropriate value shown in the following table:

| Maximum radius of curvature of shell (m) | Capacity of shell or shell compartment (m <sup>3</sup> ) | Minimum thickness (mm) |
|--|--|------------------------|
|  |  | Mild steel             |
| ≤ 2                                      | ≤ 5.0  | 3                      |
| 2 - 3                                    | ≤ 3.5  | 3                      |
|  | > 3.5 but ≤ 5.0  | 4                      |

Where a metal other than mild steel<sup>3</sup> is used, the thickness shall be determined by the equivalence formula given in 6.8.2.1.18 and shall not be less than the values given in the following table:

|                            | Maximum radius of curvature of shell (m)                 | ≤ 2    | 2-3    | 2-3             |
|----------------------------|--|--------|--------|-----------------|
|                            | Capacity of shell or shell compartment (m <sup>3</sup> ) | ≤ 5.0  | ≤ 3.5  | > 3.5 but ≤ 5.0 |
| Minimum thickness of shell | Austenitic stainless steels                              | 2.5 mm | 2.5 mm | 3 mm            |
|                            | Other steels   | 3 mm   | 3 mm   | 4 mm            |
|                            | Aluminium alloys   | 4 mm   | 4 mm   | 5 mm            |
|                            | Pure aluminium at 99.80%                                 | 6 mm   | 6 mm   | 8 mm            |

The thickness of the partitions and surge-plates shall in no case be less than that of the shell.

<sup>3</sup> For the definitions of "mild steel" and "reference steel" see 1.2.1.

- 6.8.2.1.22 Surge-plates and partitions shall be dished, with a depth of dish of not less than 10 cm, or shall be corrugated, profiled or otherwise reinforced to give equivalent strength. The area of the surge plate shall be at least 70% of the cross-sectional area of the tank in which the surge-plate is fitted.

*Welding and inspection of welds*

- 6.8.2.1.23 The manufacturer's qualification for performing welding operations shall be one recognized by the competent authority. Welding shall be performed by skilled welders using a welding process whose effectiveness (including any heat treatments required) has been demonstrated by test. Non-destructive tests shall be carried out by radiography or by ultrasound and must confirm that the quality of the welding is appropriate to the stresses.


The following checks shall be carried out in accordance with the value of the coefficient  $\lambda$  used in determining the thickness of the shell in 6.8.2.1.17:

- $\lambda = 0.8$ : the weld beads shall so far as possible be inspected visually on both faces and shall be subjected to a non-destructive spot check. All weld "Tee" junctions with the total length of weld examined to be not less than 10% of the sum of the length of all longitudinal, circumferential and radial (in the tank ends) welds shall be tested;
- $\lambda = 0.9$ : all longitudinal beads throughout their length, all connections, 25% of circular beads, and welds for the assembly of large-diameter items of equipment shall be subjected to non-destructive checks. Beads shall be checked visually on both sides as far as possible;
- $\lambda = 1$ : all beads shall be subjected to non-destructive checks and shall so far as possible be inspected visually on both sides. A weld test-piece shall be taken.

Where the competent authority has doubts regarding the quality of weld beads, it may require additional checks.

*Other construction requirements*

- 6.8.2.1.24 The protective lining shall be so designed that its leakproofness remains intact, whatever the deformation liable to occur in normal conditions of carriage (see 6.8.2.1.2).
- 6.8.2.1.25 The thermal insulation shall be so designed as not to hinder access to, or the operation of, filling and discharge devices and safety valves.
- 6.8.2.1.26 If shells intended for the carriage of flammable liquids having a flash-point of not more than 60 °C are fitted with non-metallic protective linings (inner layers), the shells and the protective linings shall be so designed that no danger of ignition from electrostatic charges can occur.

|                |   |   |
|----------------|---|---|
| 6.8.2.1.27     | <p>Shells intended for the carriage of liquids having a flash-point of not more than 60 °C or for the carriage of flammable gases, or of UN No.1361 carbon or UN No.1361 carbon black, packing group II, shall be linked to the chassis by means of at least one good electrical connection. Any metal contact capable of causing electrochemical corrosion shall be avoided. Shells shall be provided with at least one earth fitting clearly marked with the symbol "  ", capable of being electrically connected.</p> | <p>All parts of a tank-container intended for the carriage of liquids having a flash-point of not more than 60 °C, flammable gases, or UN No.1361 carbon or UN No.1361 carbon black, packing group II, shall be capable of being electrically earthed. Any metal contact capable of causing electrochemical corrosion shall be avoided.</p> |
| 6.8.2.1.28     | <p><i>Protection of fittings mounted on the upper part of the tank</i></p> <p>The fittings and accessories mounted on the upper part of the tank shall be protected against damage caused by overturning. This protection may take the form of strengthening rings, protective canopies or transverse or longitudinal members so shaped that effective protection is given.</p>   |   |
| <b>6.8.2.2</b> | <b><i>Items of equipment</i></b>  |   |
| 6.8.2.2.1      | <p>Suitable non-metallic materials may be used to manufacture service and structural equipment.</p>   |   |
|                | <p>The items of equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during carriage or handling. They shall exhibit a suitable degree of safety comparable to that of the shells themselves, and shall in particular:</p>   |   |
|                | <ul style="list-style-type: none"> <li>- be compatible with the substances carried; and</li> <li>- meet the requirements of 6.8.2.1.1.</li> </ul>   |   |
|                | <p>Piping shall be designed, constructed and installed so as to avoid the risk of damage due to thermal expansion and contraction, mechanical shock and vibration.</p>  |   |
|                | <p>As many operating parts as possible shall be served by the smallest possible number of openings in the shell. The leakproofness of the service equipment including the closure (cover) of the inspection openings shall be ensured even in the event of overturning of the tank, taking into account the forces generated by an impact (such as acceleration and dynamic pressure). Limited release of the tank contents due to a pressure peak during the impact is however allowed.</p>  | <p>The leakproofness of the service equipment shall be ensured even in the event of the overturning of the tank-container.</p>  |
|                | <p>The gaskets shall be made of a material compatible with the substance carried and shall be replaced as soon as their effectiveness is impaired, for example as a result of ageing.</p>   |   |
|                | <p>Gaskets ensuring the leakproofness of fittings requiring manipulation during normal use of tanks shall be so designed and arranged that manipulation of the fittings incorporating them does not damage them.</p>  |   |



6.8.2.2.2 Each bottom-filling or bottom-discharge opening in tanks which are referred to, in Column (12) of Table A of Chapter 3.2, with a tank code including the letter "A" in its third part (see 4.3.4.1.1) shall be equipped with at least two mutually independent closures, mounted in series, comprising

- an external stop-valve with piping made of a malleable metal material and
- a closing device at the end of each pipe which may be a screw-threaded plug, a blank flange or an equivalent device. This closing device shall be sufficiently tight so that the substance is contained without loss. Measures shall be taken to enable the safe release of pressure in the discharge pipe before the closing device is completely removed.

Each bottom-filling or bottom-discharge opening in tanks which are referred to, in Column (12) of Table A of Chapter 3.2, with a tank code including the letter "B" in its third part (see 4.3.3.1.1 or 4.3.4.1.1) shall be equipped with at least three mutually independent closures, mounted in series, comprising

- an internal stop-valve, i.e. a stop-valve mounted inside the shell or in a welded flange or companion flange;
- an external stop-valve or an equivalent device <sup>5</sup>

one at the end of each pipe | as near as possible to the shell  
and

- a closing device at the end of each pipe which may be a screw-threaded plug, a blank flange or an equivalent device. This closing device shall be sufficiently tight so that the substance is contained without loss. Measures shall be taken to enable the safe release of pressure in the discharge pipe before the closing device is completely removed.

However, in the case of tanks intended for the carriage of certain crystallizable or highly viscous substances and shells fitted with an ebonite or thermoplastic coating, the internal stop-valve may be replaced by an external stop-valve provided with additional protection.

The internal stop-valve shall be operable either from above or from below. Its setting - open or closed - shall so far as possible in each case be capable of being verified from the ground. Internal stop-valve control devices shall be so designed as to prevent any unintended opening through impact or an inadvertent act.

The internal shut-off device shall continue to be effective in the event of damage to the external control device.

In order to avoid any loss of contents in the event of damage to the external fittings (pipes, lateral shut-off devices), the internal stop-valve and its seating shall be protected against the danger of being wrenched off by external stresses or shall be so designed as to resist them. The filling and discharge devices (including flanges or threaded plugs) and protective caps (if any) shall be capable of being secured against any unintended opening.

The position and/or direction of closure of shut-off devices shall be clearly apparent.

All openings of tanks which are referred to in Column (12) of Table A of Chapter 3.2, by a tank code including letter "C" or "D" in its third part (see 4.3.3.1.1 and 4.3.4.1.1) shall be

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<sup>5</sup> In the case of tank-containers of less than 1 m<sup>3</sup> capacity, the external stop-valve or other equivalent device may be replaced by a blank flange.

situated above the surface level of the liquid. These tanks shall have no pipes or pipe connections below the surface level of the liquid. The cleaning openings (fist-holes) are, however, permitted in the lower part of the shell for tanks referred to by a tank code including letter "C" in its third part. This opening shall be capable of being sealed by a flange so closed as to be leakproof and whose design shall be approved by the competent authority or by a body designated by that authority.

- 6.8.2.2.3 Tanks that are not hermetically closed may be fitted with vacuum valves to avoid an unacceptable negative internal pressure; these vacuum-relief valves shall be set to relieve at a vacuum setting not greater than the vacuum pressure for which the tank has been designed (see 6.8.2.1.7). Hermetically closed tanks shall not be fitted with vacuum valves. However, tanks of the tank code SGAH, S4AH or L4BH, fitted with vacuum valves which open at a negative pressure of not less than 21 kPa (0.21 bar) shall be considered as being hermetically closed. For tanks intended for the carriage of solid substances (powdery or granular) of packing groups II or III only, which do not liquefy during transport, the negative pressure may be reduced to not less than 5 kPa (0.05 bar).

Vacuum valves used on tanks intended for the carriage of substances meeting the flash-point criteria of Class 3, shall prevent the immediate passage of flame into the tank, or the shell of the tank shall be capable of withstanding, without leakage, an explosion resulting from the passage of the flame.

- 6.8.2.2.4 The shell or each of its compartments shall be provided with an opening large enough to permit inspection.

- 6.8.2.2.5 (*Reserved*)

- 6.8.2.2.6 Tanks intended for the carriage of liquids having a vapour pressure of not more than 110 kPa (1.1 bar) (absolute) at 50 °C shall have a venting system and a safety device to prevent the contents from spilling out if the tank overturns; otherwise they shall conform to 6.8.2.2.7 or 6.8.2.2.8.

- 6.8.2.2.7 Tanks intended for the carriage of liquids having a vapour pressure of more than 110 kPa (1.1 bar) at 50 °C and a boiling point of more than 35 °C shall have a safety valve set at not less than 150 kPa (1.5 bar) (gauge pressure) and which shall be fully open at a pressure not exceeding the test pressure; otherwise they shall conform to 6.8.2.2.8.

- 6.8.2.2.8 Tanks intended for the carriage of liquids having a boiling point of not more than 35 °C shall have a safety valve set at not less than 300 kPa (3 bar) gauge pressure and which shall be fully open at a pressure not exceeding the test pressure; otherwise they shall be hermetically closed<sup>6</sup>.

- 6.8.2.2.9 Movable parts such as covers, closures, etc., which are liable to come into frictional or percussive contact with aluminium shells intended for the carriage of flammable liquids having a flash-point of not more than 60 °C or for the carriage of flammable gases shall not be made of unprotected corrodible steel.

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<sup>6</sup> For the definition of "hermetically closed tank" see 1.2.1.

- 6.8.2.2.10 If tanks required to be hermetically closed are equipped with safety valves, these shall be preceded by a bursting disc and the following conditions shall be observed:

The arrangement of the bursting disc and safety valve shall be such as to satisfy the competent authority. A pressure gauge or another suitable indicator shall be provided in the space between the bursting disc and the safety valve, to enable detection of any rupture, perforation or leakage of the disc which may disrupt the action of the safety valve.

### 6.8.2.3 *Type approval*

- 6.8.2.3.1 The competent authority or a body designated by that authority shall issue in respect of each new type of tank-vehicle, demountable tank, tank-container, tank swap body, battery-vehicle or MEGC a certificate attesting that the type, including fastenings, which it has inspected is suitable for the purpose for which it is intended and meets the construction requirements of 6.8.2.1, the equipment requirements of 6.8.2.2 and the special conditions for the classes of substances carried.

The certificate shall show:

- the results of the test;
- an approval number for the type;

The approval number shall consist of the distinguishing sign<sup>7</sup> of the State in whose territory the approval was granted and a registration number.

- the tank code in accordance with 4.3.3.1.1 or 4.3.4.1.1;
- the alphanumerical codes of special provisions of construction (TC), equipment (TE) and type approval (TA) of 6.8.4 which are shown in column (13) of Table A of Chapter 3.2 for those substances for the carriage of which the tank has been approved;
- if required, the substances and/or group of substances for the carriage of which the tank has been approved. These shall be shown with their chemical name or the corresponding collective entry (see 2.1.1.2), together with their classification (class, classification code and packing group). With the exception of substances of Class 2 and those listed in 4.3.4.1.3, the listing of approved substances may be dispensed with. In such cases, groups of substances permitted on the basis of the tank code shown in the rationalised approach in 4.3.4.1.2 shall be accepted for carriage taking into account any relevant special provision.

The substances referred to in the certificate or the groups of substances approved according to the rationalised approach shall, in general, be compatible with the characteristics of the tank. A reservation shall be included in the certificate if it was not possible to investigate this compatibility exhaustively when the type approval was issued.

A copy of the certificate shall be attached to the tank record of each tank, battery-vehicle or MEGC constructed (see 4.3.2.1.7).

<sup>7</sup> Distinguishing sign for use in international traffic prescribed by the Convention on Road Traffic (Vienna, 1968).

- 6.8.2.3.2 If the tanks, battery-vehicles or MECGs are manufactured in series without modification this approval shall be valid for the tanks, battery-vehicles or MECGs manufactured in series or according to the prototype.

A type approval may however serve for the approval of tanks with limited variations of the design that either reduce the loads and stresses on the tanks (e.g. reduced pressure, reduced mass, reduced volume) or increase the safety of the structure (e.g. increased shell thickness, more surge-plates, decreased diameter of openings). The limited variations shall be clearly described in the type approval certificate.

#### 6.8.2.4 *Inspections and tests*

- 6.8.2.4.1 Shells and their equipment shall either together or separately undergo an initial inspection before being put into service. This inspection shall include:

- a check of conformity to the approved type;
- a check of the design characteristics <sup>8</sup>
- an examination of the internal and external conditions;
- a hydraulic pressure test <sup>9</sup> at the test pressure indicated on the plate prescribed in 6.8.2.5.1; and
- a leakproofness test and a check of satisfactory operation of the equipment.

Except in the case of Class 2, the test pressure for the hydraulic pressure test depends on the calculation pressure and shall be at least equal to the pressure indicated below:

| Calculation pressure (bar) | Test pressure (bar)   |
|----------------------------|-----------------------|
| $G^{10}$                   | $G^{10}$              |
| 1.5                        | 1.5                   |
| 2.65                       | 2.65                  |
| 4                          | 4                     |
| 10                         | 4                     |
| 15                         | 4                     |
| 21                         | 10 (4 <sup>11</sup> ) |

The minimum test pressures for Class 2 are given in the table of gases and gas mixtures in 4.3.3.2.5.

The hydraulic pressure test shall be carried out on the shell as a whole and separately on each compartment of compartmented shells.

The test shall be carried out on each compartment at a pressure at least equal to 1.3 times the maximum working pressure.

<sup>8</sup> The check of the design characteristics shall also include, for shells requiring a test pressure of 1 MPa (10 bar) or higher, the taking of weld test-pieces (work samples) in accordance with 6.8.2.1.23 and the tests prescribed in 6.8.5.

<sup>9</sup> In special cases and with the agreement of the expert approved by the competent authority, the hydraulic pressure test may be replaced by a pressure test using another liquid or gas, where such an operation does not present any danger.

<sup>10</sup>  $G$  = minimum calculation pressure according to the general requirements of 6.8.2.1.14 (see 4.3.4.1).

<sup>11</sup> Minimum test pressure for UN No. 1744 bromine or UN No. 1744 bromine solution.

The hydraulic pressure test shall be carried out before the installation of a thermal insulation as may be necessary.

If the shells and their equipment are tested separately, they shall be jointly subjected to a leakproofness test after assembly in accordance with 6.8.2.4.3.

The leakproofness test shall be carried out separately on each compartment of compartmented shells.

6.8.2.4.2 Shells and their equipment shall undergo periodic inspections no later than every six years. | five years.

These periodic inspections shall include:

- An external and internal examination;
- A leakproofness test in accordance with 6.8.2.4.3 of the shell with its equipment and check of the satisfactory operation of all the equipment;
- As a general rule, a hydraulic pressure test<sup>9</sup> (for the test pressure for the shells and compartments if applicable, see 6.8.2.4.1).

Sheathing for thermal or other insulation shall be removed only to the extent required for reliable appraisal of the characteristics of the shell.

In the case of tanks intended for the carriage of powdery or granular substances, and with the agreement of the expert approved by the competent authority, the periodic hydraulic pressure tests may be omitted and replaced by leakproofness tests in accordance with 6.8.2.4.3, at an effective internal pressure at least equal to the maximum working pressure.

|           |  |                      |
|-----------|--|----------------------|
| 6.8.2.4.3 | Shells and their equipment shall undergo intermediate inspections at least every |                      |
|           | three years  | two and a half years |

after the initial inspection and each periodic inspection. These intermediate inspections may be performed within three months before or after the specified date.

However, the intermediate inspection may be performed at any time before the specified date.

If an intermediate inspection is performed more than three months before the due date, another intermediate inspection shall be performed at the latest

three years | two and a half years

after this date.

These intermediate inspections shall include a leakproofness test of the shell with its equipment and check of the satisfactory operation of all the equipment. For this purpose the tank shall be subjected to an effective internal pressure at least equal to the maximum working pressure. For tanks intended for the carriage of liquids or solids in the granular or powdery state, when a gas is used for the leakproofness test it shall be carried out at a

<sup>9</sup> In special cases and with the agreement of the expert approved by the competent authority, the hydraulic pressure test may be replaced by a pressure test using another liquid or gas, where such an operation does not present any danger.

pressure at least equal to 25% of the maximum working pressure. In all cases, it shall not be less than 20 kPa (0.2 bar) (gauge pressure).

For tanks equipped with venting systems and a safety device to prevent the contents spilling out if the tank overturns, the pressure test shall be equal to the static pressure of the filling substance.

The leakproofness test shall be carried out separately on each compartment of compartmented shells.

6.8.2.4.4 When the safety of the tank or of its equipment may have been impaired as a result of repairs, alterations or accident, an exceptional check shall be carried out. If an exceptional check fulfilling the requirements of 6.8.2.4.2 has been performed, then the exceptional check may be considered to be a periodic inspection. If an exceptional check fulfilling the requirements of 6.8.2.4.3 has been performed then the exceptional check may be considered to be an intermediate inspection.

6.8.2.4.5 The tests, inspections and checks in accordance with 6.8.2.4.1 to 6.8.2.4.4 shall be carried out by the expert approved by the competent authority. Certificates shall be issued showing the results of these operations, even in the case of negative results. These certificates shall refer to the list of the substances permitted for carriage in this tank or to the tank code and the alphanumeric codes of special provisions in accordance with 6.8.2.3.

A copy of these certificates shall be attached to the tank record of each tank, battery-vehicle or MEGC tested (see 4.3.2.1.7).

#### **6.8.2.5**     *Marking*

6.8.2.5.1 Every tank shall be fitted with a corrosion-resistant metal plate permanently attached to the tank in a place readily accessible for inspection. The following particulars at least shall be marked on the plate by stamping or by any other similar method. These particulars may be engraved directly on the walls of the shell itself, if the walls are so reinforced that the strength of the shell is not impaired <sup>12</sup>:

- approval number;
- manufacturer's name or mark;
- manufacturer's serial number;
- year of manufacture;
- test pressure (gauge pressure);
- external design pressure (see 6.8.2.1.7);
- capacity of the shell – in the case of multiple-compartment shells, the capacity of each compartment –, followed by the symbol "S" when the shells or the compartments are divided by surge plates into sections of not more than 7 500 litres capacity;
- design temperature (only if above +50 °C or below -20 °C);
- date and type of the most recent test: "month, year" followed by a "P" when the test is the initial test or a periodic test in accordance with 6.8.2.4.1 and 6.8.2.4.2, or "month, year" followed by an "L" when the test is an intermediate leakproofness test in accordance with 6.8.2.4.3;
- stamp of the expert who carried out the tests;

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<sup>12</sup>     Add the units of measurement after the numerical values.

- material of the shell and reference to materials standards, if available and, where appropriate, the protective lining;
- test pressure on the shell as a whole and test pressure by compartment in MPa or bar (gauge pressure) where the pressure by compartment is less than the pressure on the shell.

In addition, the maximum working pressure allowed shall be inscribed on pressure-filled or pressure-discharge tanks.

|           |   |  |
|-----------|---|--|
| 6.8.2.5.2 | <p>The following particulars shall be inscribed on the tank-vehicle itself or on a plate <sup>12</sup>:</p> <ul style="list-style-type: none"> <li>- name of owner or operator;</li> <li>- unladen mass; and</li> <li>- maximum permissible mass.</li> </ul> <p>These particulars shall not be required in the case of a vehicle carrying demountable tanks.</p> <p>The tank code according to 4.3.4.1.1 shall be inscribed on the demountable tank itself or on a plate.</p> | <p>The following particulars shall be inscribed either on the tank-container itself or on a plate <sup>12</sup>:</p> <ul style="list-style-type: none"> <li>- names of owner and of operator;</li> <li>- capacity of the shell;</li> <li>- tare;</li> <li>- maximum permissible laden mass;</li> <li>- for the substances according to 4.3.4.1.3, the proper shipping name of the substance(s) accepted for carriage;</li> <li>- tank code according to 4.3.4.1.1;</li> <li>- for substances other than those according to 4.3.4.1.3, the alphanumeric codes of all special provisions TC and TE which are shown in column (13) of Table A of Chapter 3.2 for the substances to be carried in the tank.</li> </ul> |
|-----------|---|--|

#### 6.8.2.6 *Requirements for tanks which are designed, constructed and tested according to standards*

**NOTE:** *Persons or bodies identified in standards as having responsibilities in accordance with ADR shall meet the requirements of ADR.*

Depending on the date of construction of the tank, the standards listed in the table below shall be applied as indicated in column (4) to meet the requirements of Chapter 6.8 referred to in column (1) or may be applied as indicated in column (5). The requirements of Chapter 6.8 referred to in column (1) shall prevail in all cases.

If more than one standard is listed as mandatory for the application of the same requirements, only one of them shall be applied, but in full unless otherwise specified in the table below.

<sup>12</sup> Add the units of measurement after the numerical values.



| Applicable sub-sections and paragraphs  | Reference   | Title of document   | Mandatory application for tanks constructed              | Application authorized for tanks constructed |
|---|---|---|--|--|
| (1)   | (2)   | (3)   | (4)  | (5)  |
| <b>For all tanks</b>  |   |   |  |  |
| 6.8.2.1   | EN 14025:2003 + AC:2005                               | Tanks for the transport of dangerous goods - Metallic pressure tanks - Design and construction  |  | Between 1 January 2005 and 30 June 2009      |
| 6.8.2.1   | EN 14025:2008   | Tanks for the transport of dangerous goods - Metallic pressure tanks - Design and construction  | As from 1 July 2009                                      | Before 1 July 2009                           |
| 6.8.2.2.1   | EN 14432:2006   | Tanks for the transport of dangerous goods – Tank equipment for the transport of liquid chemicals – Product discharge and air inlet valves  | As from 1 January 2011                                   | Before 1 January 2011                        |
| 6.8.2.2.1   | EN 14433:2006   | Tanks for transport of dangerous goods – Tank equipment for the transport of liquid chemicals – Foot valves   | As from 1 January 2011                                   | Before 1 January 2011                        |
| <b>For testing and inspection</b>   |   |   |  |  |
| 6.8.2.4<br>6.8.3.4  | EN 12972:2001 (with the exception of annexes D and E) | Tanks for transport of dangerous goods - Testing, inspection and marking of metallic tanks  | Between 1 January 2009 and 31 December 2010 <sup>a</sup> | Between 1 January 2003 and 31 December 2008  |
| 6.8.2.4<br>6.8.3.4  | EN 12972:2007   | Tanks for transport of dangerous goods - Testing, inspection and marking of metallic tanks  | As from 1 January 2011                                   | Before 1 January 2011                        |
| <b>For tanks with a maximum working pressure not exceeding 50 kPa and intended for the carriage of substances for which a tank code with the letter "G" is given in column (12) of Table A of Chapter 3.2</b> |   |   |  |  |
| 6.8.2.1   | EN 13094:2004   | Tanks for the transport of dangerous goods – Metallic tanks with a working pressure not exceeding 0.5 bar – Design and construction   |  | As from 1 January 2005                       |
| <b>For tanks for gases of Class 2</b>   |   |   |  |  |
| 6.8.2.1 (with the exception of 6.8.2.1.17);<br>6.8.2.4.1 (with the exclusion of the leakproofness test); 6.8.2.5.1, 6.8.3.1 and 6.8.3.5.1   | EN 12493:2001 (except Annex C)                        | Welded steel tanks for liquefied petroleum gas (LPG) – Road tankers – Design and manufacture<br><i>NOTE: Road tankers is to be understood in the meaning of "fixed tanks" and "demountable tanks" as per ADR.</i>                                 | Between 1 January 2009 and 31 December 2010              | Between 1 January 2005 and 31 December 2008  |
| 1.2.1, 6.8.1, 6.8.2.1 (with the exception of 6.8.2.1.17), 6.8.2.5, 6.8.3.1, 6.8.3.5, 6.8.5.1 to 6.8.5.3   | EN 12493:2008 (except Annex C)                        | LPG equipment and accessories – Welded steel tanks for liquefied petroleum gas (LPG) – Road tankers – Design and manufacture<br><i>NOTE: Road tankers is to be understood in the meaning of "fixed tanks" and "demountable tanks" as per ADR.</i> | As from 1 January 2011                                   | Before 1 January 2011                        |

<sup>a</sup> Unless the application of another standard is authorized in column (5) for the same purposes for tanks constructed at the same date.



| Applicable sub-sections and paragraphs   | Reference                        | Title of document  | Mandatory application for tanks constructed | Application authorized for tanks constructed |
|--|----------------------------------|--|---|--|
| (1)  | (2)                              | (3)  | (4)   | (5)  |
| 6.8.3.2 (with the exception of 6.8.3.2.3)  | EN 12252:2000                    | Equipping of LPG road tankers<br><i>NOTE: Road tankers is to be understood in the meaning of "fixed tanks" and "demountable tanks" as per ADR.</i>                                 | Between 1 January 2009 and 31 December 2010 | Between 1 January 2005 and 31 December 2008  |
| 6.8.3.2 (with the exception of 6.8.3.2.3) and 6.8.3.4.9  | EN 12252:2005 + A1:2008          | LPG equipment and accessories – Equipping of LPG road tankers<br><i>NOTE: Road tankers is to be understood in the meaning of "fixed tanks" and "demountable tanks" as per ADR.</i> | As from 1 January 2011                      | Before 1 January 2011                        |
| 6.8.2.1 (with the exception of 6.8.2.1.17), 6.8.2.4, 6.8.3.1 and 6.8.3.4   | EN 13530-2:2002                  | Cryogenic vessels – Large transportable vacuum insulated vessels – Part 2: Design, fabrication, inspection and testing   |   | Between 1 January 2005 and 30 June 2007      |
| 6.8.2.1 (with the exception of 6.8.2.1.17), 6.8.2.4, 6.8.3.1 and 6.8.3.4   | EN 13530-2:2002 + A1:2004        | Cryogenic vessels – Large transportable vacuum insulated vessels – Part 2: Design, fabrication, inspection and testing   | As from 1 January 2009                      | Before 1 January 2009                        |
| 6.8.2.1 (with the exception of 6.8.2.1.17, 6.8.2.1.19 and 6.8.2.1.20), 6.8.2.4, 6.8.3.1 and 6.8.3.4  | EN 14398-2:2003 (except Table 1) | Cryogenic vessels - Large transportable non-vacuum insulated vessels - Part 2: Design, fabrication, inspection and testing   | As from 1 January 2009                      | Before 1 January 2009                        |
| <b>For tanks intended for the carriage of liquid petroleum products and other dangerous substances of Class 3 which have a vapour pressure not exceeding 110 kPa at 50 °C and petrol, and which have no toxic or corrosive subsidiary hazard</b> |                                  |  |   |  |
| 6.8.2.1  | EN 13094:2004                    | Tanks for the transport of dangerous goods – Metallic tanks with a working pressure not exceeding 0.5 bar – Design and construction  |   | As from 1 January 2005                       |
| 6.8.2.2 and 6.8.2.4.1  | EN 13082:2001                    | Tanks for transport of dangerous goods – Service equipment for tanks – Vapour transfer valve   | As from 1 January 2009                      | Before 1 January 2009                        |
| 6.8.2.2 and 6.8.2.4.1  | EN 13308:2002                    | Tanks for transport of dangerous goods – Service equipment for tanks – Non pressure balanced footvalve   | As from 1 January 2009                      | Before 1 January 2009                        |
| 6.8.2.2 and 6.8.2.4.1  | EN 13314:2002                    | Tanks for transport of dangerous goods – Service equipment for tanks – Fill hole cover   | As from 1 January 2009                      | Before 1 January 2009                        |
| 6.8.2.2 and 6.8.2.4.1  | EN 13316:2002                    | Tanks for transport of dangerous goods – Service equipment for tanks – Pressure balanced footvalve   | As from 1 January 2009                      | Before 1 January 2009                        |
| 6.8.2.2 and 6.8.2.4.1  | EN 13317:2002                    | Tanks for transport of dangerous goods – Service equipment for tanks – Manhole cover assembly  |   | Between 1 January 2005 and 30 June 2007      |

| Applicable sub-sections and paragraphs | Reference   | Title of document  | Mandatory application for tanks constructed              | Application authorized for tanks constructed |
|--|---|--|--|--|
| (1)                                    | (2)   | (3)  | (4)  | (5)  |
| 6.8.2.2 and 6.8.2.4.1                  | EN 13317:2002 (except for the figure and table B.2 in Annex B) (The material shall meet the requirements of standard EN 13094:2004, Clause 5.2) | Tanks for transport of dangerous goods – Service equipment for tanks – Manhole cover assembly            | Between 1 January 2009 and 31 December 2010 <sup>a</sup> | Between 1 January 2007 and 31 December 2008  |
| 6.8.2.2 and 6.8.2.4.1                  | EN 13317:2002 + A1:2006   | Tanks for transport of dangerous goods – Service equipment for tanks – Manhole cover assembly            | As from 1 January 2011                                   | Before 1 January 2011                        |
| 6.8.2.2 and 6.8.2.4.1                  | EN 14595:2005   | Tanks for transport of dangerous goods - Service equipment for tanks - Pressure and vacuum breather vent | As from 1 January 2009                                   | Before 1 January 2009                        |

**6.8.2.7** *Requirements for tanks which are not designed, constructed and tested according to standards*

To reflect scientific and technical progress or where no standard is listed in 6.8.2.6 or to deal with specific aspects not addressed in a standard listed in 6.8.2.6, the competent authority may recognize the use of a technical code providing the same level of safety. Tanks shall, however, comply with the minimum requirements of 6.8.2.

The competent authority shall transmit to the secretariat of UNECE a list of the technical codes that it recognises. The list should include the following details: name and date of the code, purpose of the code and details of where it may be obtained. The secretariat shall make this information publicly available on its website.

For testing, inspection and marking, the applicable standard as referred to in 6.8.2.6 may also be used.

**6.8.3** *Special requirements applicable to Class 2*

**6.8.3.1** *Construction of shells*

6.8.3.1.1 Shells intended for the carriage of compressed or liquefied gases or dissolved gases shall be made of steel. In the case of weldless shells, by derogation from 6.8.2.1.12 a minimum elongation at fracture of 14% and also a stress  $\sigma$  lower than or equal to limits hereafter given according to the material may be accepted:

- (a) When the ratio  $R_e/R_m$  (of the minimum guaranteed characteristics after heat treatment) is higher than 0.66 without exceeding 0.85:

$$\sigma \leq 0.75 R_e;$$

<sup>a</sup> Unless the application of another standard is authorized in column (5) for the same purposes for tanks constructed at the same date.

- (b) When the ratio  $R_e/R_m$  (of the minimum guaranteed characteristics after heat treatment) is higher than 0.85:

$$\sigma \leq 0.5 R_m.$$

6.8.3.1.2 The requirements of 6.8.5 apply to the materials and construction of welded shells.

6.8.3.1.3 *(Reserved)*

*Construction of battery-vehicles and MEGCs*

6.8.3.1.4 Cylinders, tubes, pressure drums and bundles of cylinders, as elements of a battery-vehicle or MEGC, shall be constructed in accordance with Chapter 6.2.

**NOTE 1:** Bundles of cylinders which are not elements of a battery-vehicle or of a MEGC shall be subject to the requirements of Chapter 6.2.

**NOTE 2:** Tanks as elements of battery-vehicles and MEGCs shall be constructed in accordance with 6.8.2.1 and 6.8.3.1.

**NOTE 3:** Demountable tanks<sup>13</sup> are not to be considered elements of battery-vehicles or MEGCs.

6.8.3.1.5 Elements and their fastenings shall be capable of absorbing under the maximum permissible load the forces defined in 6.8.2.1.2. Under each force the stress at the most severely stressed point of the element and its fastenings shall not exceed the value defined in 6.2.5.3 for cylinders, tubes, pressure drums and bundles of cylinders and for tanks the value of  $\sigma$  defined in 6.8.2.1.16.

**6.8.3.2** *Items of equipment*

6.8.3.2.1 The discharge pipes of tanks shall be capable of being closed by blank flanges or some other equally reliable device. For tanks intended for the carriage of refrigerated liquefied gases, these blank flanges or other equally reliable devices may be fitted with pressure-release openings of a maximum diameter of 1.5 mm.

6.8.3.2.2 Shells intended for the carriage of liquefied gases may be provided with, in addition to the openings prescribed in 6.8.2.2.2 and 6.8.2.2.4, openings for the fitting of gauges, thermometers, manometers and with bleed holes, as required for their operation and safety.

6.8.3.2.3 All filling and all discharge openings of tanks

| with a capacity greater than 1 m<sup>3</sup>

intended for the carriage of liquefied flammable and/or toxic gases shall be equipped with an instant-closing internal safety device which closes automatically in the event of an unintended movement of the shell or of fire. It shall also be possible to operate the closing device by remote control.

6.8.3.2.4 All openings, other than those accommodating safety valves and closed bleed holes, of tanks intended for the carriage of liquefied flammable and/or toxic gases shall, if their nominal diameter is more than 1.5 mm, shall be equipped with an internal shut-off device.

<sup>13</sup> For the definition of "demountable tank" see 1.2.1.

- 6.8.3.2.5 Notwithstanding the requirements of 6.8.2.2.2, 6.8.3.2.3 and 6.8.3.2.4, tanks intended for the carriage of refrigerated liquefied gases may be equipped with external devices in place of internal devices if the external devices afford protection against external damage at least equivalent to that afforded by the wall of the shell.
- 6.8.3.2.6 If the tanks are equipped with gauges in direct contact with the substance carried, the gauges shall not be made of a transparent material. If there are thermometers, they shall not project directly into the gas or liquid through the shell.
- 6.8.3.2.7 Filling and discharge openings situated in the upper part of tanks shall be equipped with, in addition to what is prescribed in 6.8.3.2.3, a second, external, closing device. This device shall be capable of being closed by a blank flange or some other equally reliable device.
- 6.8.3.2.8 Safety valves shall meet the requirements of 6.8.3.2.9 to 6.8.3.2.12 below:
- 6.8.3.2.9 Tanks intended for the carriage of compressed or liquefied gases or dissolved gases, may be fitted with spring-loaded safety valves. These valves shall be capable of opening automatically under a pressure between 0.9 and 1.0 times the test pressure of the tank to which they are fitted. They shall be of such a type as to resist dynamic stresses, including liquid surge. The use of dead weight or counter weight valves is prohibited. The required capacity of the safety valves shall be calculated in accordance with the formula contained in 6.7.3.8.1.1.
- 6.8.3.2.10 Where tanks are intended for carriage by sea, the requirements of 6.8.3.2.9 shall not prohibit the fitting of safety valves conforming to the IMDG Code.
- 6.8.3.2.11 Tanks intended for the carriage of refrigerated liquefied gases shall be equipped with two or more independent safety valves capable of opening at the maximum working pressure indicated on the tank. Two of these safety valves shall be individually sized to allow the gases formed by evaporation during normal operation to escape from the tank in such a way that the pressure does not at any time exceed by more than 10% the working pressure indicated on the tank.

One of the safety valves may be replaced by a bursting disc which shall be such as to burst at the test pressure.

In the event of loss of the vacuum in a double-walled tank, or of destruction of 20% of the insulation of a single-walled tank, the combination of the pressure relief devices shall permit an outflow such that the pressure in the shell cannot exceed the test pressure. The provisions of 6.8.2.1.7 shall not apply to vacuum-insulated tanks.

- 6.8.3.2.12 These pressure relief devices of tanks intended for the carriage of refrigerated liquefied gases shall be so designed as to function faultlessly even at their lowest working temperature. The reliability of their operation at that temperature shall be established and checked either by testing each device or by testing a specimen device of each design-type.
- 6.8.3.2.13 The valves of demountable tanks that can be rolled shall be provided with protective caps. |

*Thermal insulation*

- 6.8.3.2.14 If tanks intended for the carriage of liquefied gases are equipped with thermal insulation, such insulation shall consist of either:
- a sun shield covering not less than the upper third but not more than the upper half of the tank surface and separated from the shell by an air space at least 4 cm across; or
  - a complete cladding, of adequate thickness, of insulating materials.
- 6.8.3.2.15 Tanks intended for the carriage of refrigerated liquefied gases shall be thermally insulated. Thermal insulation shall be ensured by means of a continuous sheathing. If the space between the shell and the sheathing is under vacuum (vacuum insulation), the protective sheathing shall be so designed as to withstand without deformation an external pressure of at least 100 kPa (1 bar) (gauge pressure). By derogation from the definition of "calculation pressure" in 1.2.1, external and internal reinforcing devices may be taken into account in the calculations. If the sheathing is so closed as to be gas-tight, a device shall be provided to prevent any dangerous pressure from developing in the insulating layer in the event of inadequate gas-tightness of the shell or of its items of equipment. The device shall prevent the infiltration of moisture into the heat-insulating sheath.
- 6.8.3.2.16 Tanks intended for the carriage of liquefied gases having a boiling point below  $-182^{\circ}\text{C}$  at atmospheric pressure shall not include any combustible material either in the thermal insulation or in the means of attachment.
- The means of attachment for vacuum insulated tanks may, with the approval of the competent authority, contain plastics substances between the shell and the sheathing.
- 6.8.3.2.17 By derogation from the requirements of 6.8.2.2.4 shells intended for the carriage of refrigerated liquefied gases need not have an inspection opening.

*Items of equipment for battery-vehicles and MEGCs*

- 6.8.3.2.18 Service and structural equipment shall be configured or designed to prevent damage that could result in the release of the pressure receptacle contents during normal conditions of handling and carriage. When the connection between the frame of the battery-vehicle or MEGC and the elements allows relative movement between the sub-assemblies, the equipment shall be so fastened as to permit such movement without damage to working parts. Manifold piping leading to shut-off valves shall be sufficiently flexible to protect the valves and the piping from shearing, or releasing the pressure receptacle contents. The filling and discharge devices (including flanges or threaded plugs) and any protective caps shall be capable of being secured against unintended opening.
- 6.8.3.2.19 In order to avoid any loss of content in the event of damage, the manifolds, the discharge fittings (pipe sockets, shut-off devices), and the stop-valves shall be protected or arranged from being wrenched off by external forces or designed to withstand them.
- 6.8.3.2.20 The manifold shall be designed for service in a temperature range of  $-20^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ .
- The manifold shall be designed, constructed and installed so as to avoid the risk of damage due to thermal expansion and contraction, mechanical shock and vibration. All piping shall be of suitable metallic material. Welded pipe joints shall be used wherever possible.
- Joints in copper tubing shall be brazed or have an equally strong metal union. The melting point of brazing materials shall be no lower than  $525^{\circ}\text{C}$ . The joints shall not decrease the strength of tubing as may happen when cutting threads.

- 6.8.3.2.21 Except for UN No.1001 acetylene, dissolved, the permissible maximum stress  $\sigma$  of the manifolding arrangement at the test pressure of the receptacles shall not exceed 75% of the guaranteed yield strength of the material.

The necessary wall thickness of the manifolding arrangement for the carriage of UN No.1001 acetylene, dissolved shall be calculated according to an approved code of practice.

**NOTE:** For the yield strength, see 6.8.2.1.11.

The basic requirements of this paragraph shall be deemed to have been complied with if the following standards are applied: *(Reserved)*.

- 6.8.3.2.22 By derogation from the requirements of 6.8.3.2.3, 6.8.3.2.4 and 6.8.3.2.7, for cylinders, tubes, pressure drums and bundles of cylinders (frames) forming a battery-vehicle or MEGC, the required closing devices may be provided for within the manifolding arrangement.
- 6.8.3.2.23 If one of the elements is equipped with a safety valve and shut-off devices are provided between the elements, every element shall be so equipped.
- 6.8.3.2.24 The filling and discharge devices may be affixed to a manifold.
- 6.8.3.2.25 Each element, including each individual cylinder of a bundle, intended for the carriage of toxic gases, shall be capable of being isolated by a shut-off valve.
- 6.8.3.2.26 Battery-vehicles or MEGCs intended for the carriage of toxic gases shall not have safety valves, unless the safety valves are preceded by a bursting disc. In the latter case, the arrangement of the bursting disc and safety valve shall be satisfactory to the competent authority.
- 6.8.3.2.27 When battery-vehicles or MEGCs are intended for carriage by sea, the requirements of 6.8.3.2.26 shall not prohibit the fitting of safety valves conforming to the IMDG Code.
- 6.8.3.2.28 Receptacles which are elements of a battery-vehicle or MEGC intended for the carriage of flammable gases shall be combined in groups of not more than 5 000 litres which are capable of being isolated by a shut-off valve.

Each element of a battery-vehicle or MEGC intended for the carriage of flammable gases, when consisting of tanks conforming to this Chapter, shall be capable of being isolated by a shut-off valve.

### **6.8.3.3** *Type approval*

No special requirements.

### **6.8.3.4** *Inspections and tests*

- 6.8.3.4.1 The materials of every welded shell with the exception of cylinders, tubes, pressure drums and cylinders as part of bundles of cylinders which are elements of a battery-vehicle or of a MEGC shall be tested according to the method described in 6.8.5.
- 6.8.3.4.2 The basic requirements for the test pressure are given in 4.3.3.2.1 to 4.3.3.2.4 and the minimum test pressures are given in the table of gases and gas mixtures in 4.3.3.2.5.

6.8.3.4.3 The first hydraulic pressure test shall be carried out before thermal insulation is placed in position. When the shell, its fittings, piping and items of equipment have been tested separately, the tank shall be subjected to a leakproofness test after assembly.

6.8.3.4.4 The capacity of each shell intended for the carriage of compressed gases filled by mass, liquefied gases or dissolved gases shall be determined, under the supervision of an expert approved by the competent authority, by weighing or volumetric measurement of the quantity of water which fills the shell; the measurement of shell capacity shall be accurate to within 1%. Determination by a calculation based on the dimensions of the shell is not permitted. The maximum filling masses allowed in accordance with packing instruction P200 or P203 in 4.1.4.1 as well as 4.3.3.2.2 and 4.3.3.2.3 shall be prescribed by an approved expert.

6.8.3.4.5 Checking of the welds shall be carried out in accordance with the  $\lambda=1$  requirements of 6.8.2.1.23.

6.8.3.4.6 By derogation from the requirements of 6.8.2.4, the periodic inspections according to 6.8.2.4.2, shall take place:

- |                                |                                     |
|--------------------------------|-------------------------------------|
| (a) at least every three years | at least every two and a half years |
|--------------------------------|-------------------------------------|

in the case of tanks intended for the carriage of UN No. 1008 boron trifluoride, UN No. 1017 chlorine, UN No. 1048 hydrogen bromide, anhydrous, UN No. 1050 hydrogen chloride, anhydrous, UN No. 1053 hydrogen sulphide, UN No. 1067 dinitrogen tetroxide (nitrogen dioxide) or UN No. 1079 sulphur dioxide;

- |                              |                        |
|------------------------------|------------------------|
| (b) at least after six years | at least after 8 years |
|------------------------------|------------------------|

of service and thereafter at least every 12 years in the case of tanks intended for the carriage of refrigerated liquefied gases.

|   |   |
|---|---|
| The intermediate inspections according to 6.8.2.4.3 shall be carried out at least six years after each periodic inspection. | A leakproofness test or an intermediate inspection according to 6.8.2.4.3 may be performed, at the request of the competent authority, between any two successive periodic inspections. |
|---|---|

When the shell, its fittings, piping and items of equipment have been tested separately, the tank shall be subjected to a leakproofness test after assembly.

6.8.3.4.7 In the case of vacuum-insulated tanks, the hydraulic-pressure test and the check of the internal condition may, with the consent of the approved expert, be replaced by a leakproofness test and measurement of the vacuum.

6.8.3.4.8 If, at the time of periodic inspections, openings have been made in shells intended for the carriage of refrigerated liquefied gases, the method by which they are hermetically closed before the shells are returned to service shall be approved by the approved expert and shall ensure the integrity of the shell.

6.8.3.4.9 Leakproofness tests of tanks intended for the carriage of gases shall be performed at a pressure of not less than:

- For compressed gases, liquefied gases and dissolved gases: 20% of the test pressure;
- For refrigerated liquefied gases: 90% of the maximum working pressure.



*Inspections and tests for battery-vehicles and MEGCs*

6.8.3.4.10 The elements and items of equipment of each battery-vehicle or MEGC shall be inspected and tested either together or separately before being put into service for the first time (initial inspection and test). Thereafter battery-vehicles or MEGCs the elements of which are receptacles shall be inspected at not more than five-year intervals. Battery-vehicles and MEGCs the elements of which are tanks shall be inspected according to 6.8.3.4.6. An exceptional inspection and test shall be performed regardless of the last periodic inspection and test when necessary according to 6.8.3.4.14.

6.8.3.4.11 The initial inspection shall include:

- a check of conformity to the approved type;
- a check of the design characteristics;
- an examination of the internal and external conditions;
- a hydraulic pressure test <sup>9</sup> at the test pressure indicated on the plate prescribed in 6.8.3.5.10;
- a leakproofness test at the maximum working pressure; and
- a check of satisfactory operation of the equipment.

When the elements and their fittings have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.

6.8.3.4.12 Cylinders, tubes and pressure drums and cylinders as part of bundles of cylinders shall be tested according to packing instruction P200 or P203 in 4.1.4.1.

The test pressure of the manifold of the battery-vehicle or MEGC shall be the same as that of the elements of the battery-vehicle or MEGC. The pressure test of the manifold may be performed as a hydraulic test or by using another liquid or gas with the agreement of the competent authority or its authorised body. By derogation from this requirement, the test pressure for the manifold of battery-vehicle or MEGC shall not be less than 300 bar for UN No. 1001 acetylene, dissolved.

6.8.3.4.13 The periodic inspection shall include a leakproofness test at the maximum working pressure and an external examination of the structure, the elements and the service equipment without disassembling. The elements and the piping shall be tested at the periodicity defined in packing instruction P200 of 4.1.4.1 and in accordance with the requirements of 6.2.1.6 and 6.2.3.5 respectively. When the elements and equipment have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.

6.8.3.4.14 An exceptional inspection and test is necessary when the battery-vehicle or MEGC shows evidence of damaged or corroded areas, or leakage, or any other conditions, that indicate a deficiency that could affect the integrity of the battery-vehicle or MEGC. The extent of the exceptional inspection and test and, if deemed necessary, the disassembling of elements shall depend on the amount of damage or deterioration of the battery-vehicle or MEGC. It shall include at least the examinations required under 6.8.3.4.15.

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<sup>9</sup> In special cases and with the agreement of the expert approved by the competent authority, the hydraulic pressure test may be replaced by a pressure test using another liquid or gas, where such an operation does not present any danger.



6.8.3.4.15 The examinations shall ensure that:

- (a) The elements are inspected externally for pitting, corrosion, or abrasions, dents, distortions, defects in welds or any other conditions, including leakage, that might render the battery-vehicles or MEGCs unsafe for transport;
- (b) The piping, valves, and gaskets are inspected for corroded areas, defects, and other conditions, including leakage, that might render battery-vehicles or MEGCs unsafe for filling, discharge or transport;
- (c) Missing or loose bolts or nuts on any flanged connection or blank flange are replaced or tightened;
- (d) All emergency devices and valves are free from corrosion, distortion and any damage or defect that could prevent their normal operation. Remote closure devices and self-closing stop-valves shall be operated to demonstrate proper operation;
- (e) Required markings on the battery-vehicles or MEGCs are legible and in accordance with the applicable requirements; and
- (f) Any framework, supports and arrangements for lifting the battery-vehicles or MEGCs are in satisfactory condition.

6.8.3.4.16 The tests, inspections and checks in accordance with 6.8.3.4.10 to 6.8.3.4.15 shall be carried out by the expert approved by the competent authority. Certificates shall be issued showing the results of these operations, even in the case of negative results.

These certificates shall refer to the list of the substances permitted for carriage in this battery-vehicle or MEGC in accordance with 6.8.2.3.1.

A copy of these certificates shall be attached to the tank record of each tank, battery-vehicle or MEGC tested (see 4.3.2.1.7).

### **6.8.3.5 Marking**

6.8.3.5.1 The following additional particulars shall be marked by stamping or by any other similar method on the plate prescribed in 6.8.2.5.1, or directly on the walls of the shell itself if the walls are so reinforced that the strength of the tank is not impaired.

6.8.3.5.2 On tanks intended for the carriage of only one substance:

- the proper shipping name of the gas and, in addition for gases classified under an n.o.s. entry, the technical name<sup>14</sup>;

---

<sup>14</sup> *Instead of the proper shipping name or, if applicable, of the proper shipping name of the n.o.s. entry followed by the technical name, the use of the following names is permitted:*

- *for UN No. 1078 refrigerant gas, n.o.s: mixture F1, mixture F2, mixture F3;*
- *for UN No. 1060 methylacetylene and propadiene mixtures, stabilized: mixture P1, mixture P2;*
- *for UN No. 1965 hydrocarbon gas mixture, liquefied, n.o.s: mixture A, mixture A01, mixture A02, mixture A0, mixture A1, mixture B1, mixture B2, mixture B, mixture C. The names customary in the trade and mentioned in 2.2.2.3, Classification code 2F, UN No. 1965, Note 1 may be used only as a complement;*
- *for UN No. 1010 Butadienes, stabilized: 1,2-Butadiene, stabilized, 1,3-Butadiene, stabilized.*

This indication shall be supplemented:

- in the case of tanks intended for the carriage of compressed gases filled by volume (pressure), by an indication of the maximum filling pressure at 15 °C permitted for the tank; and
- in the case of tanks intended for the carriage of compressed gases filled by mass, and of liquefied gases, refrigerated liquefied gases or dissolved gases by an indication of the maximum permissible load mass in kg and of the filling temperature if below -20 °C.

6.8.3.5.3 On multipurpose tanks:

- the proper shipping names of the gases and, in addition for gases classified under an n.o.s. entry, the technical name of the gases <sup>14</sup> for whose carriage the tank is approved.

These particulars shall be supplemented by an indication of the maximum permissible load mass in kg for each gas.

6.8.3.5.4 On tanks intended for the carriage of refrigerated liquefied gases:

- the maximum working pressure allowed.

6.8.3.5.5 On tanks equipped with thermal insulation:

- the inscription "thermally insulated" or "thermally insulated by vacuum".

6.8.3.5.6 In addition to the particulars prescribed in 6.8.2.5.2, the following shall be inscribed on

the tank itself or on a plate: | the tank-container itself or on a plate:

- (a) - the tank code according to the certificate (see 6.8.2.3.1) with the actual test pressure of the tank;
- the inscription: "minimum filling temperature allowed: ...";
- (b) where the tank is intended for the carriage of one substance only:
  - the proper shipping name of the gas and, in addition for gases classified under an n.o.s. entry, the technical name <sup>14</sup>;
  - for compressed gases which are filled by mass, and for liquefied gases, refrigerated liquefied gases or dissolved gases, the maximum permissible load mass in kg;

<sup>14</sup> Instead of the proper shipping name or, if applicable, of the proper shipping name of the n.o.s. entry followed by the technical name, the use of the following names is permitted:

- for UN No. 1078 refrigerant gas, n.o.s.: mixture F1, mixture F2, mixture F3;
- for UN No. 1060 methylacetylene and propadiene mixtures, stabilized: mixture P1, mixture P2;
- for UN No. 1965 hydrocarbon gas mixture, liquefied, n.o.s.: mixture A, mixture A01, mixture A02, mixture A0, mixture A1, mixture B1, mixture B2, mixture B, mixture C. The names customary in the trade and mentioned in 2.2.2.3, Classification code 2F, UN No. 1965, Note 1 may be used only as a complement;
- for UN No. 1010 Butadienes, stabilized: 1,2-Butadiene, stabilized, 1,3-Butadiene, stabilized.

(c) where the tank is a multipurpose tank:

- the proper shipping name of the gas and, for gases classified under an n.o.s. entry, the technical name <sup>14</sup> of all gases to whose carriage the tank is assigned with an indication of the maximum permissible load mass in kg for each of them;

(d) where the shell is equipped with thermal insulation:

- the inscription "thermally insulated" (or "thermally insulated by vacuum"), in an official language of the country of registration and also, if that language is not English, French or German, in English, French or German, unless any agreements concluded between the countries concerned in the transport operation provide otherwise.

6.8.3.5.7 (Reserved)

6.8.3.5.8 These particulars shall not be required in the case of a vehicle carrying demountable tanks. |

6.8.3.5.9 (Reserved)

**Marking of battery-vehicles and MEGCs**

6.8.3.5.10 Every battery-vehicle and every MEGC shall be fitted with a corrosion-resistant metal plate permanently attached in a place readily accessible for inspection. The following particulars at least shall be marked on the plate by stamping or by any other similar method <sup>12</sup>

- approval number;
- manufacturer's name or mark;
- manufacturer's serial number;
- year of manufacture;
- test pressure (gauge pressure)
- design temperature (only if above +50 °C or below -20 °C);
- date (month and year) of initial test and most recent periodic test in accordance with 6.8.3.4.10 to 6.8.3.4.13;
- stamp of the expert who carried out the tests.

<sup>14</sup> Instead of the proper shipping name or, if applicable, of the proper shipping name of the n.o.s. entry followed by the technical name, the use of the following names is permitted:

- for UN No. 1078 refrigerant gas, n.o.s.: mixture F1, mixture F2, mixture F3;
- for UN No. 1060 methylacetylene and propadiene mixtures, stabilized: mixture P1, mixture P2;
- for UN No. 1965 hydrocarbon gas mixture, liquefied, n.o.s.: mixture A, mixture A01, mixture A02, mixture A0, mixture A1, mixture B1, mixture B2, mixture B, mixture C. The names customary in the trade and mentioned in 2.2.2.3, Classification code 2F, UN No. 1965, Note 1 may be used only as a complement;
- for UN No. 1010 Butadienes, stabilized: 1,2-Butadiene, stabilized, 1,3-Butadiene, stabilized.

- |            |  |   |
|------------|--|---|
| 6.8.3.5.11 | <p>The following particulars shall be inscribed on the battery-vehicle itself or on a plate <sup>12</sup>:</p> <ul style="list-style-type: none"> <li>- names of owner or of operator;</li> <li>- number of elements;</li> <li>- total capacity of the elements;</li> </ul> <p>and for battery-vehicles filled by mass:</p> <ul style="list-style-type: none"> <li>- unladen mass;</li> <li>- maximum permissible mass.</li> </ul> | <p>The following particulars shall be inscribed either on the MEGC itself or on a plate <sup>12</sup>:</p> <ul style="list-style-type: none"> <li>- names of owner and of operator;</li> <li>- number of elements;</li> <li>- total capacity of the elements;</li> <li>- maximum permissible laden mass;</li> <li>- the tank code according to the certificate of approval (see 6.8.2.3.1) with the actual test pressure of the MEGC;</li> <li>- the proper shipping name of the gases, and in addition, for gases classified under an n.o.s. entry, the technical name <sup>14</sup> of the gases for whose carriage the MEGC is used;</li> </ul> <p>and for MEGCs filled by mass:</p> <ul style="list-style-type: none"> <li>- tare.</li> </ul> |
|------------|--|---|
- 6.8.3.5.12      The frame of a battery-vehicle or MEGC shall bear near the filling point a plate specifying:
- the maximum filling pressure <sup>12</sup> at 15 °C allowed for elements intended for compressed gases;
  - the proper shipping name of the gas in accordance with Chapter 3.2 and, in addition for gases classified under an n.o.s. entry, the technical name <sup>14</sup>;
- and, in addition, in the case of liquefied gases:
- the permissible maximum load per element <sup>12</sup>.
- 6.8.3.5.13      Cylinders, tubes and pressure drums, and cylinders as part of bundles of cylinders, shall be marked according to 6.2.2.7. These receptacles need not be labelled individually with the danger labels as required in Chapter 5.2.
- Battery-vehicles and MEGCs shall be placarded and marked according to Chapter 5.3.

<sup>12</sup> Add the units of measurements after the numerical values.

<sup>14</sup> Instead of the proper shipping name or, if applicable, of the proper shipping name of the n.o.s. entry followed by the technical name, the use of the following names is permitted:

- for UN No. 1078 refrigerant gas, n.o.s.: mixture F1, mixture F2, mixture F3;
- for UN No. 1060 methylacetylene and propadiene mixtures, stabilized: mixture P1, mixture P2;
- for UN No. 1965 hydrocarbon gas mixture, liquefied, n.o.s.: mixture A, mixture A01, mixture A02, mixture A0, mixture A1, mixture B1, mixture B2, mixture B, mixture C. The names customary in the trade and mentioned in 2.2.2.3, Classification code 2F, UN No. 1965, Note 1 may be used only as a complement;
- for UN No. 1010 Butadienes, stabilized: 1,2-Butadiene, stabilized, 1,3-Butadiene, stabilized.

### 6.8.3.6 *Requirements for battery-vehicles and MEGCs which are designed, constructed and tested according to standards*

**NOTE:** Persons or bodies identified in standards as having responsibilities in accordance with ADR shall meet the requirements of ADR.

Depending on the date of construction of the battery-vehicle or MEGC, the standard listed in the table below shall be applied as indicated in column (4) to meet the requirements of Chapter 6.8 referred to in column (1) or may be applied as indicated in column (5). The requirements of Chapter 6.8 referred to in column (1) shall prevail in all cases.

If more than one standard is listed as mandatory for the application of the same requirements, only one of them shall be applied, but in full unless otherwise specified in the table below.

| Applicable sub-sections and paragraphs   | Reference      | Title of document  | Mandatory application for battery-vehicles or MEGCs constructed | Application authorized for battery-vehicles or MEGCs constructed |
|--|----------------|--|---|--|
| (1)  | (2)            | (3)  | (4)   | (5)  |
| 6.8.3.1.4 and 6.8.3.1.5, 6.8.3.2.18 to 6.8.3.2.26, 6.8.3.4.10 to 6.8.3.4.12 and 6.8.3.5.10 to 6.8.3.5.13 | EN 13807: 2003 | Transportable gas cylinders - Battery vehicles - Design, manufacture, identification and testing | As from 1 January 2009  | Before 1 January 2009  |

### 6.8.3.7 *Requirements for battery-vehicles and MEGCs which are not designed, constructed and tested according to standards*

Battery-vehicles and MEGCs which are not designed, constructed and tested in accordance with the standards set out in 6.8.3.6 shall be designed, constructed and tested in accordance with the requirements of a technical code recognized by the competent authority. They shall, however, comply with the minimum requirements of 6.8.3.

### 6.8.4 **Special provisions**

**NOTE 1:** For liquids having a flash-point of not more than 60 °C and for flammable gases, see also 6.8.2.1.26, 6.8.2.1.27 and 6.8.2.2.9.

**NOTE 2:** For requirements for tanks subjected to a pressure test of not less than 1 MPa (10 bar) or for tanks intended for the carriage of refrigerated liquefied gases, see 6.8.5.

When they are shown under an entry in Column (13) of Table A of Chapter 3.2, the following special provisions apply:

#### (a) **Construction (TC)**

**TC1** The requirements of 6.8.5 are applicable to the materials and construction of these shells.

- TC2** Shells, and their items of equipment, shall be made of aluminium not less than 99.5% pure or of suitable steel not liable to cause hydrogen peroxide to decompose. Where shells are made of aluminium not less than 99.5% pure, the wall thickness need not exceed 15 mm, even where calculation in accordance with 6.8.2.1.17 gives a higher value.
- TC3** The shells shall be made of austenitic steel.
- TC4** Shells shall be provided with an enamel or equivalent protective lining if the material of the shell is attacked by UN No. 3250 chloroacetic acid.
- TC5** Shells shall be provided with a lead lining not less than 5 mm thick or an equivalent lining.
- TC6** Where the use of aluminium is necessary for tanks, such tanks shall be made of aluminium not less than 99.5% pure; the wall thickness need not exceed 15 mm even where calculation in accordance with 6.8.2.1.17 gives a higher value.
- TC7** The effective minimum thickness of the shell shall not be less than 3 mm.
- (b) **Items of equipment (TE)**
- TE1** *(Deleted)*
- TE2** *(Deleted)*
- TE3** Tanks shall in addition meet the following requirements. The heating device shall not penetrate into, but shall be exterior to the shell. However, a pipe used for extracting the phosphorus may be equipped with a heating jacket. The device heating the jacket shall be so regulated as to prevent the temperature of the phosphorus from exceeding the filling temperature of the shell. Other piping shall enter the shell in its upper part; openings shall be situated above the highest permissible level of the phosphorus and be capable of being completely enclosed under lockable caps. The tank shall be equipped with a gauging system for verifying the level of the phosphorus and, if water is used as a protective agent, with a fixed gauge mark showing the highest permissible level of the water.
- TE4** Shells shall be equipped with thermal insulation made of materials which are not readily flammable.
- TE5** If shells are equipped with thermal insulation, such insulation shall be made of materials which are not readily flammable.
- TE6** Tanks may be equipped with a device of a design which precludes its obstruction by the substance carried and which prevents leakage and the build-up of excess overpressure or underpressure inside the shell.
- TE7** The shell-discharge system shall be equipped with two mutually independent shut-off devices mounted in series, the first taking the form of a quick-closing internal stop-valve of an approved type and the second that of an external stop-valve, one at each end of the discharge pipe. A blank flange, or another device providing the same measure of security, shall also be fitted at the outlet of each external stop-valve. The internal stop-valve shall be such that if the pipe is wrenched off the stop-valve will remain integral with the shell and in the closed position.

- TE8** The connections to the external pipe-sockets of tanks shall be made of materials not liable to cause decomposition of hydrogen peroxide.
- TE9** Tanks shall be fitted in their upper part with a shut-off device preventing any build-up of excess pressure inside the shell due to the decomposition of the substances carried, any leakage of liquid, and any entry of foreign matter into the shell.
- TE10** The shut-off devices of tanks shall be so designed as to preclude obstruction of the devices by the solidified substance during carriage. Where tanks are sheathed in thermally-insulating material, the material shall be of an inorganic nature and entirely free from combustible matter.
- TE11** Shells and their service equipment shall be so designed as to prevent the entry of foreign matter, leakage of liquid or any building up of dangerous excess pressure inside the shell due to the decomposition of the substances carried. A safety valve preventing the entry of foreign matter also fulfils this provision.
- TE12** Tanks shall be equipped with thermal insulation complying with the requirements of 6.8.3.2.14. If the SADT of the organic peroxide in the tank is 55 °C or less, or the tank is constructed of aluminium, the shell shall be completely insulated. The sun shield and any part of the tank not covered by it, or the outer sheathing of a complete lagging, shall be painted white or finished in bright metal. The paint shall be cleaned before each transport journey and renewed in case of yellowing or deterioration. The thermal insulation shall be free from combustible matter. Tanks shall be fitted with temperature sensing devices.

Tanks shall be fitted with safety valves and emergency pressure-relief devices. Vacuum-relief devices may also be used. Emergency pressure-relief devices shall operate at pressures determined according to both the properties of the organic peroxide and the construction characteristics of the tank. Fusible elements shall not be permitted in the body of the shell.

Tanks shall be fitted with spring-loaded safety valves to prevent significant pressure build-up within the shell of the decomposition products and vapours released at a temperature of 50 °C. The capacity and start-to-discharge pressure of the safety-valve(s) shall be based on the results of the tests specified in special provision TA2. The start-to-discharge pressure shall however in no case be such that liquid could escape from the valve(s) if the tank were overturned.

The emergency-relief devices may be of the spring-loaded or frangible types designed to vent all the decomposition products and vapours evolved during a period of not less than one hour of complete fire-engulfment as calculated by the following formula:

$$q = 70961 \times F \times A^{0.82}$$

where:

q = heat absorption [W]

A = wetted area [m<sup>2</sup>]

F = insulation factor



$F = 1$  for non-insulated tanks, or

$$F = \frac{U (923 - T_{p0})}{47032} \text{ for insulated tanks}$$

where:

$K$  = heat conductivity of insulation layer [ $\text{W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$ ]

$L$  = thickness of insulation layer [m]

$U = K/L$  = heat transfer coefficient of the insulation [ $\text{W} \cdot \text{m}^{-2} \cdot \text{K}^{-1}$ ]

$T_{p0}$  = temperature of peroxide at relieving conditions [K]

The start-to-discharge pressure of the emergency-relief device(s) shall be higher than that above specified and based on the results of the tests referred to in special provision TA2. The emergency-relief devices shall be dimensioned in such a way that the maximum pressure in the tank never exceeds the test pressure of the tank.

**NOTE:** An example of a method to determine the size of emergency-relief devices is given in Appendix 5 of the Manual of Tests and Criteria.

For tanks equipped with thermal insulation consisting of a complete cladding, the capacity and setting of the emergency-relief device(s) shall be determined assuming a loss of insulation from 1% of the surface area.

Vacuum-relief devices and spring-loaded safety valves of tanks shall be provided with flame arresters unless the substances to be carried and their decomposition products are non-combustible. Due attention shall be paid to the reduction of the relief capacity caused by the flame arrester.

**TE13** Tanks shall be thermally insulated and fitted with a heating device on the outside.

**TE14** Tanks shall be equipped with thermal insulation. The thermal insulation directly in contact with the shell shall have an ignition temperature at least 50 °C higher than the maximum temperature for which the tank was designed.

**TE15** (*Deleted*)

**TE16** (*Reserved*)

**TE17** (*Reserved*)

**TE18** Tanks intended for the carriage of substances filled at a temperature higher than 190 °C shall be equipped with deflectors placed at right angles to the upper filling openings, so as to avoid a sudden localized increase in wall temperature during filling.



**TE19** Fittings and accessories mounted in the upper part of the tank shall be either:

- inserted in a recessed housing; or
- equipped with an internal safety valve; or
- shielded by a cap, or by transverse and/or longitudinal members, or by other equally effective devices, so profiled that in the event of overturning the fittings and accessories will not be damaged.

Fittings and accessories mounted in the lower part of the tank:

Pipe-sockets, lateral shut-off devices, and all discharge devices shall either be recessed by at least 200 mm from the extreme outer edge of the tank or be protected by a rail having a coefficient of inertia of not less than  $20 \text{ cm}^3$  transversally to the direction of travel; their ground clearance shall be not less than 300 mm with the tank full.

Fittings and accessories mounted on the rear face of the tank shall be protected by the bumper prescribed in 9.7.6. Their height above the ground shall be such that they are adequately protected by the bumper

**TE20** Notwithstanding the other tank-codes which are permitted in the hierarchy of tanks of the rationalized approach in 4.3.4.1.2, tanks shall be equipped with a safety valve.

**TE21** The closures shall be protected with lockable caps.

**TE22** (*Reserved*)

**TE23** Tanks shall be equipped with a device of a design which precludes its obstruction by the substance carried and which prevents leakage and the build-up of excess overpressure or underpressure inside the shell.

**TE24** If tanks, intended for the carriage and handling of bitumen, are equipped with a spray bar at the end of the discharge pipe, the closing device, as required by 6.8.2.2.2, may be replaced by a shut-off valve, situated on the discharge pipe and preceding the spray bar.

**TE25** (*Reserved*)

(c) **Type approval (TA)**

**TA1** Tanks shall not be approved for the carriage of organic substances.

**TA2** This substance may be carried in fixed or demountable tanks or tank-containers under the conditions laid down by the competent authority of the country of origin, if, on the basis of the tests mentioned below, the competent authority is satisfied that such a transport operation can be carried out safely. If the country of origin is not party to ADR, these conditions shall be recognized by the competent authority of the first ADR country reached by the consignment.

For the type approval tests shall be undertaken:

- to prove the compatibility of all materials normally in contact with the substance during carriage;
- to provide data to facilitate the design of the emergency pressure-relief devices and safety valves taking into account the design characteristics of the tank; and
- to establish any special requirements necessary for the safe carriage of the substance.

The test results shall be included in the report for the type approval.

**TA3** This substance may be carried only in tanks with the tank code LGAV or SGAV; the hierarchy in 4.3.4.1.2 is not applicable.

**TA4** The conformity assessment procedures of section 1.8.7 shall be applied by the competent authority, its delegate or inspection body conforming to 1.8.6.4 and accredited to EN ISO/IEC 17020:2004 type A.

(d) **Tests (TT)**

**TT1** Tanks of pure aluminium need to be subjected to the initial and periodic hydraulic pressure tests at a pressure of only 250 kPa (2.5 bar) (gauge pressure).

**TT2** The condition of the lining of shells shall be inspected every year by an expert approved by the competent authority, who shall inspect the inside of the shell.

**TT3** By derogation from the requirements of 6.8.2.4.2, periodic inspections shall take place at least every eight years and shall include a thickness check using suitable instruments. For such tanks, the leakproofness test and check for which provision is made in 6.8.2.4.3 shall be carried out at least every four years.

**TT4** (*Reserved*)

**TT5** The hydraulic pressure tests shall take place at least every  
3 years. | 2½ years.

**TT6** The periodic tests, including the  
hydraulic pressure test, shall be  
carried out at least every  
3 years. |

**TT7** Notwithstanding the requirements of 6.8.2.4.2, the periodic internal inspection may be replaced by a programme approved by the competent authority.

**TT8** Tanks approved for the carriage of UN 1005 AMMONIA, ANHYDROUS and constructed of fine-grained steel with a yield strength of more than 400 N/mm<sup>2</sup> in accordance with the material standard, shall be subjected at each periodic test according to 6.8.2.4.2, to magnetic particle inspections to detect surface cracking.

For the lower part of each shell at least 20% of the length of each circumferential and longitudinal weld shall, together with all nozzle welds and any repair or ground areas, be inspected.

**TT9** For inspections and tests (including supervision of the manufacture) the procedures of section 1.8.7 shall be applied by the competent authority, its delegate or inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020:2004 type A.

(e) **Marking (TM)**

***NOTE:** These particulars shall be in an official language of the country of approval, and also, if that language is not English, French or German, in English, French or German, unless any agreements concluded between the countries concerned in the transport operation provide otherwise.*

**TM1** Tanks shall bear in addition to the particulars prescribed in 6.8.2.5.2, the words: **"Do not open during carriage. Liable to spontaneous combustion"** (see also the Note above).

**TM2** Tanks shall bear in addition to the particulars prescribed in 6.8.2.5.2, the words: **"Do not open during carriage. Gives off flammable gases on contact with water"** (see also the Note above).

**TM3** Tanks shall also bear, on the plate prescribed in 6.8.2.5.1, the proper shipping names of the approved substances and the maximum permissible load of the tank in kg.

**TM4** For tanks the following additional particulars shall be marked by stamping or by any other similar method on the plate prescribed in 6.8.2.5.2 or directly on the shell itself, if the walls are so reinforced that the strength of the tank is not impaired: the chemical name with the approved concentration of the substance concerned.

**TM5** Tanks shall bear, in addition to the particulars referred to in 6.8.2.5.1 the date (month, year) of the most recent inspection of the internal condition of the shell.

**TM6** *(Reserved)*

**TM7** The trefoil symbol, as described in 5.2.1.7.6, shall be marked by stamping or any other equivalent method on the plate described in 6.8.2.5.1. This trefoil may be engraved directly on the walls of the shell itself, if the walls are so reinforced that the strength of the shell is not impaired.

**6.8.5 Requirements concerning the materials and construction of fixed welded tanks, demountable welded tanks, and welded shells of tank-containers for which a test pressure of not less than 1 MPa (10 bar) is required, and of fixed welded tanks, demountable welded tanks and welded shells of tank-containers intended for the carriage of refrigerated liquefied gases of Class 2**

**6.8.5.1 Materials and shells**

- 6.8.5.1.1 (a) Shells intended for the carriage of :
- compressed, liquefied gases or dissolved gases of Class 2;
  - UN Nos. 1380, 2845, 2870, 3194 and 3391 to 3394 of Class 4.2; and
  - UN No. 1052 hydrogen fluoride, anhydrous and UN No.1790 hydrofluoric acid with more than 85% hydrogen fluoride of Class 8

shall be made of steel;

- (b) Shells constructed of fine-grained steels for the carriage of:
- corrosive gases of Class 2 and UN No. 2073 ammonia solution; and
  - UN No. 1052 hydrogen fluoride, anhydrous and UN No.1790 hydrofluoric acid with more than 85% hydrogen fluoride of Class 8

shall be heat-treated for thermal stress relief;

- (c) Shells intended for the carriage of refrigerated liquefied gases of Class 2, shall be made of steel, aluminium, aluminium alloy, copper or copper alloy (e.g. brass). However, shells made of copper or copper alloy shall be allowed only for gases containing no acetylene; ethylene, however, may contain not more than 0.005% acetylene;
- (d) Only materials appropriate to the lowest and highest working temperatures of the shells and of their fittings and accessories may be used.

6.8.5.1.2 The following materials shall be allowed for the manufacture of shells:

- (a) Steels not subject to brittle fracture at the lowest working temperature (see 6.8.5.2.1):
- mild steels (except for refrigerated liquefied gases of Class 2);
  - fine-grained steels, down to a temperature of -60 °C;
  - nickel steels (with a nickel content of 0.5 to 9%), down to a temperature of -196 °C, depending on the nickel content;
  - austenitic chrome-nickel steels, down to a temperature of -270 °C;
- (b) Aluminium not less than 99.5% pure or aluminium alloys (see 6.8.5.2.2);
- (c) Deoxidized copper not less than 99.9% pure, or copper alloys having a copper content of over 56% (see 6.8.5.2.3).

- 6.8.5.1.3 (a) Shells made of steel, aluminium or aluminium alloys shall be either seamless or welded;
- (b) Shells made of austenitic steel, copper or copper alloy may be hard-soldered.

6.8.5.1.4      The fittings and accessories may either be screwed to the shells or be secured thereto as follows:

- (a)    Shells made of steel, aluminium or aluminium alloy: by welding;
- (b)    Shells made of austenitic steel, of copper or of copper alloy: by welding or hard-soldering.

6.8.5.1.5      The construction of shells and their attachment to the vehicle, to the underframe or in the container frame shall be such as to preclude with certainty any such reduction in the temperature of the load-bearing components as would be likely to render them brittle. The means of attachment of shells shall themselves be so designed that even when the shell is at its lowest working temperature they still possess the necessary mechanical properties.

## **6.8.5.2      *Test requirements***

### **6.8.5.2.1      *Steel shells***

The materials used for the manufacture of shells and the weld beads shall, at their lowest working temperature, but at least at -20 °C, meet at least the following requirements as to impact strength:

- The tests shall be carried out with test-pieces having a V-shaped notch;
- The minimum impact strength (see 6.8.5.3.1 to 6.8.5.3.3) for test-pieces with the longitudinal axis at right angles to the direction of rolling and a V-shaped notch (conforming to ISO R 148) perpendicular to the plate surface, shall be 34 J/cm<sup>2</sup> for mild steel (which, because of existing ISO standards, may be tested with test-pieces having the longitudinal axis in the direction of rolling); fine-grained steel; ferritic alloy steel Ni < 5%, ferritic alloy steel 5% ≤ Ni ≤ 9%; or austenitic Cr - Ni steel;
- In the case of austenitic steels, only the weld bead need be subjected to an impact-strength test;
- For working temperatures below -196°C the impact-strength test is not performed at the lowest working temperature, but at -196 °C.

### **6.8.5.2.2      *Shells made of aluminium or aluminium alloy***

The seams of shells shall meet the requirements laid down by the competent authority.

### **6.8.5.2.3      *Shells made of copper or copper alloy***

It is not necessary to carry out tests to determine whether the impact strength is adequate.

## **6.8.5.3      *Impact-strength tests***

6.8.5.3.1      For sheets less than 10 mm but not less than 5 mm thick, test-pieces having a cross-section of 10 mm × e mm, where "e" represents the thickness of the sheet, shall be used. Machining to 7.5 mm or 5 mm is permitted if it is necessary. The minimum value of 34 J/cm<sup>2</sup> shall be required in every case.

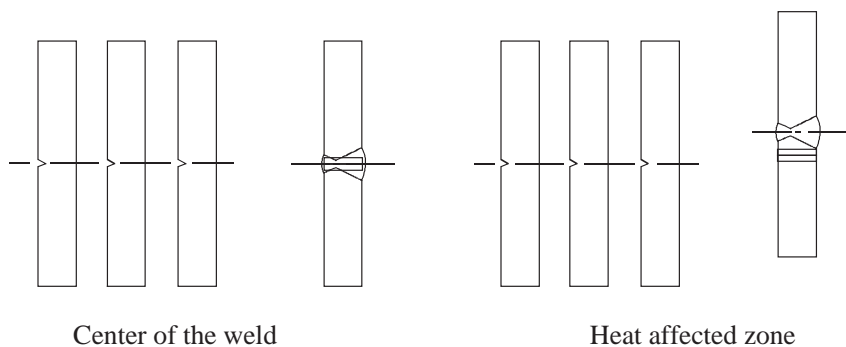
**NOTE:** No impact-strength test shall be carried out on sheets less than 5 mm thick, or on their weld seams.

- 6.8.5.3.2 (a) For the purpose of testing sheets, the impact strength shall be determined on three test-pieces. Test-pieces shall be taken at right angles to the direction of rolling; however, for mild steel they may be taken in the direction of rolling.
- (b) For testing weld seams the test-pieces shall be taken as follows:

**when  $e \leq 10$  mm:**

three test-pieces with the notch at the centre of the weld;

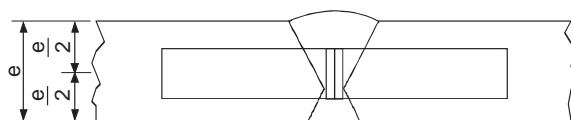
three test-pieces with the notch in the centre of the heat affected zone (the V-notch to cross the fusion boundary at the centre of the specimen);



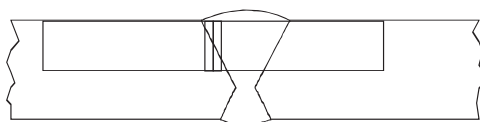
**when  $10 \text{ mm} < e \leq 20 \text{ mm}$ :**

three test-pieces from the centre of the weld;

three test-pieces from the heat affected zone (the V-notch to cross the fusion boundary at the centre of the specimen);



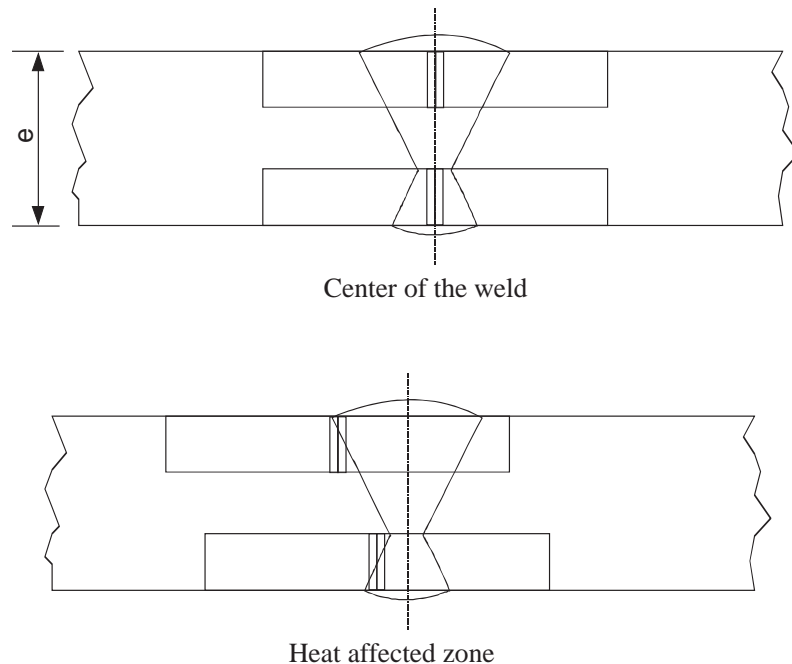
Center of the weld



Heat affected zone

**when  $e > 20$  mm**

two sets of three test-pieces, one set on the upper face, one set on the lower face at each of the points indicated below (the V-notch to cross the fusion boundary at the centre of the specimen for those taken from the heat affected zone)



- 6.8.5.3.3 (a) For sheets, the average of the three tests shall meet the minimum value of  $34 \text{ J/cm}^2$  indicated in 6.8.5.2.1; not more than one of the individual values may be below the minimum value and then not below  $24 \text{ J/cm}^2$ ;
- (b) For welds, the average value obtained from the three test-pieces taken at the centre of the weld shall not be below the minimum value of  $34 \text{ J/cm}^2$ ; not more than one of the individual values may be below the minimum value and then not below  $24 \text{ J/cm}^2$ ;
- (c) For the heat affected zone (the V-notch to cross the fusion boundary at the centre of the specimen) the value obtained from not more than one of the three test-pieces may be below the minimum value of  $34 \text{ J/cm}^2$ , though not below  $24 \text{ J/cm}^2$ .
- 6.8.5.3.4 If the requirements prescribed in 6.8.5.3.3 are not met, one retest only may be done if:
- (a) the average value of the first three tests is below the minimum value of  $34 \text{ J/cm}^2$ ; or
- (b) more than one of the individual values is less than the minimum value of  $34 \text{ J/cm}^2$  but not below  $24 \text{ J/cm}^2$ .
- 6.8.5.3.5 In a repeated impact test on sheets or welds, none of the individual values may be below  $34 \text{ J/cm}^2$ . The average value of all the results of the original test and of the retest should be equal to or more than the minimum of  $34 \text{ J/cm}^2$ .

On a repeated impact strength test on the heat-affected zone, none of the individual values may be below  $34 \text{ J/cm}^2$ .

**6.8.5.4*****Reference to standards***

The requirements of 6.8.5.2 and 6.8.5.3 shall be deemed to have been complied with if the following relevant standards have been applied:

EN 1252-1:1998 Cryogenic vessels - Materials - Part 1: Toughness requirements for temperature below - 80 °C.

EN 1252-2: 2001 Cryogenic vessels - Materials - Part 2: Toughness requirements for temperature between - 80 °C and - 20 °C.



## CHAPTER 6.9

### REQUIREMENTS FOR THE DESIGN, CONSTRUCTION, EQUIPMENT, TYPE APPROVAL, TESTING AND MARKING OF FIBRE-REINFORCED PLASTICS (FRP) FIXED TANKS (TANK-VEHICLES), DEMOUNTABLE TANKS, TANK-CONTAINERS AND TANK SWAP BODIES

**NOTE:** *For portable tanks and UN multiple-element gas containers (MEGCs) see Chapter 6.7; for fixed tanks (tank-vehicles), demountable tanks and tank-containers and tank swap bodies, with shells made of metallic materials, and battery-vehicles and multiple element gas containers (MEGCs) other than UN MEGCs see Chapter 6.8; for vacuum operated waste tanks see Chapter 6.10.*

#### 6.9.1 General

- 6.9.1.1 FRP tanks shall be designed, manufactured and tested in accordance with a quality assurance programme recognized by the competent authority; in particular, lamination work and welding of thermoplastic liners shall only be carried out by qualified personnel in accordance with a procedure recognized by the competent authority.
- 6.9.1.2 For the design and testing of FRP tanks, the provisions of 6.8.2.1.1, 6.8.2.1.7, 6.8.2.1.13, 6.8.2.1.14 (a) and (b), 6.8.2.1.25, 6.8.2.1.27, 6.8.2.1.28 and 6.8.2.2.3 shall also apply.
- 6.9.1.3 Heating elements shall not be used for FRP tanks.
- 6.9.1.4 For the stability of tank-vehicles, the requirements of 9.7.5.1 shall apply.

#### 6.9.2 Construction

- 6.9.2.1 Shells shall be made of suitable materials, which shall be compatible with the substances to be carried in a service temperature range of between -40°C and +50°C, unless temperature ranges are specified for specific climatic conditions by the competent authority of the country where the transport operation is performed.
- 6.9.2.2 Shells shall consist of the following three elements :
- internal liner,
  - structural layer,
  - external layer.
- 6.9.2.2.1 The internal liner is the inner shell wall zone designed as the primary barrier to provide for the long-term chemical resistance in relation to the substances to be carried, to prevent any dangerous reaction with the contents or the formation of dangerous compounds and any substantial weakening of the structural layer owing to the diffusion of products through the internal liner.

The internal liner may either be a FRP liner or a thermoplastic liner.

6.9.2.2.2 FRP liners shall consist of:

- (a) surface layer ("gel-coat"): adequate resin rich surface layer, reinforced with a veil, compatible with the resin and contents. This layer shall have a fibre mass content of not more than 30% and have a thickness between 0.25 and 0.60 mm;
- (b) strengthening layer(s): layer or several layers with a minimum thickness of 2 mm, containing a minimum of 900 g/m<sup>2</sup> of glass mat or chopped fibres with a mass content in glass of not less than 30% unless equivalent safety is demonstrated for a lower glass content.

6.9.2.2.3 Thermoplastic liners shall consist of thermoplastic sheet material as referred to in 6.9.2.3.4, welded together in the required shape, to which the structural layers are bonded. Durable bonding between liners and the structural layer shall be achieved by the use of an appropriate adhesive.

***NOTE:** For the carriage of flammable liquids the internal layer may require additional measures in accordance with 6.9.2.14, in order to prevent the accumulation of electrical charges.*

6.9.2.2.4 The structural layer of the shell is the zone specially designed according to 6.9.2.4 to 6.9.2.6 to withstand the mechanical stresses. This part normally consists of several fibre reinforced layers in determined orientations.

6.9.2.2.5 The external layer is the part of the shell which is directly exposed to the atmosphere. It shall consist of a resin rich layer with a thickness of at least 0.2 mm. For a thickness larger than 0.5 mm, a mat shall be used. This layer shall have a mass content in glass of less than 30% and shall be capable of withstanding exterior conditions, in particular the occasional contact with the substance to be carried. The resin shall contain fillers or additives to provide protection against deterioration of the structural layer of the shell by ultra-violet radiation.

### **6.9.2.3 Raw materials**

6.9.2.3.1 All materials used for the manufacture of FRP tanks shall be of known origin and specifications.

#### **6.9.2.3.2 Resins**

The processing of the resin mixture shall be carried out in strict compliance with the recommendations of the supplier. This concerns mainly the use of hardeners, initiators and accelerators. These resins can be:

- unsaturated polyester resins;
- vinyl ester resins;
- epoxy resins;
- phenolic resins.

The heat distortion temperature (HDT) of the resin, determined in accordance with ISO 75-1:1993 shall be at least 20°C higher than the maximum service temperature of the tank, but shall in any case not be lower than 70 °C.

6.9.2.3.3 *Reinforcement fibres*

The reinforcement material of the structural layers shall be a suitable grade of fibres such as glass fibres of type E or ECR according to ISO 2078:1993. For the internal surface liner, glass fibres of type C according to ISO 2078:1993 may be used. Thermoplastic veils may only be used for the internal liner when their compatibility with the intended contents has been demonstrated.

6.9.2.3.4 *Thermoplastic liner material*

Thermoplastic liners, such as unplasticized polyvinyl chloride (PVC-U), polypropylene (PP), polyvinylidene fluoride (PVDF), polytetrafluoroethylene (PTFE), etc. may be used as lining materials.

6.9.2.3.5 *Additives*

Additives necessary for the treatment of the resin, such as catalysts, accelerators, hardeners and thixotropic substances as well as materials used to improve the tank, such as fillers, colours, pigments etc. shall not cause weakening of the material, taking into account lifetime and temperature expectancy of the design.

## 6.9.2.4 Shells, their attachments and their service and structural equipment shall be designed to withstand without loss of contents (other than quantities of gas escaping through any degassing vents) during the design lifetime:

- the static and dynamic loads in normal conditions of carriage;
- the prescribed minimum loads as defined in 6.9.2.5 to 6.9.2.10.

6.9.2.5 At the pressures as indicated in 6.8.2.1.14 (a) and (b), and under the static gravity forces caused by the contents with maximum density specified for the design and at maximum filling degree, the design stress  $\sigma$  in longitudinal and circumferential direction of any layer of the shell shall not exceed the following value:

$$\sigma \leq \frac{R_m}{K}$$

where:

$R_m$  = the value of tensile strength given by taking the mean value of the test results minus twice the standard deviation of the test results. The tests shall be carried out, in accordance with the requirements of EN 61:1977, on not less than six samples representative of the design type and construction method;

$K$  =  $S \times K_0 \times K_1 \times K_2 \times K_3$

where

$K$  shall have a minimum value of 4, and

$S$  = the safety coefficient. For the general design, if the tanks are referred to in Column (12) of Table A of Chapter 3.2 by a tank code including the letter "G" in its second part (see 4.3.4.1.1), the value for  $S$  shall be equal to or more than 1.5. For tanks intended for the carriage of substances which require an increased safety level, i.e. if the tanks are referred to in Column (12) of Table A of Chapter 3.2 by a tank code including the number "4" in its second part (see 4.3.4.1.1), the value

of S shall be multiplied by a factor of two, unless the shell is provided with protection against damage consisting of a complete metal skeleton including longitudinal and transverse structural members;

$K_0$  = a factor related to the deterioration in the material properties due to creep and ageing and as a result of the chemical action of the substances to be carried. It shall be determined by the formula:

$$K_0 = \frac{1}{\alpha\beta}$$

where " $\alpha$ " is the creep factor and " $\beta$ " is the ageing factor determined in accordance with EN 978:1997 after performance of the test according to EN 977:1997. Alternatively, a conservative value of  $K_0 = 2$  may be applied. In order to determine  $\alpha$  and  $\beta$  the initial deflection shall correspond to  $2\sigma$ ;

$K_1$  = a factor related to the service temperature and the thermal properties of the resin, determined by the following equation, with a minimum value of 1:

$$K_1 = 1.25 - 0.0125 (\text{HDT} - 70)$$

where HDT is the heat distortion temperature of the resin, in °C;

$K_2$  = a factor related to the fatigue of the material; the value of  $K_2 = 1.75$  shall be used unless otherwise agreed with the competent authority. For the dynamic design as outlined in 6.9.2.6 the value of  $K_2 = 1.1$  shall be used;

$K_3$  = a factor related to curing and has the following values:

- 1.1 where curing is carried out in accordance with an approved and documented process;
- 1.5 in other cases.

6.9.2.6 At the dynamic stresses, as indicated in 6.8.2.1.2 the design stress shall not exceed the value specified in 6.9.2.5, divided by the factor  $\alpha$ .

6.9.2.7 At any of the stresses as defined in 6.9.2.5 and 6.9.2.6, the resulting elongation in any direction shall not exceed 0.2% or one tenth of the elongation at fracture of the resin, whichever is lower.

6.9.2.8 At the specified test pressure, which shall not be less than the relevant calculation pressure as specified in 6.8.2.1.14 (a) and (b) the maximum strain in the shell shall not be greater than the elongation at fracture of the resin.

6.9.2.9 The shell shall be capable of withstanding the ball drop test according to 6.9.4.3.3 without any visible internal or external defects.

6.9.2.10 The overlay laminates used in the joints, including the end joints, the joints of the surge plates and the partitions with the shell shall be capable of withstanding the static and dynamic stresses mentioned above. In order to avoid concentrations of stresses in the overlay lamination, the applied taper shall not be steeper than 1:6.

The shear strength between the overlay laminate and the tank components to which it is bonded shall not be less than:

$$\tau = \frac{Q}{l} \leq \frac{\tau_R}{K}$$

where:

$\tau_R$  is the bending shear strength according to EN ISO 14125:1998 (three points method) with a minimum of  $\tau_R = 10 \text{ N/mm}^2$ , if no measured values are available;

Q is the load per unit width that the joint shall carry under the static and dynamic loads;

K is the factor calculated in accordance with 6.9.2.5 for the static and dynamic stresses;

l is the length of the overlay laminate.

6.9.2.11 Openings in the shell shall be reinforced to provide at least the same safety factors against the static and dynamic stresses as specified in 6.9.2.5 and 6.9.2.6 as that for the shell itself. The number of openings shall be minimized. The axis ratio of oval-shaped openings shall be not more than 2.

6.9.2.12 For the design of flanges and pipework attached to the shell, handling forces and the fastening of bolts shall also be taken into account.

6.9.2.13 The tank shall be designed to withstand, without significant leakage, the effects of a full engulfment in fire for 30 minutes as specified by the test requirements in 6.9.4.3.4. Testing may be waived with the agreement of the competent authority, where sufficient proof can be provided by tests with comparable tank designs.

**6.9.2.14 *Special requirements for the carriage of substances with a flash-point of not more than 60 °C***

FRP tanks used for the carriage of substances with a flash-point of not more than 60°C shall be constructed so as to ensure the elimination of static electricity from the various component parts so as to avoid the accumulation of dangerous charges.

6.9.2.14.1 The electrical surface resistance of the inside and outside of the shell as established by measurements shall not be higher than  $10^9$  ohms. This may be achieved by the use of additives in the resin or interlaminar conducting sheets, such as metal or carbon network.

6.9.2.14.2 The discharge resistance to earth as established by measurements shall not be higher than  $10^7$  ohms.

6.9.2.14.3 All components of the shell shall be electrically connected to each other and to the metal parts of the service and structural equipment of the tank and to the vehicle. The electrical resistance between components and equipment in contact with each other shall not exceed 10 ohms.

6.9.2.14.4 The electrical surface-resistance and discharge resistance shall be measured initially on each manufactured tank or a specimen of the shell in accordance with a procedure recognized by the competent authority.

6.9.2.14.5 The discharge resistance to earth of each tank shall be measured as part of the periodic inspection in accordance with a procedure recognized by the competent authority.

**6.9.3 Items of equipment**

- 6.9.3.1 The requirements of 6.8.2.2.1, 6.8.2.2.2 and 6.8.2.2.4 to 6.8.2.2.8 shall apply.
- 6.9.3.2 In addition, when they are shown under an entry in Column (13) of Table A of Chapter 3.2, the special provisions of 6.8.4 (b) (TE) shall also apply.

**6.9.4 Type testing and approval**

- 6.9.4.1 For any design of a FRP tank type, its materials and a representative prototype shall be subjected to the design type testing as outlined below.

**6.9.4.2 Material testing**

- 6.9.4.2.1 The elongation at fracture according to EN ISO 527-5:1997 and the heat distortion temperature according to ISO 75-1:1993 shall be determined for the resins to be used.
- 6.9.4.2.2 The following characteristics shall be determined for samples cut out of the shell. Samples manufactured in parallel may only be used, if it is not possible to use cutouts from the shell. Prior to testing, any liner shall be removed.

The tests shall cover:

- Thickness of the laminates of the central shell wall and the ends;
  - Mass content and composition of glass, orientation and arrangement of reinforcement layers;
  - Tensile strength, elongation at fracture and modulus of elasticity according to EN ISO 527-5:1997 in the direction of stresses. In addition, the elongation at fracture of the resin shall be established by means of ultrasound;
  - Bending strength and deflection established by the bending creep test according to ISO 14125:1998 for a period of 1000 hours using a sample with a minimum width of 50 mm and a support distance of at least 20 times the wall thickness. In addition, the creep factor  $\alpha$  and the ageing factor  $\beta$  shall be determined by this test and according to EN 978:1997.
- 6.9.4.2.3 The interlaminar shear strength of the joints shall be measured by testing representative samples in the tensile test according to EN ISO 14130:1997.
- 6.9.4.2.4 The chemical compatibility of the shell with the substances to be carried shall be demonstrated by one of the following methods with the agreement of the competent authority. This demonstration shall account for all aspects of the compatibility of the materials of the shell and its equipment with the substances to be carried, including chemical deterioration of the shell, initiation of critical reactions of the contents and dangerous reactions between both.
- In order to establish any deterioration of the shell, representative samples taken from the shell, including any internal liners with welds, shall be subjected to the chemical compatibility test according to EN 977:1997 for a period of 1 000 hours at 50°C. Compared with a virgin sample, the loss of strength and elasticity modulus measured by the bending test according to EN 978:1997 shall not exceed 25%. Cracks, bubbles, pitting effects as well as separation of layers and liners and roughness shall not be acceptable.

- Certified and documented data of positive experiences on the compatibility of the filling substances in question with the materials of the shell with which they come into contact at given temperatures, times and any other relevant service conditions.
- Technical data published in relevant literature, standards or other sources, acceptable to the competent authority.

#### **6.9.4.3**      *Type testing*

A representative prototype tank shall be subjected to tests as specified below. For this purpose service equipment may be replaced by other items if necessary.

6.9.4.3.1      The prototype shall be inspected for compliance with the design type specification. This shall include an internal and external visual inspection and measurement of the main dimensions.

6.9.4.3.2      The prototype, equipped with strain gauges at all locations where a comparison with the design calculation is required, shall be subjected to the following loads and the strains shall be recorded:

- Filled with water to the maximum filling degree. The measuring results shall be used to calibrate the design calculation according to 6.9.2.5;
- Filled with water to the maximum filling degree and subjected to accelerations in all three directions by means of driving and braking exercises with the prototype attached to a vehicle. For comparison with the design calculation according to 6.9.2.6 the strains recorded shall be extrapolated in relation to the quotient of the accelerations required in 6.8.2.1.2 and measured;
- Filled with water and subjected to the specified test pressure. Under this load, the shell shall exhibit no visual damage or leakage.

6.9.4.3.3      The prototype shall be subjected to the ball drop test according to EN 976-1:1997, No. 6.6. No visible damage inside or outside the tank shall occur.

6.9.4.3.4      The prototype with its service and structural equipment in place and filled to 80% of its maximum capacity with water, shall be exposed to a full engulfment in fire for 30 minutes, caused by an open heating oil pool fire or any other type of fire with the same effect. The dimensions of the pool shall exceed those of the tank by at least 50 cm to each side and the distance between fuel level and tank shall be between 50 cm and 80 cm. The rest of the tank below liquid level, including openings and closures, shall remain leakproof except for drips.

#### **6.9.4.4**      *Type approval*

6.9.4.4.1      The competent authority or a body designated by that authority shall issue in respect of each new type of tank an approval attesting that the design is suitable for the purpose for which it is intended and meets the construction and equipment requirements of this chapter as well as the special provisions applicable to the substances to be carried.

6.9.4.4.2      The approval shall be based on the calculation and the test report, including all material and prototype test results and its comparison with the design calculation, and shall refer to the design type specification and the quality assurance programme.

6.9.4.4.3      The approval shall include the substances or group of substances for which compatibility with the shell is provided. Their chemical names or the corresponding collective entry (see 2.1.1.2), and their class and classification code shall be indicated.



- 6.9.4.4.4 In addition, it shall include design and threshold values (such as life-time, service temperature range, working and test pressures, material data) specified and all precautions to be taken for the manufacture, testing, type approval, marking and use of any tank, manufactured in accordance with the approved design type.

## **6.9.5 Inspections**

- 6.9.5.1 For every tank, manufactured in conformity with the approved design, material tests and inspections shall be performed as specified below.

- 6.9.5.1.1 The material tests according to 6.9.4.2.2, except for the tensile test and for a reduction of the testing time for the bending creep test to 100 hours shall be performed with samples taken from the shell. Samples manufactured in parallel may only be used, if no cutouts from the shell are possible. The approved design values shall be met.

- 6.9.5.1.2 Shells and their equipment shall either together or separately undergo an initial inspection before being put into service. This inspection shall include:

- a check of conformity to the approved design;
- a check of the design characteristics;
- an internal and external examination;
- a hydraulic pressure test at the test pressure indicated on the plate prescribed in 6.8.2.5.1;
- a check of operation of the equipment;
- a leakproofness test, if the shell and its equipment have been pressure tested separately.

- 6.9.5.2 For the periodic inspection of tanks the requirements of 6.8.2.4.2 to 6.8.2.4.4 shall apply. In addition, the inspection in accordance with 6.8.2.4.3 shall include an examination of the internal condition of the shell.

- 6.9.5.3 The inspections and tests in accordance with 6.9.5.1 and 6.9.5.2 shall be carried out by the expert approved by the competent authority. Certificates shall be issued showing the results of these operations. These certificates shall refer to the list of the substances permitted for carriage in this shell in accordance with 6.9.4.4.

## **6.9.6 Marking**

- 6.9.6.1 The requirements of 6.8.2.5 shall apply to the marking of FRP tanks, with the following amendments:

- the tank plate may also be laminated to the shell or be made of suitable plastics materials;
- the design temperature range shall always be marked.

- 6.9.6.2 In addition, when they are shown under an entry in Column (13) of Table A of Chapter 3.2, the special provisions of 6.8.4 (e) (TM) shall also apply.



**CHAPTER 6.10****REQUIREMENTS FOR THE CONSTRUCTION, EQUIPMENT,  
TYPE APPROVAL, INSPECTION AND MARKING OF  
VACUUM-OPERATED WASTE TANKS**

**NOTE 1:** *For portable tanks and UN multiple-element gas containers (MEGCs) see Chapter 6.7; for fixed tanks (tank-vehicles), demountable tanks and tank containers and tank swap bodies, with shells made of metallic materials, and battery-vehicles and multiple element gas containers (MEGCs) other than UN MEGCs see Chapter 6.8; for fibre-reinforced plastic tanks see Chapter 6.9.*

**NOTE 2:** *This Chapter applies to fixed tanks, demountable tanks, tank-containers and tank swap bodies.*

**6.10.1      General****6.10.1.1    Definition**

**NOTE:** *A tank which fully complies with the requirements of Chapter 6.8 is not considered to be a "vacuum-operated waste tank".*

6.10.1.1.1    The term "*protected area*" means the areas located as follows:

- (a)    The lower part of the tank in a zone which extends over a 60° angle on either side of the lower generating line;
- (b)    The top part of the tank in a zone which extends over a 30° angle on either side of the top generating line;
- (c)    On the end front of the tank on motor vehicles;
- (d)    On the rear end of the tank inside the protection volume formed by the device stipulated in 9.7.6.

**6.10.1.2    Scope**

6.10.1.2.1    The special requirements of 6.10.2 to 6.10.4 complete or modify Chapter 6.8 and are applied to vacuum-operated waste tanks.

Vacuum-operated waste tanks may be equipped with openable ends, if the requirements of Chapter 4.3 allow bottom discharge of the substances to be carried (indicated by letters "A" or "B" in Part 3 of the tank code given in Column (12) of Table A of Chapter 3.2, in accordance with 4.3.4.1.1).

Vacuum-operated waste tanks shall comply with all requirements of Chapter 6.8, with the exception of requirements overtaken by a special provision in this Chapter. However the requirements of 6.8.2.1.19, 6.8.2.1.20, and 6.8.2.1.21 shall not apply.

**6.10.2      Construction**

6.10.2.1    Tanks shall be designed for a calculation pressure equal to 1.3 times the filling or discharge pressure but not less than 400 kPa (4 bar) (gauge pressure). For the carriage of substances for which a higher calculation pressure of the tank is specified in Chapter 6.8, this higher pressure shall apply.

6.10.2.2    Tanks shall be designed to withstand a negative internal pressure of 100 kPa (1 bar).

**6.10.3 Items of equipment**

- 6.10.3.1 The items of equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during carriage or handling. This requirement can be fulfilled by placing the items of equipment in a so called "protected area" (see 6.10.1.1.1).
- 6.10.3.2 The bottom discharge of shells may be constituted by external piping with a stop-valve fitted as close to the shell as practicable and a second closure which may be a blank flange or other equivalent device.
- 6.10.3.3 The position and closing direction of the stop-valve(s) connected to the shell, or to any compartment in the case of compartmented shells, shall be unambiguous, and be able to be checked from the ground.
- 6.10.3.4 In order to avoid any loss of contents in the event of damage to the external filling and discharge fittings (pipes, lateral shut-off devices), the internal stop-valve, or the first external stop-valve (where applicable), and its seatings shall be protected against the danger of being wrenched off by external stresses or shall be so designed as to withstand them. The filling and discharge devices (including flanges or threaded plugs) and protective caps (if any) shall be capable of being secured against any unintended opening.
- 6.10.3.5 The tanks may be equipped with openable ends. Openable ends shall comply with the following conditions:
- (a) The ends shall be designed to be secured leaktight when closed;
  - (b) Unintentional opening shall not be possible;
  - (c) Where the opening mechanism is power operated the end shall remain securely closed in the event of a power failure;
  - (d) A safety or breakseal device shall be incorporated to ensure that the openable end cannot be opened when there is still a residual over pressure in the tank. This requirement does not apply to openable ends which are power-operated, where the movement is positively controlled. In this case the controls shall be of the dead-man type and be so positioned that the operator can observe the movement of the openable end at all times and is not endangered during opening and closing of the openable end; and
  - (e) Provisions shall be made to protect the openable end and prevent it from being forced open during a roll-over of the vehicle, tank-container or tank swap body.
- 6.10.3.6 Vacuum-operated waste tanks which are fitted with an internal piston to assist in the cleaning of the tank or discharging shall be provided with stop-devices to prevent the piston in every operational position being ejected from the tank when a force equivalent to the maximum working pressure of the tank is applied to the piston. The maximum working pressure for tanks or compartments with pneumatic operated piston shall not exceed 100 kPa (1.0 bar). The internal piston shall be constructed in a manner and of materials which will not cause an ignition source when the piston is moved.

The internal piston may be used as a compartment provided it is secured in position. Where any of the means by which the internal piston is secured is external to the tank, it shall be placed in a position not liable to accidental damage.

6.10.3.7 The tanks may be equipped with suction booms if:

- (a) The boom is fitted with an internal or external stop-valve fixed directly to the shell, or directly to a bend that is welded to the shell; a rotation crown wheel can be fitted between the shell or the bend and the external stop valve, if this rotation crown wheel is located in the protected area and the stop-valve control device is protected with a housing or cover against the danger of being wrenched off by external loads;
- (b) The stop-valve mentioned in (a) is so arranged that carriage with the valve in an open position is prevented; and
- (c) The boom is constructed in such a way that the tank will not leak as a result of accidental impact on the boom.

6.10.3.8 The tanks shall be fitted with the following additional service equipment:

- (a) The outlet of a pump/exhauster unit shall be so arranged as to ensure that any flammable or toxic vapours are diverted to a place where they will not cause a danger;
- (b) A device to prevent immediate passage of flame shall be fitted to both the inlet and outlet of a vacuum pump/exhauster unit which may create sparks and which is fitted on a tank used for the carriage of flammable wastes;
- (c) Pumps which can deliver a positive pressure shall have a safety device fitted in the pipework which can be pressurised. The safety device shall be set to discharge at a pressure not exceeding the maximum working pressure of the tank;
- (d) A stop-valve shall be fitted between the shell, or the outlet of the overfill prevention device fitted to the shell, and the pipework connecting the shell to the pump/exhauster unit;
- (e) The tank shall be fitted with a suitable pressure/vacuum manometer which shall be mounted in a position where it can be easily read by the person operating the pump/exhauster unit. A distinguishing line shall be marked on the scale to indicate the maximum working pressure of the tank;
- (f) The tank, or in case of compartmented tanks, every compartment, shall be equipped with a level indicating device. Sight glasses may be used as level indicating devices provided:
  - (i) they form a part of the tank wall and have a resistance to the pressure comparable to that of the tank; or they are fitted external to the tank;
  - (ii) the top and bottom connections to the tank are equipped with shut-off valves fixed directly to the shell and so arranged that carriage with the valves in an open position is prevented;
  - (iii) are suitable for operation at the maximum working pressure of the tank; and
  - (iv) are placed in a position where they will not be liable to accidental damage.

6.10.3.9 The shells of vacuum-operated waste tanks shall be fitted with a safety valve preceded by a bursting disc.

The valve shall be capable of opening automatically at a pressure between 0.9 and 1.0 times the test pressure of the tank to which it is fitted. The use of dead weight or counterweight valves is prohibited.

The bursting disc shall burst at the earliest when the initial opening pressure of the valve is reached and at the latest when this pressure reaches the test pressure of the tank to which it is fitted.

Safety devices shall be of such a type as to resist dynamic stresses, including liquid surge.

The space between the bursting disc and the safety valve shall be provided with a pressure gauge or suitable tell-tale indicator for the detection of disc rupture, pinholing or leakage which could cause a malfunction of the safety valve.

#### **6.10.4      Inspection**

Vacuum-operated waste tanks shall be subject every three years for fixed tanks or demountable tanks and at least every two and a half years for tank-containers and tank swap bodies to an examination of the internal condition, in addition to the tests according to 6.8.2.4.3.

**CHAPTER 6.11****REQUIREMENTS FOR THE DESIGN, CONSTRUCTION, INSPECTION AND TESTING OF BULK CONTAINERS****6.11.1      Definitions**

For the purposes of this section:

*Closed bulk container* means a totally closed bulk container having a rigid roof, sidewalls, end walls and floor (including hopper-type bottoms). The term includes bulk containers with an opening roof, side or end wall that can be closed during carriage. Closed bulk containers may be equipped with openings to allow for the exchange of vapours and gases with air and which prevent under normal conditions of carriage the release of solid contents as well as the penetration of rain and splash water;

*Sheeted bulk container* means an open top bulk container with rigid bottom (including hopper-type bottom), side and end walls and a non-rigid covering;

**6.11.2      Application and general requirements**

6.11.2.1      Bulk containers and their service and structural equipment shall be designed and constructed to withstand, without loss of contents, the internal pressure of the contents and the stresses of normal handling and carriage.

6.11.2.2      Where a discharge valve is fitted, it shall be capable of being made secure in the closed position and the whole discharge system shall be suitably protected from damage. Valves having lever closures shall be able to be secured against unintended opening and the open or closed position shall be readily apparent.

**6.11.2.3      Code for designating types of bulk container**

The following table indicates the codes to be used for designating types of bulk containers:

| <b>Types of bulk containers</b> | <b>Code</b> |
|---------------------------------|-------------|
| Sheeted bulk container          | BK1         |
| Closed bulk container           | BK2         |

6.11.2.4      In order to take account of progress in science and technology, the use of alternative arrangements which offer at least equivalent safety as provided by the requirements of this chapter may be considered by the competent authority.

**6.11.3      Requirements for the design, construction, inspection and testing of containers conforming to the CSC used as bulk containers****6.11.3.1      Design and construction requirements**

6.11.3.1.1      The general design and construction requirements of this sub-section are deemed to be met if the bulk container complies with the requirements of ISO 1496-4:1991 "Series 1 Freight containers- Specification and testing – Part 4: Non pressurized containers for dry bulk" and the container is siftproof.

6.11.3.1.2 Containers designed and tested in accordance with ISO 1496-1:1990 "Series 1 Freight containers- Specification and testing - Part 1: General cargo containers for general purposes" shall be equipped with operational equipment which is, including its connection to the container, designed to strengthen the end walls and to improve the longitudinal restraint as necessary to comply with the test requirements of ISO 1496-4:1991 as relevant.

6.11.3.1.3 Bulk containers shall be siftproof. Where a liner is used to make the container siftproof it shall be made of a suitable material. The strength of material used for, and the construction of, the liner shall be appropriate to the capacity of the container and its intended use. Joins and closures of the liner shall withstand pressures and impacts liable to occur under normal conditions of handling and carriage. For ventilated bulk containers any liner shall not impair the operation of ventilating devices.

6.11.3.1.4 The operational equipment of bulk containers designed to be emptied by tilting shall be capable of withstanding the total filling mass in the tilted orientation.

6.11.3.1.5 Any movable roof or side or end wall or roof section shall be fitted with locking devices with securing devices designed to show the locked state to an observer at ground level.

#### **6.11.3.2      *Service equipment***

6.11.3.2.1 Filling and discharge devices shall be so constructed and arranged as to be protected against the risk of being wrenched off or damaged during carriage and handling. The filling and discharge devices shall be capable of being secured against unintended opening. The open and closed position and direction of closure shall be clearly indicated.

6.11.3.2.2 Seals of openings shall be so arranged as to avoid any damage by the operation, filling and emptying of the bulk container.

6.11.3.2.3 Where ventilation is required bulk containers shall be equipped with means of air exchange, either by natural convection, e.g. by openings, or active elements, e.g. fans. The ventilation shall be designed to prevent negative pressures in the container at all times. Ventilating elements of bulk containers for the carriage of flammable substances or substances emitting flammable gases or vapours shall be designed so as not to be a source of ignition.

#### **6.11.3.3      *Inspection and testing***

6.11.3.3.1 Containers used, maintained and qualified as bulk containers in accordance with the requirements of this section shall be tested and approved in accordance with the CSC.

6.11.3.3.2 Containers used and qualified as bulk containers shall be inspected periodically according to the CSC.

#### **6.11.3.4      *Marking***

6.11.3.4.1 Containers used as bulk containers shall be marked with a Safety Approval Plate in accordance with the CSC.

**6.11.4 Requirements for the design, construction and approval of bulk containers other than containers conforming to the CSC**

***NOTE:** When containers conforming to the provisions of this section are used for the carriage of solids in bulk, the following statement shall be shown on the transport document:*

*"Bulk container BK(x) approved by the competent authority of .....". (see 5.4.1.1.17)".*

- 6.11.4.1 Bulk containers covered in this section include skips, offshore bulk containers, bulk bins, swap bodies, trough shaped containers, roller containers, and load compartments of vehicles.

***NOTE:** These bulk containers also include containers conforming to the UIC leaflets 591 and 592-2 to 592-4 as mentioned in 7.1.3 which do not conform to the CSC.*

- 6.11.4.2 These bulk containers shall be designed and constructed so as to be strong enough to withstand the shocks and loadings normally encountered during carriage including, as applicable, transhipment between modes of transport.

- 6.11.4.3 *(Reserved)*

- 6.11.4.4 These bulk containers shall be approved by the competent authority and the approval shall include the code for designating types of bulk containers in accordance with 6.11.2.3 and the requirements for inspection and testing as appropriate.

- 6.11.4.5 Where it is necessary to use a liner in order to retain the dangerous goods it shall meet the provisions of 6.11.3.1.3.

## CHAPTER 6.12

### REQUIREMENTS FOR THE CONSTRUCTION, EQUIPMENT, TYPE APPROVAL, INSPECTIONS AND TESTS, AND MARKING OF TANKS, BULK CONTAINERS AND SPECIAL COMPARTMENTS FOR EXPLOSIVES OF MOBILE EXPLOSIVES MANUFACTURING UNITS (MEMUs)

**NOTE 1:** *For portable tanks, see Chapter 6.7; for fixed tanks (tank-vehicles), demountable tanks, tank-containers and tank swap bodies, with shells made of metallic materials, see Chapter 6.8; for fibre-reinforced plastics tanks see Chapter 6.9; for vacuum operated waste tanks see Chapter 6.10; for bulk containers see Chapter 6.11.*

**NOTE 2:** *This Chapter applies to fixed tanks, demountable tanks, tank-containers, tank swap bodies, which do not comply with all requirements of the Chapters mentioned in Note 1 as well as bulk containers and special compartments for explosives.*

#### 6.12.1 Scope

The requirements of this Chapter are applicable to tanks, bulk containers and special compartments intended for the carriage of dangerous goods on MEMUs.

#### 6.12.2 General provisions

6.12.2.1 Tanks shall meet the requirements of Chapter 6.8, notwithstanding the minimum capacity defined in section 1.2.1 for fixed tanks, as modified by the special provisions of this Chapter.

6.12.2.2 Bulk containers intended for the carriage of dangerous goods on MEMUs shall comply with the requirements for bulk containers of type BK2.

6.12.2.3 Where a single tank or bulk container contains more than one substance each substance shall be separated by at least two walls with drained air space between.

#### 6.12.3 Tanks

##### 6.12.3.1 Tanks with a capacity of 1 000 litres or more

6.12.3.1.1 These tanks shall meet the requirements of section 6.8.2.

6.12.3.1.2 Where a safety valve is required by the provisions of section 6.8.2, a tank shall also have a bursting disc, or other suitable means of pressure relief, approved by the competent authority.

6.12.3.1.3 For shells not of a circular cross-section, for example box-shaped or elliptical shells, which cannot be calculated according to 6.8.2.1.4 and standards or technical code mentioned therein, the ability to withstand the permissible stress may be demonstrated by a pressure test specified by the competent authority.

These tanks shall meet the requirements of sub-section 6.8.2.1 other than 6.8.2.1.3, 6.8.2.1.4 and 6.8.2.1.13 to 6.8.2.1.22.



The thickness of these shells shall not be less than the values given in the table below:

| Material                    | Minimum thickness |
|-----------------------------|-------------------|
| Stainless austenitic steels | 2.5 mm            |
| Other steels                | 3 mm              |
| Aluminium alloys            | 4 mm              |
| Pure aluminium of 99.80%    | 6 mm              |

Protection of the tank against damage through lateral impact or overturning shall be provided. Protection shall be provided according to 6.8.2.1.20 or the competent authority shall approve alternative protection measures.

- 6.12.3.1.4 By derogation from the requirements of 6.8.2.5.2 tanks do not need to be marked with the tank code and the special provisions, as applicable.

**6.12.3.2 Tanks with a capacity of less than 1 000 litres**

- 6.12.3.2.1 The construction of these tanks shall meet the requirements of sub-section 6.8.2.1 other than 6.8.2.1.3, 6.8.2.1.4, 6.8.2.1.6, 6.8.2.1.10 to 6.8.2.1.23 and 6.8.2.1.28.

- 6.12.3.2.2 The equipment of these tanks shall meet the requirements of 6.8.2.2.1. Where a safety valve is required by the provisions of 6.8.2, a tank shall also have a bursting disc, or other suitable means of pressure relief, approved by the competent authority.

- 6.12.3.2.3 The thickness of these shells shall not be less than the values given in the table below:

| Material                    | Minimum thickness |
|-----------------------------|-------------------|
| Stainless austenitic steels | 2.5 mm            |
| Other steels                | 3 mm              |
| Aluminium alloys            | 4 mm              |
| Pure aluminium of 99.80%    | 6 mm              |

- 6.12.3.2.4 Tanks may have constructional parts that are without a radius of convexity. Alternative supportive measures may be curved walls, corrugated walls or ribs. In at least one direction the distance between parallel supports on each side of the tank shall not be greater than 100 times the wall thickness.

- 6.12.3.2.5 Welds shall be skilfully made and shall afford the fullest safety. Welding shall be performed by skilled welders using a welding process whose effectiveness (including any heat treatments required) has been demonstrated by test.

- 6.12.3.2.6 The requirements of 6.8.2.4 do not apply. However, the initial and periodic inspections of these tanks shall be carried out under the responsibility of the user or owner of the MEMU. Shells and their equipment shall be subject to visual examination of their external and internal condition and a leakproofness test to the satisfaction of the competent authority at least every three years.

- 6.12.3.2.7 The requirements for type approval of 6.8.2.3 and for marking of 6.8.2.5 do not apply.

**6.12.4 Items of equipment**

- 6.12.4.1 Tanks with bottom discharge for UN 1942 and UN 3375 shall have at least two closures. One of these closures may be the product mixing or discharge pump or auger.
- 6.12.4.2 Any piping after the first closure shall be of a fusible material (i.e. rubber hose) or have fusible elements.
- 6.12.4.3 In order to avoid any loss of contents in the event of damage to the external pumps and discharge fittings (pipes), the first closure and its seatings shall be protected against the danger of being wrenched off by external stresses or shall be so designed as to withstand them. The filling and discharge devices (including flanges or threaded plugs) and protective caps (if any) shall be capable of being secured against any unintended opening.
- 6.12.4.4 Venting systems in accordance with 6.8.2.2.6 on tanks for UN 3375 may be substituted by "goose necks". Such equipment shall be protected against the danger of being wrenched off by external stresses or shall be so designed as to withstand them.

**6.12.5 Special compartments for explosives**

Compartments for packages of explosives containing detonators and/or detonator assemblies and those containing substances or articles of compatibility group D shall be designed to provide effective segregation such that there is no danger of transmission of detonation from the detonators and/or detonator assemblies to the substances or articles of compatibility group D. Segregation shall be achieved by the use of separate compartments or by placing one of the two types of explosive in a special containment system. Either method of segregation shall be approved by the competent authority. If the material used for the compartment is metal, the complete inside of the compartment shall be covered with materials providing suitable fire resistance. The explosives compartments shall be located where they are protected from impact and from damage on rough terrain and dangerous interaction with other dangerous goods on board and from ignition sources on the vehicle e.g. exhausts etc.

**NOTE:** Materials classified as class B-s3-d2 according to standard EN 13501 1:2002 are deemed to fulfil the fire resistance requirement.

## **PART 7**

### **Provisions concerning the conditions of carriage, loading, unloading and handling**

## CHAPTER 7.1

### GENERAL PROVISIONS

- 7.1.1 The carriage of dangerous goods is subject to the mandatory use of a particular type of transport equipment in accordance with the provisions of this Chapter and Chapter 7.2 for carriage in packages, Chapter 7.3 for carriage in bulk and Chapter 7.4 for carriage in tanks. In addition, the provisions of Chapter 7.5 concerning loading, unloading and handling shall be observed.

Columns (16), (17) and (18) of Table A of Chapter 3.2 show the particular provisions of this Part that apply to specific dangerous goods.

- 7.1.2 In addition to the provisions of this Part, vehicles used for the carriage of dangerous goods shall, as regards their design, construction and, if appropriate, their approval, conform to the relevant requirements of Part 9.

- 7.1.3 Large containers, portable tanks and tank-containers which meet the definition of "container" given in the CSC (1972), as amended, or in UIC leaflets 591 (status at 01.01.1998, 2<sup>nd</sup> edition), 592-2 (status at 01.10.2004, 6<sup>th</sup> edition), 592-3 (status at 01.01.1998, 2<sup>nd</sup> edition) and 592-4 (status at 01.09.2004, 2<sup>nd</sup> edition) may not be used to carry dangerous goods unless the large container or the frame of the portable tank or tank-container satisfies the provisions of the CSC or of UIC leaflets 591 and 592-2 to 592-4.

- 7.1.4 A large container may be presented for carriage only if it is structurally serviceable.

"Structurally serviceable" means that the container is free from major defects in its structural components, e.g. top and bottom side rails, doorsill and header, floor cross members, corner posts, and corner fittings. "Major defects" are dents or bends in structural members greater than 19 mm in depth, regardless of length; cracks or breaks in structural members; more than one splice or an improper splice (e.g. a lapped splice) in top or bottom end rails or door headers or more than two splices in any one top or bottom side rail or any splice in a door sill or corner post; door hinges and hardware that are seized, twisted, broken, missing or otherwise inoperative; non-closing gaskets and seals; any distortion of the overall configuration sufficient to prevent proper alignment of handling equipment, mounting and securing on a chassis or vehicle.

In addition, deterioration in any component of the container, such as rusted metal in side walls or disintegrated fibreglass is unacceptable, regardless of the material of construction. Normal wear, including oxidization (rust), slight dents and scratches and other damage that do not affect serviceability or weather-tightness are, however, acceptable.

Prior to loading the container shall also be checked to ensure that it is free from any residue of a previous load and that the interior floor and walls are free from protrusions.

- 7.1.5 Large containers shall meet the requirements concerning the body of the vehicle laid down in this Part and, if appropriate, those laid down in Part 9 for the load in question; the body of the vehicle need not then satisfy those provisions.

However, large containers carried on vehicles whose platforms have insulation and heat-resistant qualities which satisfy those requirements need not then satisfy the said requirements.

This provision also applies to small containers for the carriage of explosive substances and articles of Class 1.

- 7.1.6 Subject to the provisions of the last part of the first sentence of 7.1.5, the fact that dangerous goods are contained in one or more containers shall not affect the conditions to be met by the vehicle by reason of the nature and quantities of the dangerous goods carried.

**CHAPTER 7.2****PROVISIONS CONCERNING CARRIAGE IN PACKAGES**

- 7.2.1 Unless otherwise provided in 7.2.2 to 7.2.4, packages may be loaded:
- (a) in closed vehicles or in closed containers; or
  - (b) in sheeted vehicles or in sheeted containers; or
  - (c) in open vehicles or in open containers.
- 7.2.2 Packages comprising packagings made of materials sensitive to moisture shall be loaded on to closed or on to sheeted vehicles or into closed or sheeted containers.
- 7.2.3 *(Reserved)*
- 7.2.4 When they are shown under an entry in Column (16) of Table A of Chapter 3.2, the following special provisions apply:
- V1 Packages shall be loaded on to closed or sheeted vehicles or into closed or sheeted containers.
- V2 (1) Packages shall only be loaded on to EX/II or EX/III vehicles which satisfy the relevant requirements of Part 9. The choice of vehicle depends on the quantity to be carried, which is limited per transport unit in accordance with the provisions concerning loading (see 7.5.5.2).
- (2) Trailers, except semi-trailers, which satisfy the requirements for EX/II or EX/III vehicles may be drawn by motor vehicles which do not satisfy those requirements.
- For carriage in containers, see also 7.1.3 to 7.1.6.
- Where substances or articles of Class 1 in quantities requiring a transport unit made up of EX/III vehicle(s) are being carried in containers to or from harbour areas, rail terminals or airports of arrival or departure as part of a multimodal journey, a transport unit made up of EX/II vehicle(s) may be used instead, provided that the containers being carried comply with the appropriate requirements of the IMDG Code, the RID or the ICAO Technical Instructions.
- V3 For free-flowing powdery substances and for fireworks the floor of a container shall have a non-metallic surface or covering.
- V4 *(Reserved)*
- V5 Packages may not be carried in small containers.
- V6 Flexible IBCs shall be carried in closed vehicles or in closed containers, in sheeted vehicles or in sheeted containers. The sheet shall be of an impermeable and non-combustible material.
- V7 *(Reserved)*

- V8 (1) Substances stabilized by temperature control shall be forwarded in such manner that the control temperatures indicated in 2.2.41.1.17 and 2.2.41.4 or in 2.2.52.1.16 and 2.2.52.4, as appropriate, are never exceeded.
- (2) The means of temperature control chosen for the transport operation depends on a number of factors such as:
- the control temperature(s) of the substance(s) to be carried;
  - the difference between the control temperature and the expected ambient temperature;
  - the effectiveness of the thermal insulation;
  - the duration of the transport operation; and
  - the safety margin to be allowed for delays en route.
- (3) Suitable methods to prevent the control temperature from being exceeded are listed below, in ascending order of effectiveness:
- R1 Thermal insulation, provided that the initial temperature of the substance(s) is sufficiently below the control temperature;
- R2 Thermal insulation and coolant system, provided that:
- an adequate quantity of non-flammable coolant (e.g. liquid nitrogen or solid carbon dioxide), allowing a reasonable margin for possible delay, is carried or a means of replenishment is assured;
  - liquid oxygen or air is not used as coolant;
  - there is a uniform cooling effect even when most of the coolant has been consumed; and
  - the need to ventilate the transport unit before entering is clearly indicated by a warning on the door(s);
- R3 Thermal insulation and single mechanical refrigeration, provided that for substances with a flash-point lower than the sum of the emergency temperature plus 5 °C explosion-proof electrical fittings, EEx IIB T3, are used within the cooling compartment to prevent ignition of flammable vapours from the substances;
- R4 Thermal insulation and combined mechanical refrigeration system and coolant system, provided that:
- the two systems are independent of one another; and
  - the requirements of methods R2 and R3 above are met;
- R5 Thermal insulation and dual mechanical refrigeration system, provided that:
- apart from the integral power supply unit, the two systems are independent of one another;

- each system alone is capable of maintaining adequate temperature control; and
  - for substances with a flash-point lower than the sum of the emergency temperature plus 5 °C explosion-proof electrical fittings, EEx IIB T3, are used within the cooling compartment to prevent ignition of flammable vapours from the substances.
- (4) Methods R4 and R5 may be used for all organic peroxides and self-reactive substances.

Method R3 may be used for organic peroxides and self-reactive substances of Types C, D, E and F and, when the maximum ambient temperature to be expected during carriage does not exceed the control temperature by more than 10 °C, for organic peroxides and self-reactive substances of Type B.

Method R2 may be used for organic peroxides and self-reactive substances of Types C, D, E and F when the maximum ambient temperature to be expected during carriage does not exceed the control temperature by more than 30 °C.

Method R1 may be used for organic peroxides and self-reactive substances of Types C, D, E and F when the maximum ambient temperature to be expected during carriage is at least 10 °C below the control temperature.

- (5) Where substances are required to be carried in insulated, refrigerated or mechanically-refrigerated vehicles or containers, these vehicles or containers shall satisfy the requirements of Chapter 9.6.
- (6) If substances are contained in protective packagings filled with a coolant, they shall be loaded in closed or sheeted vehicles or closed or sheeted containers. If the vehicles or containers used are closed they shall be adequately ventilated. Sheeted vehicles and containers shall be fitted with sideboards and a tailboard. The sheets of these vehicles and containers shall be of an impermeable and non-combustible material.
- (7) Any control and temperature sensing devices in the refrigeration system shall be readily accessible and all electrical connections shall be weatherproof. The temperature of the air inside the transport unit shall be measured by two independent sensors and the output shall be recorded so that any change in temperature is readily detectable. When substances having a control temperature of less than +25 °C are carried, the transport unit shall be equipped with visible and audible alarms, powered independently of the refrigeration system and set to operate at or below the control temperature.
- (8) A back-up refrigeration system or spare parts shall be available.

**NOTE:** This provision V8 does not apply to substances referred to in 3.1.2.6 when substances are stabilized by the addition of chemical inhibitors such that the SADT is greater than 50 °C. In this latter case, temperature control may be required under conditions of carriage where the temperature may exceed 55 °C.

V9 (Reserved)

V10 IBCs shall be carried in closed or sheeted vehicles or closed or sheeted containers.

- V11 IBCs other than metal or rigid plastics IBCs shall be carried in closed or sheeted vehicles or closed or sheeted containers.
- V12 IBCs of type 31HZ2 shall be carried in closed vehicles or containers.
- V13 When packed in 5H1, 5L1 or 5 M1 bags, shall be carried in closed vehicles or containers.
- V14 Aerosols carried for the purposes of reprocessing or disposal under special provision 327 in Chapter 3.3 shall only be carried in ventilated or open vehicles or containers.



## CHAPTER 7.3

### PROVISIONS CONCERNING CARRIAGE IN BULK

#### 7.3.1 General provisions

7.3.1.1 Goods may not be carried in bulk in bulk containers, containers or vehicles unless:

- (a) either a special provision, identified by the code BK, explicitly authorizing this mode of carriage is indicated in column (10) of Table A of Chapter 3.2 and the relevant conditions of 7.3.2 are satisfied in addition to those of this section; or
- (b) a special provision, identified by the code VV, explicitly authorizing this mode of carriage is indicated in column (17) of Table A of Chapter 3.2 and the conditions of this special provision, as laid down in 7.3.3 are satisfied in addition to those of this section.

Nevertheless, empty packagings, uncleaned, may be carried in bulk if this mode of carriage is not explicitly prohibited by other provisions of ADR.

*NOTE: For carriage in tanks, see Chapters 4.2 and 4.3.*

7.3.1.2 Substances which may become liquid at temperatures likely to be encountered during carriage, are not permitted for carriage in bulk.

7.3.1.3 Bulk containers, containers or bodies of vehicles shall be siftproof and shall be so closed that none of the contents can escape under normal conditions of carriage including the effect of vibration, or by changes of temperature, humidity or pressure.

7.3.1.4 Bulk solids shall be loaded and evenly distributed in a manner that minimises movement that could result in damage to the bulk container, container or vehicle or leakage of the dangerous goods.

7.3.1.5 Where venting devices are fitted they shall be kept clear and operable.

7.3.1.6 Bulk solids shall not react dangerously with the material of the bulk container, container, vehicle, gaskets, equipment including lids and tarpaulins and with protective coatings which are in contact with the contents or significantly weaken them. Bulk containers, containers or vehicles shall be so constructed or adapted that the goods cannot penetrate between wooden floor coverings or come into contact with those parts of the bulk container, container or vehicle that may be affected by the materials or residues thereof.

7.3.1.7 Before being filled and handed over for carriage, each bulk container, container or vehicle shall be inspected and cleaned to ensure that it does not contain any residue on the interior or exterior of the bulk container, container or vehicle that could:

- cause a dangerous reaction with the substance intended for carriage;
- detrimentally affect the structural integrity of the bulk container, container or vehicle; or
- affect the dangerous goods retention capabilities of the bulk container, container or vehicle.

7.3.1.8 During carriage, no dangerous residues shall adhere to the outer surfaces of bulk containers, containers or of the bodies of vehicles.

- 7.3.1.9 If several closure systems are fitted in series, the system which is located nearest to the substance to be carried shall be closed first before filling.
- 7.3.1.10 Empty bulk containers, containers or vehicles which have carried a dangerous solid substance in bulk shall be treated in the same manner as is required by ADR for a filled bulk container, container or vehicle, unless adequate measures have been taken to nullify any hazard.
- 7.3.1.11 If bulk containers, containers or vehicles are used for the carriage in bulk of goods liable to cause a dust explosion, or evolve flammable vapours (e. g. for certain wastes) measures shall be taken to exclude sources of ignition and prevent dangerous electrostatic discharge during carriage, filling or discharge of the substance.
- 7.3.1.12 Substances, for example wastes, which may react dangerously with one another and substances of different classes and goods not subject to ADR, which are liable to react dangerously with one another shall not be mixed together in the same bulk container, container or vehicle. Dangerous reactions are:
- (a) Combustion and/or evolution of considerable heat;
  - (b) Emission of flammable and/or toxic gases;
  - (c) Formation of corrosive liquids; or
  - (d) Formation of unstable substances.
- 7.3.1.13 Before a bulk container, container or vehicle is filled it shall be visually examined to ensure it is structurally serviceable, its interior walls, ceiling and floors are free from protrusions or damage and that any inner liners or substance retaining equipment are free from rips, tears or any damage that would compromise its cargo retention capabilities. Structurally serviceable means the bulk container, container or vehicle does not have major defects in its structural components, such as top and bottom side rails, top and bottom end rails, door sill and header, floor cross members, corner posts, and corner fittings in a bulk container or container. Major defects include:
- (a) Bends, cracks or breaks in the structural or supporting members that affect the integrity of the bulk container, container or of the body of the vehicle;
  - (b) More than one splice or an improper splice (such as a lapped splice) in top or bottom end rails or door headers;
  - (c) More than two splices in any one top or bottom side rail;
  - (d) Any splice in a door sill or corner post;
  - (e) Door hinges and hardware that are seized, twisted, broken, missing, or otherwise inoperative;
  - (f) Gaskets and seals that do not seal;
  - (g) Any distortion of the overall configuration of a bulk container or container great enough to prevent proper alignment of handling equipment, mounting and securing on a chassis or vehicle;
  - (h) Any damage to lifting attachments or handling equipment interface features; or
  - (i) Any damage to service or operational equipment.

**7.3.2        Additional provisions for the carriage in bulk when the provisions of 7.3.1.1 (a) are applied**

7.3.2.1        The codes BK1 and BK2 in column (10) of Table A of Chapter 3.2 have the following meanings:

- BK1:        Carriage in bulk in sheeted bulk containers is permitted;  
BK2:        Carriage in bulk in closed bulk containers is permitted.

7.3.2.2        The bulk container used shall conform to the requirements of Chapter 6.11.

**7.3.2.3        Goods of Class 4.2**

The total mass carried in a bulk container shall be such that its spontaneous ignition temperature is greater than 55 °C.

**7.3.2.4        Goods of Class 4.3**

These goods shall be carried in bulk containers which are watertight.

**7.3.2.5        Goods of Class 5.1**

Bulk containers shall be so constructed or adapted that the goods cannot come into contact with wood or any other incompatible material.

**7.3.2.6        Goods of Class 6.2**

7.3.2.6.1        Animal material containing infectious substances (UN Nos. 2814, 2900 and 3373) is authorized for carriage in bulk containers provided the following conditions are met:

- (a)        Sheeted bulk containers BK1 are permitted provided that they are not filled to maximum capacity to avoid substances coming into contact with the sheeting. Closed bulk containers BK2 are also permitted;
- (b)        Closed and sheeted bulk containers, and their openings, shall be leak-proof by design or by the fitting of a suitable liner;
- (c)        The animal material shall be thoroughly treated with an appropriate disinfectant before loading prior to carriage;
- (d)        Sheeted bulk containers shall be covered by an additional top liner weighted down by absorbent material treated with an appropriate disinfectant;
- (e)        Closed or sheeted bulk containers shall not be re-used until after they have been thoroughly cleaned and disinfected.

**NOTE:** Additional provisions may be required by appropriate national health authorities.

7.3.2.6.2        Wastes of Class 6.2 (UN 3291)

- (a)        (Reserved);
- (b)        Closed bulk containers and their openings shall be leakproof by design. These bulk containers shall have non porous interior surfaces and shall be free from cracks or other features which could damage packagings inside, impede disinfection or permit inadvertent release;

- (c) Wastes of UN No. 3291 shall be contained within the closed bulk container in UN type tested and approved sealed leakproof plastics bags tested for solids of packing group II and marked in accordance with 6.1.3.1. Such plastics bags shall be capable of passing the tests for tear and impact resistance according to ISO 7765-1:1988 "Plastics film and sheeting - Determination of impact resistance by the free-falling dart method - Part 1: Staircase methods" and ISO 6383-2:1983 "Plastics - Film and sheeting - Determination of tear resistance. Part 2: Elmendorf method". Each bag shall have an impact resistance of at least 165 g and a tear resistance of at least 480 g in both parallel and perpendicular planes with respect to the length of the bag. The maximum net mass of each plastics bag shall be 30 kg;
- (d) Single articles exceeding 30 kg such as soiled mattresses may be carried without the need for a plastics bag when authorized by the competent authority;
- (e) Wastes of UN No. 3291 which contain liquids shall only be carried in plastics bags containing sufficient absorbent material to absorb the entire amount of liquid without it spilling in the bulk container;
- (f) Wastes of UN No. 3291 containing sharp objects shall only be carried in UN type tested and approved rigid packagings meeting the provisions of packing instructions P621, IBC620 or LP621;
- (g) Rigid packagings specified in packing instructions P621, IBC620 or LP621 may also be used. They shall be properly secured to prevent damage during normal conditions of carriage. Wastes carried in rigid packagings and plastics bags together in the same closed bulk container shall be adequately segregated from each other, e.g. by suitable rigid barriers or dividers, mesh nets or otherwise securing, such that they prevent damage to the packagings during normal conditions of carriage;
- (h) Wastes of UN No. 3291 in plastics bags shall not be compressed in a closed bulk container in such a way that bags may be rendered no longer leakproof;
- (i) The closed bulk container shall be inspected for leakage or spillage after each journey. If any wastes of UN No. 3291 have leaked or been spilled in the closed bulk container, it shall not be re-used until after it has been thoroughly cleaned and, if necessary, disinfected or decontaminated with an appropriate agent. No other goods shall be carried together with UN No. 3291 other than medical or veterinary wastes. Any such other wastes carried in the same closed bulk container shall be inspected for possible contamination.

#### **7.3.2.7**      *Material of Class 7*

For the carriage of unpackaged radioactive material, see 4.1.9.2.3.

#### **7.3.2.8**      *Goods of Class 8*

These goods shall be carried in bulk containers which are watertight.

**7.3.3 Special provisions for the carriage in bulk when the provisions of 7.3.1.1 (b) are applied**

When they are shown under an entry in Column (17) of Table A of Chapter 3.2, the following special provisions apply:

- VV1 Carriage in bulk in closed or sheeted vehicles, in closed containers or in large sheeted containers is permitted.
- VV2 Carriage in bulk is permitted in closed vehicles with a metal body, closed metal containers and in sheeted vehicles and sheeted large containers covered with a non-combustible sheet and having a metal body or having floor and walls protected from the load.
- VV3 Carriage in bulk is permitted in sheeted vehicles and sheeted large containers with adequate ventilation.
- VV4 Carriage in bulk is permitted in closed or sheeted vehicles with a metal body, and in closed metal containers or in sheeted large metal containers.  
For UN Nos. 2008, 2009, 2210, 2545, 2546, 2881, 3189 and 3190, only carriage in bulk of solid waste is permitted.
- VV5 Carriage in bulk is permitted in specially equipped vehicles and containers.  
The openings used for loading and unloading shall be capable of being closed hermetically.
- VV6 *(Reserved)*
- VV7 Carriage in bulk in closed or sheeted vehicles, in closed containers or in large sheeted containers is permitted only if the substance is in pieces.
- VV8 Carriage in bulk is permitted, as a full load, in closed vehicles, closed containers or sheeted vehicles or large containers covered with an impermeable, non-combustible sheet.  
Vehicles and containers shall be so constructed either that the substances contained cannot come into contact with wood or any other combustible material, or that the entire surface of the floor and walls, if made of wood or another combustible material has been provided with an impermeable surfacing resistant to combustion or has been coated with sodium silicate or a similar substance.
- VV9 Carriage in bulk is permitted, as a full load, in sheeted vehicles, closed containers or in sheeted large containers with complete walls.  
For substances of Class 8, the body of the vehicle or container shall be equipped with a suitable and sufficiently stout inner lining.
- VV10 Carriage in bulk is permitted, as a full load, in sheeted vehicles, closed containers or sheeted large containers with complete walls.  
The body of vehicles or containers shall be leakproof or rendered leakproof, for example by means of a suitable and sufficiently stout inner lining.
- VV11 Carriage in bulk is permitted in specially equipped vehicles and containers in a manner which avoids risks to humans, animals and the environment, e.g. by loading the wastes in bags or by airtight connections.

VV12 Substances for which carriage in tank-vehicles, in portable tanks or in tank-containers is unsuitable because of the high temperature and density of the substance may be carried in special vehicles or containers in accordance with standards specified by the competent authority of the country of origin. If the country of origin is not a contracting party to ADR, the conditions laid down shall be recognized by the competent authority of the first country contracting party to ADR reached by the consignment.

VV13 Carriage in bulk is permitted in specially equipped vehicles or containers in accordance with standards specified by the competent authority of the country of origin. If the country of origin is not a contracting party to ADR, the conditions laid down shall be recognized by the competent authority of the first country contracting party to ADR reached by the consignment.

VV14 (1) Used batteries may be carried in bulk in specially equipped vehicles or containers. Large plastics containers shall not be permitted. Small plastics containers shall be capable of withstanding, when fully loaded, a drop from a height of 0.8 m onto a hard surface at -18 °C, without breakage.

(2) The load compartments of vehicles or containers shall be of steel resistant to the corrosive substances contained in the batteries. Less resistant steels may be used when there is a sufficiently great wall thickness or a plastics lining/layer resistant to the corrosive substances.

The design of the load compartments of vehicles or containers shall take account of any residual currents and impact from the batteries.

*NOTE: Steel exhibiting a maximum rate of progressive reduction of 0.1 mm per year under the effects of the corrosive substances may be considered as resistant.*

(3) It shall be ensured by means of constructional measures that there will be no leakage of corrosive substances from the load compartments of vehicles or containers during carriage. Open load compartments shall be covered. The cover shall be resistant to the corrosive substances.

(4) Before loading, the load compartments of vehicles or containers, including their equipment, shall be inspected for damage. Vehicles or containers with damaged load compartments shall not be loaded.

The load compartments of vehicles or containers shall not be loaded above the top of their walls.

(5) No batteries containing different substances and no other goods liable to react dangerously with each other shall be present in the load compartments of vehicles or containers (see "*Dangerous reaction*" in 1.2.1).

During carriage no dangerous residue of the corrosive substances contained in the batteries shall adhere to the outer surface of the load compartments of vehicles or containers.

VV15 Carriage in bulk is permitted in closed or sheeted vehicles, closed containers or sheeted large containers with complete walls for substances or mixtures (such as preparations or wastes) containing not more than 1000 mg/kg of substance to which this UN No is assigned.

The bodies of vehicles or containers shall be leakproof or rendered leakproof, for example by means of a suitable and sufficiently stout inner lining.

VV16 Carriage in bulk is permitted in accordance with the provisions of 4.1.9.2.3.

VV17 Carriage in bulk of SCO-I is permitted in accordance with the provisions of 4.1.9.2.3.

## CHAPTER 7.4

### PROVISIONS CONCERNING CARRIAGE IN TANKS

- 7.4.1 Dangerous goods may not be carried in tanks unless a code is indicated in Columns (10) or (12) of Table A of Chapter 3.2 or unless a competent authority approval is granted as detailed in 6.7.1.3. The carriage shall be in accordance with the provisions of Chapters 4.2 or 4.3. The vehicles, whether they be rigid vehicles, drawing vehicles, trailers or semi-trailers, shall satisfy the relevant requirements of Chapters 9.1, 9.2 and 9.7.2 concerning the vehicle to be used, as indicated in Column (14) of Table A in Chapter 3.2.
- 7.4.2 The vehicles designated by the codes EX/III, FL, OX or AT in 9.1.1.2 shall be used as follows:
- Where an EX/III vehicle is prescribed, only an EX/III vehicle may be used;
  - Where a FL vehicle is prescribed, only an FL vehicle may be used;
  - Where a OX vehicle is prescribed, only an OX vehicle may be used;
  - Where a AT vehicle is prescribed, AT, FL and OX vehicles may be used.



## CHAPTER 7.5

### PROVISIONS CONCERNING LOADING, UNLOADING AND HANDLING

#### 7.5.1 General provisions concerning loading, unloading and handling

**NOTE:** Within the meaning of this section, placing a container, bulk-container, tank-container or portable tank onto a vehicle is considered as loading, and removing it is considered as unloading.

7.5.1.1 The vehicle and its driver, as well as the large container(s), bulk-container(s), tank-container(s) or portable tank(s) if any, shall comply with the regulatory provisions (especially those concerning safety, security, cleanliness and satisfactory operation of the equipment used in loading and unloading) upon arrival at the loading and unloading sites, which include container terminals.

7.5.1.2 The loading shall not be carried out if:

- (a) an examination of the documents; or
- (b) a visual inspection of the vehicle or of the large container(s), bulk-container(s), tank-container(s) or portable tank(s) if any, as well as of their equipment used in loading and unloading,

shows that the vehicle, the driver, a large container, a bulk-container, a tank-container, a portable tank or their equipment do not comply with the regulatory provisions.

7.5.1.3 The unloading shall not be carried out, if the above-mentioned inspections reveal deficiencies that might affect the safety or the security of the unloading. The interior and exterior of a vehicle or container shall be inspected prior to loading to ensure that there is no damage that could affect its integrity or that of the packages to be loaded in it.

7.5.1.4 In accordance with the special provisions of 7.3.3 or 7.5.11, in conformity with Columns (17) and (18) of Table A of Chapter 3.2, certain dangerous goods shall only be forwarded as a "full load" (see definition in 1.2.1). In such a case, the competent authorities may require the vehicle or large container used for such carriage to be loaded at only one point and unloaded at only one point.

7.5.1.5 When orientation arrows are required packages shall be oriented in accordance with such markings.

**NOTE:** Liquid dangerous goods shall be loaded below dry dangerous goods whenever practicable.

#### 7.5.2 Mixed loading prohibition

7.5.2.1 Packages bearing different danger labels shall not be loaded together in the same vehicle or container unless mixed loading is permitted according to the following Table based on the danger labels they bear.

**NOTE:** In accordance with 5.4.1.4.2, separate transport documents shall be drawn up for consignments that cannot be loaded together in the same vehicle or container.

| Labels Nos.   | 1           | 1.4         | 1.5 | 1.6 | 2.1,<br>2.2,<br>2.3 | 3 | 4.1 | 4.1<br>+ 1 | 4.2 | 4.3 | 5.1 | 5.2 | 5.2<br>+ 1 | 6.1 | 6.2 | 7 A,<br>B, C | 8 | 9           |
|---------------|-------------|-------------|-----|-----|---------------------|---|-----|------------|-----|-----|-----|-----|------------|-----|-----|--------------|---|-------------|
| 1             | See 7.5.2.2 |             |     |     |                     |   |     |            |     |     | d   |     |            |     |     |              |   | b           |
| 1.4           |             |             |     |     | a                   | a | a   |            | a   | a   | a   | a   |            | a   | a   | a            | a | a<br>b<br>c |
| 1.5           |             |             |     |     |                     |   |     |            |     |     |     |     |            |     |     |              |   | b           |
| 1.6           |             |             |     |     |                     |   |     |            |     |     |     |     |            |     |     |              |   | b           |
| 2.1, 2.2, 2.3 |             | a           |     |     | X                   | X | X   |            | X   | X   | X   | X   |            | X   | X   | X            | X | X           |
| 3             |             | a           |     |     | X                   | X | X   |            | X   | X   | X   | X   |            | X   | X   | X            | X | X           |
| 4.1           |             | a           |     |     | X                   | X | X   |            | X   | X   | X   | X   |            | X   | X   | X            | X | X           |
| 4.1 + 1       |             |             |     |     |                     |   |     | X          |     |     |     |     |            |     |     |              |   |             |
| 4.2           |             | a           |     |     | X                   | X | X   |            | X   | X   | X   | X   |            | X   | X   | X            | X | X           |
| 4.3           |             | a           |     |     | X                   | X | X   |            | X   | X   | X   | X   |            | X   | X   | X            | X | X           |
| 5.1           | d           | a           |     |     | X                   | X | X   |            | X   | X   | X   | X   |            | X   | X   | X            | X | X           |
| 5.2           |             | a           |     |     | X                   | X | X   |            | X   | X   | X   | X   | X          | X   | X   | X            | X | X           |
| 5.2 + 1       |             |             |     |     |                     |   |     |            |     |     |     | X   | X          |     |     |              |   |             |
| 6.1           |             | a           |     |     | X                   | X | X   |            | X   | X   | X   | X   |            | X   | X   | X            | X | X           |
| 6.2           |             | a           |     |     | X                   | X | X   |            | X   | X   | X   | X   |            | X   | X   | X            | X | X           |
| 7A, B, C      |             | a           |     |     | X                   | X | X   |            | X   | X   | X   | X   |            | X   | X   | X            | X | X           |
| 8             |             | a           |     |     | X                   | X | X   |            | X   | X   | X   | X   |            | X   | X   | X            | X | X           |
| 9             | b           | a<br>b<br>c | b   | b   | X                   | X | X   |            | X   | X   | X   | X   |            | X   | X   | X            | X | X           |

X Mixed loading permitted.

a Mixed loading permitted with 1.4S substances and articles.

b Mixed loading permitted between goods of Class 1 and life-saving appliances of Class 9 (UN Nos. 2990, 3072 and 3268).

c Mixed loading permitted between air bag inflators, or air bag modules, or seat-belt pretensioners of Division 1.4, compatibility group G, (UN No. 0503) and air bag inflators or air bag modules or seat-belt pretensioners of Class 9 (UN No. 3268).

d Mixed loading permitted between blasting explosives (except UN No. 0083 explosive, blasting, type C) and ammonium nitrate (UN Nos. 1942 and 2067) and alkali metal nitrates (e.g. UN No. 1486) and alkaline earth metal nitrates (e.g. UN No. 1454) provided the aggregate is treated as blasting explosives under Class 1 for the purposes of placarding, segregation, stowage and maximum permissible load.

## 7.5.2.2

Packages containing substances or articles of Class 1, bearing a label conforming to models Nos. 1, 1.4, 1.5 or 1.6 which are assigned to different compatibility groups shall not be loaded together in the same vehicle or container, unless mixed loading is permitted in accordance with the following Table for the corresponding compatibility groups.

| Compatibility Group | A | B            | C              | D              | E              | F | G | H | J | L            | N              | S |
|---------------------|---|--------------|----------------|----------------|----------------|---|---|---|---|--------------|----------------|---|
| A                   | X |              |                |                |                |   |   |   |   |              |                |   |
| B                   |   | X            |                | <sup>a</sup>   |                |   |   |   |   |              |                | X |
| C                   |   |              | X              | X              | X              |   | X |   |   |              | <sup>b c</sup> | X |
| D                   |   | <sup>a</sup> | X              | X              | X              |   | X |   |   |              | <sup>b c</sup> | X |
| E                   |   |              | X              | X              | X              |   | X |   |   |              | <sup>b c</sup> | X |
| F                   |   |              |                |                |                | X |   |   |   |              |                | X |
| G                   |   |              | X              | X              | X              |   | X |   |   |              |                | X |
| H                   |   |              |                |                |                |   |   | X |   |              |                | X |
| J                   |   |              |                |                |                |   |   |   | X |              |                | X |
| L                   |   |              |                |                |                |   |   |   |   | <sup>d</sup> |                |   |
| N                   |   |              | <sup>b c</sup> | <sup>b c</sup> | <sup>b c</sup> |   |   |   |   |              | <sup>b</sup>   | X |
| S                   |   | X            | X              | X              | X              | X | X | X | X |              | X              | X |

X Mixed loading permitted.

<sup>a</sup> Packages containing articles of compatibility group B and those containing substances or articles of compatibility group D may be loaded together on one vehicle or in one container provided they are effectively segregated such that there is no danger of transmission of detonation from the articles of compatibility group B to the substances or articles of compatibility group D. Segregation shall be achieved by the use of separate compartments or by placing one of the two types of explosive in a special containment system. Either method of segregation shall be approved by the competent authority.

<sup>b</sup> Different types of articles of division 1.6, compatibility group N, may be carried together as articles of division 1.6, compatibility group N, only when it is proven by testing or analogy that there is no additional risk of sympathetic detonation between the articles. Otherwise they should be treated as hazard division 1.1.

<sup>c</sup> When articles of compatibility group N are carried with substances or articles of compatibility groups C, D or E, the articles of compatibility group N should be considered as having the characteristics of compatibility group D.

<sup>d</sup> Packages containing substances and articles of Compatibility Group L may be loaded together on one vehicle or in one container with packages containing the same type of substances and articles of that compatibility group.

- 7.5.2.3 For the purpose of the application of the prohibitions of mixed loading on one vehicle, no account shall be taken of substances contained in closed containers with complete sides. Nevertheless, the mixed loading prohibitions laid down in 7.5.2.1 concerning mixed loading of packages bearing labels conforming to models Nos. 1, 1.4, 1.5 or 1.6 with other packages, and in 7.5.2.2 concerning mixed loading of explosives of different compatibility groups shall also apply between dangerous goods contained in a container and the other dangerous goods loaded on the same vehicle, whether or not the latter goods are enclosed in one or more other containers.

**7.5.3** *(Reserved)*

**7.5.4 Precautions with respect to foodstuffs, other articles of consumption and animal feeds**

If special provision CV28 is indicated for a substance or article in Column (18) of Table A of Chapter 3.2, precautions with respect to foodstuffs, other articles of consumption and animal feeds shall be taken as follows.

Packages as well as uncleaned empty packagings, including large packagings and intermediate bulk containers (IBCs), bearing labels conforming to models Nos. 6.1 or 6.2 and those bearing labels conforming to model No. 9 containing goods of UN Nos. 2212, 2315, 2590, 3151, 3152 or 3245, shall not be stacked on or loaded in immediate proximity to packages known to contain foodstuffs, other articles of consumption or animal feeds in vehicles, in containers and at places of loading, unloading or transhipment.

When these packages, bearing the said labels, are loaded in immediate proximity of packages known to contain foodstuffs, other articles of consumption or animal feeds, they shall be kept apart from the latter:

- (a) By complete partitions which should be as high as the packages bearing the said labels;
- (b) By packages not bearing labels conforming to models Nos. 6.1, 6.2 or 9 or packages bearing labels conforming to model No.9 but not containing goods of UN Nos. 2212, 2315, 2590, 3151, 3152 or 3245; or
- (c) By a space of at least 0.8 m;

unless the packages bearing the said labels are provided with an additional packaging or are completely covered (e.g. by a sheeting, a fibreboard cover or other measures).

**7.5.5 Limitation of the quantities carried**

- 7.5.5.1 If the provisions below, or the additional provisions of 7.5.11 to be applied according to Column (18) of Table A of Chapter 3.2 require a limitation of the quantity of specific goods that can be carried, the fact that dangerous goods are contained in one or more containers shall not affect the mass limitations per transport unit laid down by these provisions.

## 7.5.5.2 *Limitations with respect to explosive substances and articles*

### 7.5.5.2.1 *Substances and quantities carried*

The total net mass in kg of explosive substance (or in the case of explosive articles, the total net mass of explosive substance contained in all the articles combined) which may be carried on one transport unit shall be limited as indicated in the table below (see also 7.5.2.2 as regards the prohibition of mixed loading):

**Maximum permissible net mass in kg of explosive in Class 1 goods per transport unit**

| Transport Unit      | Division            | 1.1   |                 | 1.2    | 1.3    | 1.4             |           | 1.5 and 1.6 | Empty uncleaned packagings |
|---------------------|---------------------|-------|-----------------|--------|--------|-----------------|-----------|-------------|----------------------------|
|                     | Compatibility group | 1.1A  | Other than 1.1A |        |        | Other than 1.4S | 1.4S      |             |                            |
| EX/II <sup>a</sup>  |                     | 6.25  | 1 000           | 3 000  | 5 000  | 15 000          | Unlimited | 5 000       | Unlimited                  |
| EX/III <sup>a</sup> |                     | 18.75 | 16 000          | 16 000 | 16 000 | 16 000          | Unlimited | 16 000      | Unlimited                  |

<sup>a</sup> For the description of EX/II and EX/III vehicles see Part 9.

7.5.5.2.2 Where substances and articles of different divisions of Class 1 are loaded on one transport unit in conformity with the prohibitions of mixed loading contained in 7.5.2.2, the load as a whole shall be treated as if it belonged to the most dangerous division (in the order 1.1, 1.5, 1.2, 1.3, 1.6, 1.4). However, the net mass of explosives of compatibility group S shall not count towards the limitation of quantities carried.

Where substances classified as 1.5D are carried on one transport unit together with substances or articles of division 1.2, the entire load shall be treated for carriage as if it belonged to division 1.1.

### 7.5.5.2.3 *Carriage of explosives on MEMUs*

Carriage of explosives on MEMUs is only permitted subject to the following conditions:

- (a) The competent authority shall authorize the transport operation within its territory;
- (b) The type and quantity of packaged explosives carried shall be limited to those necessary for the quantity of material to be manufactured on the MEMU, and in any case shall not exceed:
  - 200 kg of explosives of compatibility group D; and
  - a total of 400 units of detonators or detonator assemblies, or a mixture of both, unless otherwise approved by the competent authority;
- (c) Packaged explosives shall only be carried in compartments that meet the requirements of 6.12.5;
- (d) No other dangerous goods may be carried in the same compartment as the packaged explosives;
- (e) Packaged explosives shall only be loaded onto the MEMU once the loading of other dangerous goods has been completed and immediately prior to carriage;

- (f) When mixed loading is permitted between explosives and substances of Class 5.1 (UN 1942 and UN 3375) the aggregate is treated as blasting explosives under Class 1 for the purposes of segregation, stowage and maximum permissible load.

7.5.5.3 The maximum quantity of organic peroxides of Class 5.2 and self-reactive substances of Class 4.1 of Types B, C, D, E or F is limited to 20 000 kg per transport unit.

**7.5.6** (Reserved)

### **7.5.7 Handling and stowage**

7.5.7.1 Where appropriate the vehicle or container shall be fitted with devices to facilitate securing and handling of the dangerous goods. Packages containing dangerous substances and unpackaged dangerous articles shall be secured by suitable means capable of restraining the goods (such as fastening straps, sliding slatboards, adjustable brackets) in the vehicle or container in a manner that will prevent any movement during carriage which would change the orientation of the packages or cause them to be damaged. When dangerous goods are carried with other goods (e.g. heavy machinery or crates), all goods shall be securely fixed or packed in the vehicles or containers so as to prevent the release of dangerous goods. Movement of packages may also be prevented by filling any voids by the use of dunnage or by blocking and bracing. Where restraints such as banding or straps are used, these shall not be over-tightened to cause damage or deformation of the package<sup>1</sup>.

7.5.7.2 Packages shall not be stacked unless designed for that purpose. Where different design types of packages that have been designed for stacking are to be loaded together, consideration shall be given to their compatibility for stacking with each other. Where necessary, stacked packages shall be prevented from damaging the package below by the use of load-bearing devices.

7.5.7.3 During loading and unloading, packages containing dangerous goods shall be protected from being damaged.

***NOTE:** Particular attention shall be paid to the handling of packages during their preparation for carriage, the type of vehicle or container on which they are to be carried and to the method of loading or unloading, so that accidental damage is not caused through dragging or mishandling the packages.*

7.5.7.4 The provisions of 7.5.7.1 also apply to the loading, stowage and unloading of containers on to and from vehicles.

7.5.7.5 Members of the vehicle crew may not open a package containing dangerous goods.

### **7.5.8 Cleaning after unloading**

7.5.8.1 If, when a vehicle or container which has contained packaged dangerous goods is unloaded, some of the contents are found to have escaped, the vehicle or container shall be cleaned as soon as possible and in any case before reloading.

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<sup>1</sup> Guidance on the stowage of dangerous goods can be found in the European Best Practice Guidelines on Cargo Securing for Road Transport published by the European Commission. Other guidance is also available from competent authorities and industry bodies.

If it is not possible to do the cleaning locally, the vehicle or container shall be carried, with due regard to adequate safety, to the nearest suitable place where cleaning can be carried out.

Carriage is adequately safe if suitable measures have been taken to prevent the uncontrolled release of the dangerous goods that have escaped.

- 7.5.8.2      Vehicles or containers which have been loaded with dangerous goods in bulk shall be properly cleaned before reloading unless the new load consists of the same dangerous goods as the preceding load.

**7.5.9            Prohibition of smoking**

Smoking shall be prohibited during handling operations in the vicinity of vehicles or containers and inside the vehicles or containers.

**7.5.10          Precautions against electrostatic charges**

In the case of flammable gases, or liquids with a flash-point of 60 °C or below, or UN No. 1361, carbon or carbon black, packing group II, a good electrical connection from the chassis of the vehicle, the portable tank or the tank-container to earth shall be established before tanks are filled or emptied. In addition, the rate of filling shall be limited.

**7.5.11          Additional provisions applicable to certain classes or specific goods**

In addition to the provisions of sections 7.5.1 to 7.5.10, the following provisions shall apply when they are shown under an entry indicated in Column (18) of Table A of Chapter 3.2.

- CV1      (1)    The following operations are prohibited:
- (a)    Loading or unloading goods in a public place in a built-up area without special permission from the competent authorities;
  - (b)    Loading or unloading goods in a public place elsewhere than in a built-up area without prior notice thereof having been given to the competent authorities, unless these operations are urgently necessary for reasons of safety.
- (2)    If, for any reason, handling operations have to be carried out in a public place, then substances and articles of different kinds shall be separated according to the labels.
- CV2      (1)    Before loading, the loading surface of the vehicle or container shall be thoroughly cleaned.
- (2)    The use of fire or naked flame shall be prohibited on vehicles and containers carrying goods, in their vicinity and during the loading and unloading of these goods.
- CV3      See 7.5.5.2.
- CV4      Substances and articles of compatibility group L shall only be carried as a full load.

CV5 to

CV8     *(Reserved)*

CV9     Packages shall not be thrown or subjected to impact.

Receptacles shall be so stowed in the vehicle or container that they cannot overturn or fall.

CV10   Cylinders as defined in 1.2.1, shall be laid parallel to or at right angles to the longitudinal axis of the vehicle or container; however, those situated near the forward transverse wall shall be laid at right angles to the said axis.

Short cylinders of large diameter (about 30 cm and over) may be stowed longitudinally with their valve-protecting devices directed towards the middle of the vehicle or container.

Cylinders which are sufficiently stable or are carried in suitable devices effectively preventing them from overturning may be placed upright.

Cylinders which are laid flat shall be securely and appropriately wedged, attached or secured so that they cannot shift.

CV11   Receptacles shall always be placed in the position for which they were designed and be protected against any possibility of being damaged by other packages.

CV12   When pallets loaded with articles are stacked, each tier of pallets shall be evenly distributed over the lower tier, if necessary by the interposition of a material of adequate strength.

CV13   If any substances have leaked and been spilled in a vehicle or container, it may not be re-used until after it has been thoroughly cleaned and, if necessary, disinfected or decontaminated. Any other goods and articles carried in the same vehicle or container shall be examined for possible contamination.

CV14   Goods shall be shielded from direct sunlight and heat during carriage.

Packages shall be stored only in cool, well-ventilated places away from heat sources.

CV15   See 7.5.5.3.

CV16 to

CV19   *(Reserved)*

CV20   The provisions of Chapter 5.3 and special provisions V1 and V8(5) and (6) of Chapter 7.2 shall not apply provided that the substance is packaged in accordance with packing method OP1 or OP2 of packing instruction P520 in 4.1.4.1, as required, and the total quantity of substances to which this derogation applies per transport unit is limited to 10 kg.



CV21    The transport unit shall be thoroughly inspected prior to loading.

Before carriage, the carrier shall be informed:

- about the operation of the refrigeration system, including a list of the suppliers of coolant available en route;
- procedures to be followed in the event of loss of temperature control.

In the case of temperature control in accordance with methods R2 or R4 of special provision V8(3) of Chapter 7.2, a sufficient quantity of non-flammable refrigerant (e.g. liquid nitrogen or dry ice), including a reasonable margin for possible delays, shall be carried unless a means of replenishment is assured.

Packages shall be so stowed as to be readily accessible.

The specified control temperature shall be maintained during the whole transport operation, including loading and unloading, as well as any intermediate stops.

CV22    Packages shall be loaded so that a free circulation of air within the loading space provides a uniform temperature of the load. If the contents of one vehicle or large container exceed 5 000 kg of flammable solids and/or organic peroxides, the load shall be divided into stacks of not more than 5 000 kg separated by air spaces of at least 0.05 m.

CV23    When handling packages, special measures shall be taken to ensure that they do not come into contact with water.

CV24    Before loading, vehicles and containers shall be thoroughly cleaned and in particular be free of any combustible debris (straw, hay, paper, etc.).

The use of readily flammable materials for stowing packages is prohibited.

- CV25    (1)    Packages shall be so stowed that they are readily accessible.
- (2)    When packages are to be carried at an ambient temperature of not more than 15 °C or refrigerated, the temperature shall be maintained when unloading or during storage.
- (3)    Packages shall be stored only in cool places away from sources of heat.

CV26    The wooden parts of a vehicle or container which have come into contact with these substances shall be removed and burnt.

- CV27    (1)    Packages shall be so stowed that they are readily accessible.
- (2)    When packages are to be carried refrigerated, the functioning of the cooling chain shall be ensured when unloading or during storage.
- (3)    Packages shall only be stored in cool places away from sources of heat.

CV28    See 7.5.4.

CV29 to  
CV32    (*Reserved*)

CV33 **NOTE 1:** "Critical group" means a group of members of the public which is reasonably homogeneous with respect to its exposure for a given radiation source and given exposure pathway and is typical of individual receiving the highest effective dose by the given exposure pathway from the given source.

**NOTE 2:** "Members of the public" means in a general sense, any individuals in the population except when subject to occupational or medical exposure.

**NOTE 3:** "Workers" are any persons who work, whether full time, part-time or temporarily, for an employer and who have recognised rights and duties in relation to occupational radiation protection.

(1) Segregation

(1.1) Packages, overpacks, containers and tanks containing radioactive material and unpacked radioactive material shall be segregated during carriage:

(a) from workers in regularly occupied working areas:

(i) in accordance with Table A below; or

(ii) by distances calculated using a dose criterion of 5 mSv in a year and conservative model parameters;

**NOTE:** Workers subject to individual monitoring for the purposes of radiation protection shall not be considered for the purposes of segregation.

(b) from members of the critical group of the public, in areas where the public has regular access:

(i) in accordance with Table A below; or

(ii) by distances calculated using a dose criterion of 1 mSv in a year and conservative model parameters;

(c) from undeveloped photographic film and mailbags:

(i) in accordance with Table B below; or

(ii) by distances calculated using a radiation exposure criterion for undeveloped photographic film due to the transport of radioactive material for 0.1 mSv per consignment of such film; and

**NOTE:** Mailbags shall be assumed to contain undeveloped film and plates and therefore be separated from radioactive material in the same way.

(d) from other dangerous goods in accordance with 7.5.2.

**Table A: Minimum distances between packages of category II-YELLOW or of category III-YELLOW and persons**

| Sum of transport indexes not more than | Exposure time per year (hours)   |      |                                  |     |
|--|--|------|----------------------------------|-----|
|  | Areas where members of the public have regular access                    |      | Regularly occupied working areas |     |
|  | 50   | 250  | 50                               | 250 |
|  | Segregation distance in metres, no shielding material intervening, from: |      |                                  |     |
| 2                                      | 1  | 3    | 0.5                              | 1   |
| 4                                      | 1.5  | 4    | 0.5                              | 1.5 |
| 8                                      | 2.5  | 6    | 1.0                              | 2.5 |
| 12                                     | 3  | 7.5  | 1.0                              | 3   |
| 20                                     | 4  | 9.5  | 1.5                              | 4   |
| 30                                     | 5  | 12   | 2                                | 5   |
| 40                                     | 5.5  | 13.5 | 2.5                              | 5.5 |
| 50                                     | 6.5  | 15.5 | 3                                | 6.5 |

**Table B: Minimum distances between packages of category II-YELLOW or of category III-YELLOW and packages bearing the word "FOTO", or mailbags**

| Total number of packages not more than |           | Sum of transport indexes not more than | Journey or storage duration, in hours |     |     |     |    |    |     |     |
|--|-----------|--|---------------------------------------|-----|-----|-----|----|----|-----|-----|
| Category                               |           |  | 1                                     | 2   | 4   | 10  | 24 | 48 | 120 | 240 |
| III-yellow                             | II-yellow |  | Minimum distances in metres           |     |     |     |    |    |     |     |
|  |           |  |                                       |     |     |     |    |    |     |     |
|  |           | 0.2                                    | 0.5                                   | 0.5 | 0.5 | 0.5 | 1  | 1  | 2   | 3   |
|  |           | 0.5                                    | 0.5                                   | 0.5 | 0.5 | 1   | 1  | 2  | 3   | 5   |
|  | 1         | 1                                      | 0.5                                   | 0.5 | 1   | 1   | 2  | 3  | 5   | 7   |
|  | 2         | 2                                      | 0.5                                   | 1   | 1   | 1.5 | 3  | 4  | 7   | 9   |
|  | 4         | 4                                      | 1                                     | 1   | 1.5 | 3   | 4  | 6  | 9   | 13  |
|  | 8         | 8                                      | 1                                     | 1.5 | 2   | 4   | 6  | 8  | 13  | 18  |
| 1                                      | 10        | 10                                     | 1                                     | 2   | 3   | 4   | 7  | 9  | 14  | 20  |
| 2                                      | 20        | 20                                     | 1.5                                   | 3   | 4   | 6   | 9  | 13 | 20  | 30  |
| 3                                      | 30        | 30                                     | 2                                     | 3   | 5   | 7   | 11 | 16 | 25  | 35  |
| 4                                      | 40        | 40                                     | 3                                     | 4   | 5   | 8   | 13 | 18 | 30  | 40  |
| 5                                      | 50        | 50                                     | 3                                     | 4   | 6   | 9   | 14 | 20 | 32  | 45  |

(1.2) Category II-YELLOW or III-YELLOW packages or overpacks shall not be carried in compartments occupied by passengers, except those exclusively reserved for couriers specially authorized to accompany such packages or overpacks.

(1.3) No persons other than members of the vehicle crew shall be permitted in vehicles carrying packages, overpacks or containers bearing category II-YELLOW or III-YELLOW labels.

(2) *Activity limits*

The total activity in a vehicle, for carriage of LSA material or SCO in Industrial Packages Type 1 (Type IP-1), Type 2 (Type IP-2), Type 3 (Type IP-3) or unpackaged, shall not exceed the limits shown in Table C below.

**Table C: Vehicle activity limits for LSA material and SCO in industrial packages or unpackaged**

| Nature of material or object   | Activity limit for vehicle |
|--|----------------------------|
| LSA-I  | No limit                   |
| LSA-II and LSA-III<br>non-combustible solids                           | No limit                   |
| LSA-II and LSA-III<br>combustible solids,<br>and all liquids and gases | 100 A <sub>2</sub>         |
| SCO  | 100 A <sub>2</sub>         |

**(3) Stowage during carriage and storage in transit**

(3.1) Consignments shall be securely stowed.

(3.2) Provided that its average surface heat flux does not exceed 15 W/m<sup>2</sup> and that the immediately surrounding cargo is not in bags, a package or overpack may be carried or stored among packaged general cargo without any special stowage provisions except as may be specifically required by the competent authority in an applicable approval certificate.

(3.3) Loading of containers and accumulation of packages, overpacks and containers shall be controlled as follows:

- (a) Except under the condition of exclusive use, and for consignments of LSA-I material, the total number of packages, overpacks and containers aboard a single vehicle shall be so limited that the total sum of the transport indexes aboard the vehicle does not exceed the values shown in Table D below;
- (b) The radiation level under routine conditions of carriage shall not exceed 2 mSv/h at any point on, and 0.1 mSv/h at 2 m from, the external surface of the vehicle, except for consignments carried under exclusive use, for which the radiation limits around the vehicle are set forth in (3.5) (b) and (c);
- (c) The total sum of the criticality safety indexes in a container and aboard a vehicle shall not exceed the values shown in Table E below.

**Table D: Transport Index limits for containers and vehicles not under exclusive use**

| Type of container or vehicle | Limit on total sum of transport indexes in a container or aboard a vehicle |
|------------------------------|--|
| Small container              | 50   |
| Large container              | 50   |
| Vehicle                      | 50   |

**Table E: Criticality Safety Index for containers and vehicles containing fissile material**

| Type of container or vehicle | Limit on total sum of criticality safety indexes |                     |
|------------------------------|--|---------------------|
|                              | Not under exclusive use                          | Under exclusive use |
| Small container              | 50   | n.a.                |
| Large container              | 50   | 100                 |
| Vehicle                      | 50   | 100                 |

(3.4) Any package or overpack having either a transport index greater than 10, or any consignment having a criticality safety index greater than 50, shall be carried only under exclusive use.

(3.5) For consignments under exclusive use, the radiation level shall not exceed:

- (a) 10 mSv/h at any point on the external surface of any package or overpack, and may only exceed 2 mSv/h provided that:
  - (i) the vehicle is equipped with an enclosure which, during routine conditions of carriage, prevents the access of unauthorized persons to the interior of the enclosure;
  - (ii) provisions are made to secure the package or overpack so that its position within the vehicle enclosure remains fixed during routine conditions of carriage, and
  - (iii) there is no loading or unloading during the shipment;
- (b) 2 mSv/h at any point on the outer surfaces of the vehicle, including the upper and lower surfaces, or, in the case of an open vehicle, at any point on the vertical planes projected from the outer edges of the vehicle, on the upper surface of the load, and on the lower external surface of the vehicle; and
- (c) 0.1 mSv/h at any point 2 m from the vertical planes represented by the outer lateral surfaces of the vehicle, or, if the load is carried in an open vehicle, at any point 2 m from the vertical planes projected from the outer edges of the vehicle.

(4) *Segregation of packages containing fissile material during carriage and storage in transit*

(4.1) Any group of packages, overpacks, and containers containing fissile material stored in transit in any one storage area shall be so limited that the total sum of the CSIs in the group does not exceed 50. Each group shall be stored so as to maintain a spacing of at least 6 m from other such groups.

(4.2) Where the total sum of the criticality safety indexes on board a vehicle or in a container exceeds 50, as permitted in Table E above, storage shall be such as to maintain a spacing of at least 6 m from other groups of packages, overpacks or containers containing fissile material or other vehicles carrying radioactive material.

(5) *Damaged or leaking packages, contaminated packagings*

- (5.1) If it is evident that a package is damaged or leaking, or if it is suspected that the package may have leaked or been damaged, access to the package shall be restricted and a qualified person shall, as soon as possible, assess the extent of contamination and the resultant radiation level of the package. The scope of the assessment shall include the package, the vehicle, the adjacent loading and unloading areas, and, if necessary, all other material which has been carried in the vehicle. When necessary, additional steps for the protection of persons property and the environment, in accordance with provisions established by the competent authority, shall be taken to overcome and minimize the consequences of such leakage or damage.
- (5.2) Packages damaged or leaking radioactive contents in excess of allowable limits for normal conditions of carriage may be removed to an acceptable interim location under supervision, but shall not be forwarded until repaired or reconditioned and decontaminated.
- (5.3) A vehicle and equipment used regularly for the carriage of radioactive material shall be periodically checked to determine the level of contamination. The frequency of such checks shall be related to the likelihood of contamination and the extent to which radioactive material is carried.
- (5.4) Except as provided in paragraph (5.5), any vehicle, or equipment or part thereof which has become contaminated above the limits specified in 4.1.9.1.2 in the course of carriage of radioactive material, or which shows a radiation level in excess of 5  $\mu\text{Sv/h}$  at the surface, shall be decontaminated as soon as possible by a qualified person and shall not be re-used unless the non-fixed contamination does not exceed the limits specified in 4.1.9.1.2, and the radiation level resulting from the fixed contamination on surfaces after decontamination is less than 5  $\mu\text{Sv/h}$  at the surface.
- (5.5) A container, tank, intermediate bulk container or vehicle dedicated to the carriage of unpackaged radioactive material under exclusive use shall be excepted from the requirements of the previous paragraph (5.4) and in 4.1.9.1.4 solely with regard to its internal surfaces and only for as long as it remains under that specific exclusive use.

(6) *Other provisions*

Where a consignment is undeliverable, the consignment shall be placed in a safe location and the competent authority shall be informed as soon as possible and a request made for instructions on further action.

- CV34 Prior to carriage of pressure receptacles it shall be ensured that the pressure has not risen due to potential hydrogen generation.
- CV35 If bags are used as single packagings, they shall be adequately separated to allow for the dissipation of heat.
- CV36 Packages shall preferably be loaded in open or ventilated vehicles or open or ventilated containers. If this is not feasible and packages are carried in other closed vehicles or containers, the cargo doors of the vehicles or containers shall be marked with the following in letters not less than 25 mm high:

"WARNING  
NO VENTILATION  
OPEN WITH CAUTION"

This shall be in a language considered appropriate by the consignor.

## **ANNEX B**

# **PROVISIONS CONCERNING TRANSPORT EQUIPMENT AND TRANSPORT OPERATIONS**



## **PART 8**

### **Requirements for vehicle crews, equipment, operation and documentation**

## CHAPTER 8.1

### GENERAL REQUIREMENTS CONCERNING TRANSPORT UNITS AND EQUIPMENT ON BOARD

#### 8.1.1 Transport units

A transport unit loaded with dangerous goods may in no case include more than one trailer (or semi-trailer).

#### 8.1.2 Documents to be carried on the transport unit

8.1.2.1 In addition to the documents required under other regulations, the following documents shall be carried on the transport unit:

- (a) The transport documents prescribed in 5.4.1, covering all the dangerous goods carried and, when appropriate, the container packing certificate prescribed in 5.4.2;
- (b) The instructions in writing prescribed in 5.4.3;
- (c) *(Reserved)*;
- (d) Means of identification, which include a photograph, for each member of the vehicle crew, in accordance with 1.10.1.4.

8.1.2.2 Where the provisions of ADR require the following documents to be drawn up, they shall likewise be carried on the transport unit:

- (a) The certificate of approval referred to in 9.1.3 for each transport unit or element thereof;
- (b) The driver's training certificate prescribed in 8.2.1;
- (c) A copy of the competent authority approval, when required in 5.4.1.2.1 (c) or (d) or 5.4.1.2.3.3.

8.1.2.3 The instructions in writing prescribed in 5.4.3 shall be kept readily available.

8.1.2.4 *(Deleted)*

#### 8.1.3 Placarding and marking

Transport units carrying dangerous goods shall be placarded and marked in conformity with Chapter 5.3.

**8.1.4 Fire-fighting equipment**

8.1.4.1 The following provisions apply to transport units carrying dangerous goods other than those referred to in 8.1.4.2:

- (a) Every transport unit shall be equipped with at least one portable fire extinguisher for the inflammability classes <sup>1</sup> A, B and C, with a minimum capacity of 2 kg dry powder (or an equivalent capacity for any other suitable extinguishing agent) suitable for fighting a fire in the engine or cab of the transport unit;
- (b) Additional equipment is required as follows:
  - (i) for transport units with a maximum permissible mass of more than 7.5 tonnes, one or more portable fire extinguishers for the inflammability classes <sup>1</sup> A, B and C, with a minimum total capacity of 12 kg dry powder (or an equivalent capacity for any other suitable extinguishing agent), of which at least one shall have a minimum capacity of 6 kg;
  - (ii) for transport units with a maximum permissible mass of more than 3.5 tonnes up to and including 7.5 tonnes, one or more portable fire extinguishers for the inflammability classes <sup>1</sup> A, B and C, with a minimum total capacity of 8 kg dry powder (or an equivalent capacity for any other suitable extinguishing agent), of which at least one shall have a minimum capacity of 6 kg;
  - (iii) for transport units with a maximum permissible mass of up to and including 3.5 tonnes, one or more portable fire extinguishers for the inflammability classes <sup>1</sup> A, B and C with a minimum total capacity of 4 kg dry powder (or an equivalent capacity for any other suitable extinguishing agent);
- (c) The capacity of the fire extinguisher(s) required under (a) may be deducted from the minimum total capacity of the extinguishers required under (b).

8.1.4.2 Transport units carrying dangerous goods in accordance with 1.1.3.6 shall be equipped with one portable fire extinguisher for the inflammability classes <sup>1</sup> A, B and C, with a minimum capacity of 2 kg dry powder (or an equivalent capacity for any other suitable extinguishing agent).

8.1.4.3 The extinguishing agent shall be suitable for use on a vehicle and shall comply with the relevant requirements of EN 3 Portable fire extinguishers, Parts 1 to 6 (EN 3-1:1996, EN 3-2:1996, EN 3-3:1994, EN 3-4:1996, EN 3-5:1996, EN 3-6:1995).

If the vehicle is equipped with a fixed fire extinguisher, automatic or easily brought into action for fighting a fire in the engine, the portable extinguisher need not be suitable for fighting a fire in the engine. The extinguishing agents shall be such that they are not liable to release toxic gases into the driver's cab or under the influence of the heat of the fire.

8.1.4.4 The portable fire extinguishers conforming to the provisions of 8.1.4.1 or 8.1.4.2 shall be fitted with a seal verifying that they have not been used.

In addition, they shall bear a mark of compliance with a standard recognized by a competent authority and an inscription at least indicating the date (month, year) of the next recurrent inspection or of the maximum permissible period of use, as applicable.

The fire extinguishers shall be subjected to periodic inspections in accordance with authorized national standards in order to guarantee their functional safety.

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<sup>1</sup> For the definition of the inflammability classes, see Standard EN 2:1992 Classification of fires.

- 8.1.4.5 The fire extinguishers shall be installed on the transport units in a way that they are easily accessible to the vehicle crew. The installation shall be carried out in such a way that the fire extinguishers shall be protected against effects of the weather so that their operational safety is not affected.

**8.1.5 Miscellaneous equipment and equipment for personal protection**

- 8.1.5.1 Each transport unit carrying dangerous goods shall be provided with items of equipment for general and personal protection in accordance with 8.1.5.2. The items of equipment shall be selected in accordance with the danger label number of the goods loaded. The label numbers can be identified through the transport document.

- 8.1.5.2 The following equipment shall be carried on board the transport unit for all danger label numbers:

- For each vehicle, a wheel chock of a size suited to the maximum mass of the vehicle and to the diameter of the wheel;
- Two self-standing warning signs;
- Eye rinsing liquid<sup>2</sup>; and

for each member of the vehicle crew

- A warning vest (e.g. as described in the EN 471 standard);
- Portable lighting apparatus conforming to the provisions of 8.3.4;
- A pair of protective gloves; and
- Eye protection (e.g. protective goggles).

- 8.1.5.3 Additional equipment required for certain classes:

- An emergency escape mask<sup>3</sup> for each member of the vehicle crew shall be carried on board the vehicle for danger label numbers 2.3 or 6.1;
- A shovel<sup>4</sup>;
- A drain seal<sup>4</sup>;

A collecting container made of plastics<sup>4</sup>.

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<sup>2</sup> Not required for danger label numbers 1, 1.4, 1.5, 1.6, 2.1, 2.2 and 2.3.

<sup>3</sup> For example an emergency escape mask with a combined gas/dust filter of the A1B1E1K1-P1 or A2B2E2K2-P2 type which is similar to that described in the EN 141 standard.

<sup>4</sup> Only required for danger label numbers 3, 4.1, 4.3, 8 and 9.

## CHAPTER 8.2

### REQUIREMENTS CONCERNING THE TRAINING OF THE VEHICLE CREW

#### 8.2.1 General requirements concerning the training of drivers

- 8.2.1.1 Drivers of vehicles carrying dangerous goods shall hold a certificate issued by the competent authority or by any organization recognized by that authority stating that they have participated in a training course and passed an examination on the particular requirements that have to be met during carriage of dangerous goods.
- 8.2.1.2 Drivers of vehicles carrying dangerous goods shall attend a basic training course. Training shall be given in the form of a course approved by the competent authority. Its main objectives are to make drivers aware of hazards arising in the carriage of dangerous goods and to give them basic information indispensable for minimizing the likelihood of an incident taking place and, if it does, to enable them to take measures which may prove necessary for their own safety and that of the public and the environment, for limiting the effects of an incident. This training, which shall include individual practical exercises, shall act as the basis of training for all categories of drivers covering at least the subjects defined in 8.2.2.3.2.
- 8.2.1.3 Drivers of vehicles or MEMUs carrying dangerous goods in fixed tanks or demountable tanks with a capacity exceeding 1 m<sup>3</sup>, drivers of battery-vehicles with a total capacity exceeding 1 m<sup>3</sup> and drivers of vehicles or MEMUs carrying dangerous goods in tank-containers, portable tanks or MEGCs with an individual capacity exceeding 3 m<sup>3</sup> on a transport unit, shall attend a specialization training course for carriage in tanks covering at least the subjects defined in 8.2.2.3.3.
- 8.2.1.4 Drivers of vehicles carrying substances or articles of Class 1, other than substances and articles of Division 1.4, compatibility group S (see additional requirement S1 in Chapter 8.5), drivers of MEMU carrying mixed loads of substances or articles of Class 1 and substances of Class 5.1 (see 7.5.5.2.3) and drivers of vehicles carrying certain radioactive material (see special provisions S11 and S12 in Chapter 8.5) shall attend specialization training courses covering at least the subjects defined in 8.2.2.3.4 or 8.2.2.3.5.
- 8.2.1.5 By means of appropriate endorsements on his certificate made every five years by the competent authority or by any organization recognized by that authority, a vehicle driver shall be able to show that he has in the year before the date of expiry of his certificate completed refresher training and has passed corresponding examination. The new period of validity shall begin with the date of expiry of the certificate.
- 8.2.1.6 Initial or refresher basic training courses and initial or refresher specialization training courses may be given in the form of comprehensive courses, conducted integrally, on the same occasion and by the same training organization.
- 8.2.1.7 Initial training courses, refresher courses, practical exercises, examinations and the role of competent authorities shall comply with the provisions of 8.2.2.
- 8.2.1.8 All training certificates conforming to the requirements of this section and issued in accordance with the model shown in 8.2.2.8.3 by the competent authority of a Contracting Party or by any organization recognized by that authority shall be accepted during their period of validity by the competent authorities of other Contracting Parties.

- 8.2.1.9 The certificate shall be prepared in the language or one of the languages of the country of the competent authority which issued the certificate or recognized the issuing organization and, if this language is not English, French or German, also in English, French or German, except where otherwise provided by agreements concluded between the countries concerned with the transport operation.

**8.2.2 Special requirements concerning the training of drivers**

- 8.2.2.1 The necessary knowledge and skills shall be imparted by training covering theoretical courses and practical exercises. The knowledge shall be tested in an examination.

- 8.2.2.2 The training provider shall ensure that the training instructors have a good knowledge of, and take into consideration, recent developments in regulations and training requirements relating to the carriage of dangerous goods. The training shall be practice-related. The training programme shall conform with the approval, on the subjects set out in 8.2.2.3.2 to 8.2.2.3.5. The initial training and refresher training shall also include individual practical exercises (see 8.2.2.4.5).

**8.2.2.3 Structure of training**

- 8.2.2.3.1 Initial and refresher training shall be given in the form of a basic course and, when applicable, specialization courses.

- 8.2.2.3.2 Subjects to be covered by the basic course will be, at least:

- (a) General requirements governing the carriage of dangerous goods;
- (b) Main types of hazard;
- (c) Information on environmental protection in the control of the transfer of wastes;
- (d) Preventive and safety measures appropriate to the various types of hazard;
- (e) What to do after an accident (first aid, road safety, basic knowledge about the use of protective equipment, etc.);
- (f) Marking, labelling, placarding and orange-coloured plate marking;
- (g) What a driver should and should not do during the carriage of dangerous goods;
- (h) Purpose and the method of operation of technical equipment on vehicles;
- (i) Prohibitions on mixed loading in the same vehicle or container;
- (j) Precautions to be taken during loading and unloading of dangerous goods;
- (k) General information concerning civil liability;
- (l) Information on multimodal transport operations;
- (m) Handling and stowage of packages;
- (n) Traffic restrictions in tunnels and instructions on behaviour in tunnels (prevention and safety, action in the event of fire or other emergencies, etc.).

8.2.2.3.3 Special subjects to be covered by the specialization course for carriage in tanks shall be, at least:

- (a) Behaviour of vehicles on the road, including movements of the load;
- (b) Specific requirements of the vehicles;
- (c) General theoretical knowledge of the various and different filling and discharge systems;
- (d) Specific additional provisions applicable to the use of those vehicles (certificates of approval, approval marking, placarding and orange-coloured plate marking, etc.).

8.2.2.3.4 Special subjects to be covered by the specialization course for the carriage of substances and articles of Class 1 shall be, at least:

- (a) Specific hazards related to explosive and pyrotechnical substances and articles;
- (b) Specific requirements concerning mixed loading of substances and articles of Class 1.

8.2.2.3.5 Special subjects to be covered by the specialization course for the carriage of radioactive material of Class 7 shall be, at least:

- (a) Specific hazards related to ionizing radiation;
- (b) Specific requirements concerning packing, handling, mixed loading and stowage of radioactive material;
- (c) Special measures to be taken in the event of an accident involving radioactive material.

#### **8.2.2.4     *Initial training programme***

8.2.2.4.1 The minimum duration of the theoretical element of each initial course or part of the comprehensive course shall be as follows:

|  |                                |
|--|--------------------------------|
| Basic course   | 18 teaching units <sup>1</sup> |
| Specialization course for carriage in tanks                              | 12 teaching units <sup>1</sup> |
| Specialization course for carriage of substances and articles of Class 1 | 8 teaching units               |
| Specialization course for carriage of radioactive material of Class 7    | 8 teaching units               |

8.2.2.4.2 The total duration of the comprehensive course may be determined by the competent authority, who shall maintain the duration of the basic course and the specialization course for tanks, but may supplement it with shortened specialization courses for Classes 1 and 7.

8.2.2.4.3 Teaching units are intended to last 45 minutes.

8.2.2.4.4 Normally, not more than eight teaching units are permitted on each day of the course.

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<sup>1</sup> Additional teaching units are required for practical exercises referred to in 8.2.2.4.5 below which will vary depending on the number of drivers under instruction.

- 8.2.2.4.5 The individual practical exercises shall take place in connection with the theoretical training, and shall at least cover first aid, fire-fighting and what to do in case of an incident or accident.

**8.2.2.5 *Refresher training programme***

- 8.2.2.5.1 Refresher training undertaken at regular intervals serves the purpose of bringing the drivers' knowledge up to date; it shall cover new technical, legal and substance-related developments.

- 8.2.2.5.2 Refresher training shall have been completed before the period referred to in 8.2.1.5 has expired.

- 8.2.2.5.3 The duration of the refresher training including individual practical exercises shall be of at least two days.

- 8.2.2.5.4 Normally, not more than eight teaching units shall be permitted on each training day.

**8.2.2.6 *Approval of training***

- 8.2.2.6.1 The training courses shall be subject to approval by the competent authority.

- 8.2.2.6.2 Approval shall only be given with regard to applications submitted in writing.

- 8.2.2.6.3 The following documents shall be attached to the application for approval:

- (a) A detailed training programme specifying the subjects taught and indicating the time schedule and planned teaching methods;
- (b) Qualifications and fields of activities of the teaching personnel;
- (c) Information on the premises where the courses take place and on the teaching materials as well as on the facilities for the practical exercises;
- (d) Conditions of participation in the courses, such as number of participants.

- 8.2.2.6.4 The competent authority shall organize the supervision of training and examinations.

- 8.2.2.6.5 Approval shall be granted in writing by the competent authority subject to the following conditions:

- (a) The training shall be given in conformity with the application documents;
- (b) The competent authority shall be granted the right to send authorized persons to be present at the training courses and examinations;
- (c) The competent authority shall be advised in time of the dates and the places of the individual training courses;
- (d) The approval may be withdrawn if the conditions of approval are not complied with.

- 8.2.2.6.6 The approval document shall indicate whether the courses concerned are basic or specialization courses, initial or refresher courses.

- 8.2.2.6.7 If the training body, after a training course has been given approval, intends to make any alterations with respect to such details as were relevant to the approval, it shall seek permission in advance from the competent authority. This applies in particular to changes concerning the training programme.



**8.2.2.7      *Examinations*****8.2.2.7.1      *Examinations for the initial basic course***

8.2.2.7.1.1      After completion of the basic training, including the practical exercises, an examination shall be held on the basic course.

8.2.2.7.1.2      In the examination, the candidate has to prove that he has the knowledge, insight and skill for the practice of professional driver of vehicles carrying dangerous goods as provided in the basic training course.

8.2.2.7.1.3      For this purpose the competent authority, or the examination body approved by that authority, shall prepare a catalogue of questions which refer to the items summarized in 8.2.2.3.2. Questions in the examination shall be drawn from this catalogue. The candidates shall not have any knowledge of the questions selected from the catalogue prior to the examination.

8.2.2.7.1.4      A single examination for comprehensive courses may be held.

8.2.2.7.1.5      Each competent authority shall supervise the modalities of the examination.

8.2.2.7.1.6      The examination shall take the form of a written examination or a combination of a written and oral examination. Each candidate shall be asked at least 25 written questions. The duration of the examination shall be at least 45 minutes. The questions may be of a varying degree of difficulty and be allocated a different weighting.

**8.2.2.7.2      *Examinations for initial specialization courses for carriage in tanks or for carriage of explosive substances and articles or radioactive material***

8.2.2.7.2.1      After having sat the examination on the basic course and after having attended the specialization course for carriage in tanks or for the carriage of explosive or radioactive material, the candidate shall be allowed to take part in the corresponding examination.

8.2.2.7.2.2      This examination shall be held and supervised on the same basis as in 8.2.2.7.1.

8.2.2.7.2.3      At least 15 questions shall be asked with respect to each specialization course.

**8.2.2.7.3      *Examinations for refresher training***

8.2.2.7.3.1      After having undertaken refresher training the candidate shall be allowed to take part in the corresponding examination.

8.2.2.7.3.2      The examination shall be held and supervised on the same basis as set out in 8.2.2.7.1.

8.2.2.7.3.3      In the examination at least 15 questions shall be asked with respect to the refresher training.

**8.2.2.8      *Certificate of driver's training***

8.2.2.8.1      According to 8.2.1.8, the certificate shall be issued:

- (a)      After completion of a basic training course, provided the candidate has successfully passed the examination in accordance with 8.2.2.7.1;
- (b)      If applicable, after completion of a specialization course for carriage in tanks or carriage of explosive substances or articles or of radioactive material, or after having acquired the knowledge referred to in special provisions S1 and S11 in Chapter 8.5, provided the candidate has successfully passed an examination in accordance with 8.2.2.7.2.

- 8.2.2.8.2 The certificate shall be renewed if the candidate furnishes proof of his participation in refresher training in accordance with 8.2.1.5 and if he has passed an examination in accordance with 8.2.2.7.3.
- 8.2.2.8.3 The certificate shall have the layout of the model below. It is recommended that the format shall be the same as the European national driving permit, namely A7 (105 mm × 74 mm), or a double sheet that can be folded to that format.

**Model of certificate****1****2**

ADR - TRAINING CERTIFICATE FOR  
DRIVERS OF VEHICLES CARRYING  
DANGEROUS GOODS

in tanks <sup>1</sup>                      other than in tanks <sup>1</sup>

Certificate No. ....

Distinguishing sign of issuing State .....

Valid for class(es) <sup>1,2</sup>

in tanks

1

2

3

4.1, 4.2, 4.3

5.1, 5.2

6.1, 6.2

7

8

9

until (date) <sup>3</sup> .....

other than in tanks

1

2

3

4.1, 4.2, 4.3

5.1, 5.2

6.1, 6.2

7

8

9

Surname .....

First name(s) .....

Date of birth ..... Nationality .....

Signature of holder .....

Issued by .....

Date .....

Signature <sup>4</sup> .....

Renewed until .....

By .....

Date .....

Signature <sup>4</sup> .....

<sup>1</sup> Strike out what does not apply.

<sup>2</sup> For extension to other classes, see page 3.

<sup>3</sup> For renewal, see page 2.

<sup>4</sup> and/or seal (or stamp) of issuing authority.

**3****4**

EXTENDED TO CLASS(ES) <sup>5</sup>

For national regulations only

in tanks

1

2

3

4.1, 4.2, 4.3

5.1, 5.2

6.1, 6.2

7

8

9

Date .....

Signature and/or seal or stamp

.....

other than in tanks

1

2

3

4.1, 4.2, 4.3

5.1, 5.2

6.1, 6.2

7

8

9

Date .....

Signature and/or seal or stamp

.....

<sup>5</sup> Strike out what does not apply.

**8.2.3      Training of persons other than the drivers holding a certificate in accordance with 8.2.1, involved in the carriage of dangerous goods by road**

Persons whose duties concern the carriage of dangerous goods by road shall have received training in the requirements governing the carriage of such goods appropriate to their responsibilities and duties according to Chapter 1.3. This requirement shall apply to individuals such as personnel who are employed by the road vehicle operator or the consignor, personnel who load or unload dangerous goods, personnel in freight forwarding or shipping agencies and drivers of vehicles other than drivers holding a certificate in accordance with 8.2.1, involved in the carriage of dangerous goods by road.

## CHAPTER 8.3

### MISCELLANEOUS REQUIREMENTS TO BE COMPLIED WITH BY THE VEHICLE CREW

#### 8.3.1 Passengers

Apart from members of the vehicle crew, no passengers may be carried in transport units carrying dangerous goods.

#### 8.3.2 Use of fire-fighting appliances

Members of the vehicle crew shall know how to use the fire-fighting appliances.

#### 8.3.3 Prohibition on opening packages

A driver or a driver's assistant may not open a package containing dangerous goods.

#### 8.3.4 Portable lighting apparatus

The portable lighting apparatus used shall not exhibit any metal surface liable to produce sparks.

#### 8.3.5 Prohibition on smoking

Smoking shall be prohibited during handling operations in the vicinity of vehicles and inside the vehicles.

#### 8.3.6 Running the engine during loading or unloading

Except where the engine has to be used to drive the pumps or other appliances for loading or unloading the vehicle and the laws of the country in which the vehicle is operating permit such use, the engine shall be shut off during loading and unloading operations.

#### 8.3.7 Use of the parking brakes and wheel chocks

No vehicles carrying dangerous goods may be parked without the parking brakes being applied. Trailers without braking devices shall be restrained from moving by applying at least one wheel chock as described in 8.1.5.2.

#### 8.3.8 Use of cables

In the case of a transport unit equipped with an anti-lock braking system, consisting of a motor vehicle and an O<sub>3</sub> or O<sub>4</sub> trailer, the connections referred to in paragraph 9.2.2.6.3 shall be connecting the towing vehicle and the trailer at all times during carriage.

**CHAPTER 8.4****REQUIREMENTS CONCERNING THE SUPERVISION OF VEHICLES**

8.4.1 Vehicles carrying dangerous goods in the quantities shown in special provisions S1 (6) and S14 to S24 of Chapter 8.5 for a given substance according to Column (19) of Table A of Chapter 3.2 shall be supervised or alternatively may be parked, unsupervised, in a secure depot or secure factory premises. If such facilities are not available, the vehicle, after having been properly secured, may be parked in an isolated position meeting the requirements of (a), (b) or (c) below:

- (a) A vehicle park supervised by an attendant who has been notified of the nature of the load and the whereabouts of the driver;
- (b) A public or private vehicle park where the vehicle is not likely to suffer damage from other vehicles; or
- (c) A suitable open space separated from the public highway and from dwellings, where the public does not normally pass or assemble.

The parking facilities permitted in (b) shall be used only if those described in (a) are not available, and those described in (c) may be used only if facilities described in (a) and (b) are not available.

8.4.2 Loaded MEMUs shall be supervised or alternatively may be parked, unsupervised, in a secure depot or secure factory premises. Empty uncleaned MEMUs are exempted from this requirement.

## CHAPTER 8.5

### ADDITIONAL REQUIREMENTS RELATING TO PARTICULAR CLASSES OR SUBSTANCES

In addition to the requirements of Chapters 8.1 to 8.4, when reference is made to them in Column (19) of Table A of Chapter 3.2, the following requirements shall apply to the carriage of the substances or articles concerned. In the event of conflict with the requirements of Chapters 8.1 to 8.4, the requirements of this Chapter shall take precedence.

**S1: Additional requirements concerning the carriage of explosive substances and articles (Class 1)**

**(1) *Special training of drivers***

- (a) The requirements of 8.2.1 shall apply to drivers of vehicles carrying substances or articles of Class 1, other than substances and articles of Division 1.4, compatibility group S;
- (b) Drivers of vehicles carrying substances or articles of Class 1, other than substances and articles of Division 1.4, compatibility group S, shall attend a specialization training course covering at least the subjects defined in 8.2.2.3.4;
- (c) If, according to other regulations applicable in the country of a Contracting Party, a driver has followed equivalent training under a different regime or for a different purpose, covering the subjects referred to in (b), the specialization course may be totally or partially dispensed with.

**(2) *Approved official***

If the national regulations so provide, the competent authority of a country contracting party to ADR may require an approved official to be carried in the vehicle at the carrier's expense.

**(3) *Prohibition of smoking, fire and naked flame***

Smoking, the use of fire or of naked flames shall be prohibited on vehicles carrying substances and articles of Class 1, in their vicinity and during the loading and unloading of these substances and articles.

**(4) *Places of loading and unloading***

- (a) Loading or unloading of substances and articles of Class 1 shall not take place in a public place in a built-up area without special permission from the competent authorities;
- (b) Loading or unloading of substances and articles of Class 1 in a public space elsewhere than in a built-up area without prior notice thereof having been given to the competent authorities shall be prohibited, unless operations are urgently necessary for reasons of safety;
- (c) If, for any reason, handling operations have to be carried out in a public place, then substances and articles of different kinds shall be separated according to the labels;

- (d) When vehicles carrying substances and articles of Class 1 are obliged to stop for loading or unloading operations in a public place, a distance of at least 50 m shall be maintained between the stationary vehicles.

**(5) *Convoys***

- (a) When vehicles carrying substances and articles of Class 1 travel in convoy, a distance of not less than 50 m shall be maintained between each transport unit and the next;
- (b) The competent authority may lay down rules for the order or composition of convoys.

**(6) *Supervision of vehicles***

The requirements of Chapter 8.4 shall be applicable only when substances and articles of Class 1 having a total net mass of explosive substance above the limits set below are carried in a vehicle:

|  |       |
|--|-------|
| Division 1.1:  | 0 kg  |
| Division 1.2:  | 0 kg  |
| Division 1.3, compatibility group C:   | 0 kg  |
| Division 1.3, other than compatibility group C:  | 50 kg |
| Division 1.4, other than those listed below:   | 50 kg |
| Division 1.5:  | 0 kg  |
| Division 1.6:  | 50 kg |
| Substances and articles of Division 1.4 belonging to UN numbers 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 and 0500: | 0 kg  |

For mixed loads the lowest limit applicable to any of the substances or articles carried shall be used for the load as a whole.

In addition, these substances and articles shall be supervised at all times in order to prevent any malicious act and to alert the driver and the competent authorities in the event of loss or fire.

Empty uncleaned packagings are exempted.

**(7) *Locking of vehicles***

Doors and rigid covers in the load compartments of EX/II vehicles and all openings in the load compartments of EX/III vehicles carrying substances and articles of Class 1 shall be locked during transport, except for the periods of loading and unloading.

**S2: Additional requirements concerning the carriage of flammable liquids or gases**

**(1) *Portable lighting apparatus***

The load compartment of closed vehicles carrying liquids having a flash-point of not more than 60 °C or flammable substances or articles of Class 2, shall not be entered by persons carrying portable lighting apparatus other than those so designed and constructed that they cannot ignite any flammable vapours or gases which may have penetrated into the interior of the vehicle.



(2) *Operation of combustion heaters during loading or unloading*

The operation of combustion heaters of vehicles of type FL (see Part 9) is forbidden during loading and unloading and at loading sites.

(3) *Precautions against electrostatic charges*

In the case of vehicles of type FL (see Part 9), a good electrical connection from the vehicle chassis to earth shall be established before tanks are filled or emptied. In addition, the rate of filling shall be limited.

**S3: Special provisions concerning the carriage of infectious substances**

For transport units carrying dangerous substances of Class 6.2, the requirements of 8.1.4.1 (b) and 8.3.4 shall not apply.

**S4: Additional requirements concerning carriage under controlled temperatures**

Maintenance of the prescribed temperature is essential for safe carriage. In general, there shall be:

- thorough inspection of the transport unit prior to loading;
- instructions to the carrier about the operation of the refrigeration system, including a list of the suppliers of coolant available en route;
- procedures to be followed in the event of loss of control;
- regular monitoring of operating temperatures; and
- availability of a back-up refrigeration system or spare parts.

The temperature of the air space within the transport unit shall be measured by two independent sensors and the output shall be so recorded that temperature changes are readily detectable.

The temperature shall be checked every four to six hours and logged.

If the control temperature is exceeded during carriage, an alert procedure shall be initiated involving any necessary repairs to the refrigeration equipment or an increase in the cooling capacity (e.g. by adding liquid or solid coolant). There shall also be frequent checking of the temperature and preparations for implementation of the emergency procedures. If the emergency temperature (see also 2.2.41.1.17 and 2.2.52.1.15 to 2.2.52.1.18) is reached, the emergency procedures shall be set in operation.

*NOTE: This provision S4 does not apply to substances referred to in 3.1.2.6 when substances are stabilized by the addition of chemical inhibitors such that the SADT is greater than 50 °C. In this latter case, temperature control may be required under conditions of carriage where the temperature may exceed 55 °C.*

**S5: Special provisions common to the carriage of radioactive material of Class 7 in excepted packages (UN Nos. 2908, 2909, 2910 and 2911) only**

The requirements of the instructions in writing of 8.1.2.1 (b) and of 8.2.1, 8.3.1 and 8.3.4 shall not apply.

**S6: Special provisions common to the carriage of radioactive material of Class 7 other than in excepted packages**

The provisions of 8.3.1 shall not apply to vehicles carrying only packages, overpacks or containers bearing category I-WHITE labels.

The provisions of 8.3.4 shall not apply provided there is no subsidiary risk.

**Other additional requirements or special provisions**

**S7:** *(Deleted)*

**S8:** When a transport unit is loaded with more than 2 000 kg of these substances, stops for service requirements shall as far as possible not be made near inhabited places or frequented places. A longer stop near such places is permissible only with the consent of the competent authorities.

**S9:** During the carriage of these substances, stops for service requirements shall as far as possible not be made near inhabited places or frequented places. A longer stop near such places is permissible only with the consent of the competent authorities.

**S10:** During the period April to October, when a vehicle is stationary, the packages shall, if the legislation of the country in which the vehicle is halted so requires, be effectively protected against the action of the sun, e.g. by means of sheets placed not less than 20 cm above the load.

**S11:**

- (1) The requirements of 8.2.1 shall apply.
- (2) Drivers shall attend a specialization training course covering at least the subjects defined in 8.2.2.3.5.
- (3) If, according to other regulations applicable in the country of a Contracting Party, a driver has followed equivalent training under a different regime or for a different purpose covering the subjects referred to in (2), the specialization course may be totally or partially dispensed with.

**S12:** If the total number of packages containing radioactive material carried does not exceed 10, and the sum of the transport indices does not exceed 3, special provision S11 need not be applied. However, drivers shall then receive appropriate training, commensurate with and appropriate to their duties, which provides them with an awareness of the radiation hazards involved in the carriage of radioactive material. Such awareness training shall be confirmed by a certificate provided by their employer.

**S13:** When a consignment cannot be delivered, it shall be placed in a safe place; the competent authority should be informed as soon as possible and requested for instructions on how to proceed.

**S14:** The provisions of Chapter 8.4 concerning the supervision of vehicles shall apply for vehicles carrying any amount of these substances.

**S15:** The provisions of Chapter 8.4 concerning the supervision of vehicles shall apply for vehicles carrying any amount of these substances. However, the provisions of Chapter 8.4 need not be applied when the loaded compartment is locked or the packages carried are otherwise protected against any illicit unloading.

- S16:** The provisions of Chapter 8.4 concerning the supervision of vehicles shall apply when the total mass of these substances in the vehicle exceeds 500 kg.
- In addition, vehicles carrying more than 500 kg of these substances shall be subject at all times to supervision to prevent any malicious act and to alert the driver and competent authorities in the event of loss or fire.
- S17:** The provisions of Chapter 8.4 concerning the supervision of vehicles shall apply when the total mass of these substances in the vehicle exceeds 1 000 kg.
- S18:** The provisions of Chapter 8.4 concerning the supervision of vehicles shall apply when the total mass of such substances in the vehicle exceeds 2 000 kg.
- S19:** The provisions of Chapter 8.4 concerning the supervision of vehicles shall apply when the total mass of such substances in the vehicle exceeds 5 000 kg.
- S20:** The provisions of Chapter 8.4 concerning the supervision of vehicles shall apply when the total mass or volume of these substances in the vehicle exceeds 10 000 kg as packaged goods or 3 000 litres in tanks.
- S21:** The provisions of Chapter 8.4 concerning the supervision of vehicles shall apply to all material, in whatever mass. In addition, these goods shall be subject at all times to supervision to prevent any malicious act and to alert the driver and the competent authorities in the event of loss or fire. However, the provisions of Chapter 8.4 need not be applied where:
- (a) The loaded compartment is locked or the packages carried are otherwise protected against illicit unloading; and
  - (b) The dose rate does not exceed 5µSv/h at any accessible point on the outer surface of the vehicle.
- S22:** The provisions of Chapter 8.4 concerning the supervision of vehicles shall apply when the total mass or volume of these substances in the vehicle exceeds 5 000 kg as packaged goods or 3 000 litres in tanks.
- S23:** The provisions of Chapter 8.4 concerning the supervision of vehicles shall apply when this substance is carried in bulk or in tanks and when the total mass or volume in the vehicle exceeds 3 000 kg or 3 000 litres, as applicable.
- S24:** The provisions of Chapter 8.4 concerning the supervision of vehicles shall apply when the total mass of these substances in the vehicle exceeds 100 kg.

**CHAPTER 8.6****ROAD TUNNEL RESTRICTIONS FOR THE PASSAGE OF VEHICLES  
CARRYING DANGEROUS GOODS****8.6.1 General provisions**

The provisions of this Chapter apply when the passage of vehicles through road tunnels is restricted in accordance with 1.9.5.

*NOTE: Restrictions not in accordance with 1.9.5 may apply until 31 December 2009 (see 1.6.1.12).*

**8.6.2 Road signs or signals governing the passage of vehicles carrying dangerous goods**

The tunnel category, assigned in accordance with 1.9.5.1 by the competent authority to a given road tunnel for the purpose of restricting the passage of transport units carrying dangerous goods, shall be indicated as follows by means of road signs and signals:

| Sign and signal                                  | Tunnel category   |
|--|-------------------|
| No sign  | Tunnel category A |
| Sign with an additional panel bearing a letter B | Tunnel category B |
| Sign with an additional panel bearing a letter C | Tunnel category C |
| Sign with an additional panel bearing a letter D | Tunnel category D |
| Sign with an additional panel bearing a letter E | Tunnel category E |

**8.6.3 Tunnel restriction codes**

8.6.3.1 The restrictions for the transport of specific dangerous goods through tunnels are based on the tunnel restriction code of these goods, indicated in Column (15) of Table A of Chapter 3.2. The tunnel restriction codes are put between brackets at the bottom of the cell. When ‘(–)’ is indicated instead of one of the tunnel restriction codes, the dangerous goods are not subject to any tunnel restriction; for the dangerous goods assigned to UN Nos. 2919 and 3331, restrictions to the passage through tunnels may, however, be part of the special arrangement approved by the competent authority(ies) on the basis of 1.7.4.2.

8.6.3.2 When a transport unit contains dangerous goods to which different tunnel restriction codes have been assigned, the most restrictive of these tunnel restriction codes shall be assigned to the whole load.

8.6.3.3 Dangerous goods carried in accordance with 1.1.3 are not subject to the tunnel restrictions and shall not be taken into account when determining the tunnel restriction code to be assigned to the whole load of a transport unit.

**8.6.4 Restrictions for the passage of transport units carrying dangerous goods through tunnels**

Once the tunnel restriction code to be assigned to the whole load of the transport unit has been determined, the restrictions for the passage of this transport unit through tunnels are the following:

| Tunnel restriction code of the whole load | Restriction   |
|---|---|
| B   | Passage forbidden through tunnels of category B, C, D and E   |
| B1000C                                    | Carriage where the total net explosive mass per transport unit <ul style="list-style-type: none"> <li>- exceeds 1000 kg: Passage forbidden through tunnels of category B, C, D and E;</li> <li>- does not exceed 1000 kg: Passage forbidden through tunnels of category C, D and E</li> </ul> |
| B/D                                       | Tank carriage: Passage forbidden through tunnels of category B, C, D and E;<br>Other carriage: Passage forbidden through tunnels of category D and E  |
| B/E                                       | Tank carriage: Passage forbidden through tunnels of category B, C, D and E;<br>Other carriage: Passage forbidden through tunnels of category E  |
| C   | Passage forbidden through tunnels of category C, D and E  |
| C5000D                                    | Carriage where the total net explosive mass per transport unit <ul style="list-style-type: none"> <li>- exceeds 5000 kg: Passage forbidden through tunnels of category C, D and E;</li> <li>- does not exceed 5000 kg: Passage forbidden through tunnels of category D and E</li> </ul>       |
| C/D                                       | Tank carriage: Passage forbidden through tunnels of category C, D and E;<br>Other carriage: Passage forbidden through tunnels of category D and E   |
| C/E                                       | Tank carriage: Passage forbidden through tunnels of category C, D and E;<br>Other carriage: Passage forbidden through tunnels of category E   |
| D   | Passage forbidden through tunnels of category D and E   |
| D/E                                       | Bulk or tank carriage: Passage forbidden through tunnels of category D and E;<br>Other carriage: Passage forbidden through tunnels of category E  |
| E   | Passage forbidden through tunnels of category E   |
| -   | Passage allowed through all tunnels (For UN Nos. 2919 and 3331, see also 8.6.3.1).  |

**NOTE:** For example, the passage of a transport unit carrying UN 0161, powder, smokeless, classification code 1.3C, tunnel restriction code C5000D, in a quantity representing a total net explosive mass of 3000 kg is forbidden in tunnels of categories D and E.

## **PART 9**

# **Requirements concerning the construction and approval of vehicles**

## CHAPTER 9.1

### SCOPE, DEFINITIONS AND REQUIREMENTS FOR THE APPROVAL OF VEHICLES

#### 9.1.1      **Scope and definitions**

##### 9.1.1.1    *Scope*

The requirements of Part 9 shall apply to vehicles of categories N and O, as defined in Annex 7 of the Consolidated Resolution on the Construction of Vehicles (R.E.3)<sup>1</sup>, intended for the carriage of dangerous goods.

These requirements refer to vehicles, as regards their construction, type approval, ADR approval and annual technical inspection.

##### 9.1.1.2    *Definitions*

For the purposes of Part 9:

*"Vehicle"* means any vehicle, whether complete, incomplete or completed, intended for the carriage of dangerous goods by road;

*"EX/II vehicle"* or *"EX/III vehicle"* means a vehicle intended for the carriage of explosive substances and articles (Class 1);

*"FL vehicle"* means:

- (a)      A vehicle intended for the carriage of liquids having a flash-point of not more than 60°C (with the exception of diesel fuel complying with standard EN 590:2004, gas oil, and heating oil (light) - UN No. 1202 - with a flash-point as specified in standard EN 590:2004) in fixed tanks or demountable tanks with a capacity exceeding 1 m<sup>3</sup> or in tank-containers or portable tanks with an individual capacity exceeding 3 m<sup>3</sup>; or
- (b)      A vehicle intended for the carriage of flammable gases in fixed tanks or demountable tanks with a capacity exceeding 1 m<sup>3</sup> or in tank-containers, portable tanks or MEGCs with an individual capacity exceeding 3 m<sup>3</sup>; or,
- (c)      A battery-vehicle with a total capacity exceeding 1 m<sup>3</sup> intended for the carriage of flammable gases;

*"OX vehicle"* means a vehicle intended for the carriage of hydrogen peroxide, stabilized or hydrogen peroxide, aqueous solution stabilized with more than 60% hydrogen peroxide (Class 5.1, UN No. 2015) in fixed tanks or demountable tanks with a capacity exceeding 1 m<sup>3</sup> or in tank-containers or portable tanks with an individual capacity exceeding 3 m<sup>3</sup>;

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<sup>1</sup>      Document of the UNECE, TRANS/WP.29/78/Rev.1, as amended.

"AT vehicle" means:

- (a) A vehicle, other than EX/III, FL or OX vehicle, intended for the carriage of dangerous goods in fixed tanks or demountable tanks with a capacity exceeding 1 m<sup>3</sup> or in tank-containers, portable tanks or MEGCs with an individual capacity exceeding 3 m<sup>3</sup>; or
- (b) A battery-vehicle with a total capacity exceeding 1 m<sup>3</sup> other than a FL vehicle;

"MEMU" means a vehicle meeting the definition of Mobile explosives manufacturing unit in 1.2.1.

"Complete vehicle" means any vehicle which does not need any further completion (e.g. one stage built vans, lorries, tractors, trailers);

"Incomplete vehicle" means any vehicle which still needs completion in at least one further stage (e.g. chassis-cab, trailer chassis);

"Completed vehicle" means any vehicle which is the result of a multi-stage process (e.g. chassis or chassis-cab fitted with a bodywork);

"Type-approved vehicle" means any vehicle which has been approved in accordance with ECE Regulation No. 105<sup>2</sup> or Directive 98/91/EC<sup>3</sup>;

"ADR approval" means certification by a competent authority of a Contracting Party that a single vehicle intended for the carriage of dangerous goods satisfies the relevant technical requirements of this Part as an EX/II, EX/III, FL, OX, or AT vehicle.

## 9.1.2 Approval of EX/II, EX/III, FL, OX and AT vehicles and MEMUs

**NOTE:** No special certificates of approval shall be required for vehicles other than EX/II, EX/III, FL, OX and AT vehicles and MEMUs, apart from those required by the general safety regulations normally applicable to vehicles in the country of origin.

### 9.1.2.1 General

EX/II, EX/III, FL, OX and AT vehicles and MEMUs shall comply with the relevant requirements of this Part.

Every complete or completed vehicle shall be subjected to a first inspection by the competent authority in accordance with the administrative requirements of this Chapter to verify conformity with the relevant technical requirements of Chapters 9.2 to 9.8.

The competent authority may waive the first inspection for a tractor for a semi trailer type-approved in accordance with 9.1.2.2 for which the manufacturer, his duly accredited representative or a body recognised by the competent authority has issued a declaration of conformity with the requirements of Chapter 9.2.

<sup>2</sup> ECE Regulation No. 105 (Uniform provisions concerning the approval of vehicles intended for the carriage of dangerous goods with regard to their specific constructional features).

<sup>3</sup> Directive 98/91/EC of the European Parliament and of the Council of 14 December 1998 relating to motor vehicles and their trailers intended for the transport of dangerous goods by road and amending Directive 70/156/EEC relating to the type approval of motor vehicles and their trailers (Official Journal of the European Communities No. L 011 of 16.01.1999, p. 0025 – 0036).



The conformity of the vehicle shall be certified by the issue of a certificate of approval in accordance with 9.1.3.

When vehicles are required to be fitted with an endurance braking system, the manufacturer of the vehicle or his duly accredited representative shall issue a declaration of conformity with the relevant prescriptions of Annex 5 of ECE Regulation No. 13<sup>4</sup>. This declaration shall be presented at the first technical inspection.

#### **9.1.2.2**      *Requirements for type-approved vehicles*

At the request of the vehicle manufacturer or his duly accredited representative, vehicles subject to ADR approval according to 9.1.2.1 may be type-approved by a competent authority. The relevant technical requirements of Chapter 9.2 shall be considered to be fulfilled if a type approval certificate has been issued by a competent authority in accordance with ECE Regulation No. 105<sup>2</sup> or Directive 98/91/EC<sup>3</sup> provided that the technical requirements of the said Regulation or the said Directive correspond to those of Chapter 9.2 of this Part and provided that no modification of the vehicle alters its validity. In the case of MEMUs, the type approval mark affixed in accordance with ECE Regulation No. 105 may identify the vehicle as either MEMU or EX/III. MEMUs need only be identified as such on the certificate of approval issued in accordance with 9.1.3.

This type approval, granted by one Contracting Party, shall be accepted by the other Contracting Parties as ensuring the conformity of the vehicle when the single vehicle is submitted for inspection for ADR approval.

At the inspection for ADR approval, only those parts of the type-approved incomplete vehicle which have been added or modified in the process of completion shall be inspected for compliance with the applicable requirements of Chapter 9.2.

#### **9.1.2.3**      *Annual technical inspection*

EX/II, EX/III, FL, OX and AT vehicles and MEMUs shall be subject to an annual technical inspection in their country of registration to make sure that they conform to the relevant requirements of this Part, and to the general safety regulations (concerning brakes, lighting, etc.) in force in their country of registration.

The conformity of the vehicle shall be certified either by the extension of validity of the certificate of approval or by the issue of a new certificate of approval in accordance with 9.1.3.

### **9.1.3**      **Certificate of approval**

9.1.3.1      Conformity of EX/II, EX/III, FL, OX and AT vehicles and MEMUs with the requirements of this Part is subject to a certificate of approval (certificate of ADR approval) issued by the competent authority of the country of registration for each vehicle whose inspection yields

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<sup>2</sup> ECE Regulation No 105 (Uniform provisions concerning the approval of vehicles intended for the carriage of dangerous goods with regard to their specific construction features).

<sup>3</sup> Directive 98/91/EC of the European Parliament and of the Council of 14 December 1998 relating to motor vehicles and their trailers intended for the transport of dangerous goods by road and amending Directive 70/156/EEC relating to the type approval of motor vehicles and their trailers (Official Journal of the European Communities No L011 of 16.01.1999, p. 0025-0036).

<sup>4</sup> ECE Regulation No. 13 (Uniform provisions concerning the approval of vehicles of categories M, N and O with regards to braking).

satisfactory results or has resulted in the issue of a declaration of conformity with the requirements of Chapter 9.2 in accordance with 9.1.2.1.

9.1.3.2 A certificate of approval issued by the competent authority of one Contracting Party for a vehicle registered in the territory of that Contracting Party shall be accepted, so long as its validity continues, by the competent authorities of the other Contracting Parties.

9.1.3.3 The certificate of approval shall have the same layout as the model shown in 9.1.3.5. Its dimensions shall be 210 mm × 297 mm (format A4). Both front and back may be used. The colour shall be white, with a pink diagonal stripe.

It shall be drawn up in the language or one of the languages of the country issuing it. If that language is not English, French or German, the title of the certificate of approval and any remarks under No. 11 shall also be drawn up in English, French or German.

The certificate of approval for a vacuum-operated waste tank-vehicle shall bear the following remark: "vacuum-operated waste tank-vehicle".

9.1.3.4 The validity of a certificate of approval shall expire not later than one year after the date of the technical inspection of the vehicle preceding the issue of the certificate. The next approval term shall, however, be related to the last nominal expiry date, if the technical inspection is performed within one month before or after that date.

However, in the case of tanks subject to compulsory periodic inspection this provision shall not mean that tightness (leakproofness) tests, hydraulic pressure tests or internal inspections of tanks have to be carried out at intervals shorter than those laid down in Chapters 6.8 and 6.9.

**9.1.3.5 Model for certificate of approval for vehicles carrying certain dangerous goods**

| <b>CERTIFICATE OF APPROVAL FOR VEHICLES<br/>CARRYING CERTAIN DANGEROUS GOODS</b>  |                                 |                                       |   |
|---|---------------------------------|---------------------------------------|---|
| This certificate testifies that the vehicle specified below fulfils the conditions prescribed by the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).   |                                 |                                       |   |
| <b>1. Certificate No.:</b>  | <b>2. Vehicle manufacturer:</b> | <b>3. Vehicle Identification No.:</b> | <b>4. Registration number (if any):</b> |
| <b>5. Name and business address of carrier, operator or owner:</b>  |                                 |                                       |   |
| <b>6. Description of vehicle:</b> <sup>1</sup>  |                                 |                                       |   |
| <b>7. Vehicle designation(s) according to 9.1.1.2 of ADR:</b> <sup>2</sup>  |                                 |                                       |   |
| EX/II   | EX/III                          | FL                                    | OX AT MEMU                              |
| <b>8. Endurance braking system:</b> <sup>3</sup><br><input type="checkbox"/> Not applicable<br><input type="checkbox"/> The effectiveness according to 9.2.3.1.2 of ADR is sufficient for a total mass of the transport unit of ____ t <sup>4</sup>   |                                 |                                       |   |
| <b>9. Description of the fixed tank(s)/battery-vehicle (if any):</b><br>9.1 Manufacturer of the tank:<br>9.2 Approval number of the tank/battery-vehicle:<br>9.3 Tank manufacturer's serial number/Identification of elements of battery-vehicle:<br>9.4 Year of manufacture:<br>9.5 Tank code according to 4.3.3.1 or 4.3.4.1 of ADR:<br>9.6 Special provisions TC and TE according to 6.8.4 of ADR (if applicable) <sup>6</sup> :   |                                 |                                       |   |
| <b>10. Dangerous goods authorised for carriage:</b><br>The vehicle fulfils the conditions required for the carriage of dangerous goods assigned to the vehicle designation(s) in No. 7.<br><br>10.1 In the case of an EX/II <input type="checkbox"/> goods of Class 1 including compatibility group J or EX/III vehicle <sup>3</sup> <input type="checkbox"/> goods of Class 1 excluding compatibility group J<br><br>10.2 In the case of a tank-vehicle/battery-vehicle <sup>3</sup><br><input type="checkbox"/> only the substances permitted under the tank code and any special provisions specified in No. 9 may be carried <sup>5</sup><br>or<br><input type="checkbox"/> only the following substances (Class, UN number, and if necessary packing group and proper shipping name) may be carried:<br><br>Only substances which are not liable to react dangerously with the materials of the shell, gaskets, equipment and protective linings (if applicable) may be carried. |                                 |                                       |   |
| <b>11. Remarks:</b>   |                                 |                                       |   |
| <b>12. Valid until:</b>   |                                 | Stamp of issuing service              |   |
|   |                                 | Place, Date, Signature                |   |

<sup>1</sup> According to the definitions for power-driven vehicles and for trailers of categories N and O as defined in Annex 7 of the Consolidated Resolution on the Construction of Vehicles (R.E.3) or in Directive 97/27/EC.

<sup>2</sup> Strike out what is not appropriate.

<sup>3</sup> Mark the appropriate.

<sup>4</sup> Enter appropriate value. A value of 44t will not limit the "registration / in-service maximum permissible mass" indicated in the registration document(s).

<sup>5</sup> Substances assigned to the tank code specified in No. 9 or to another tank code permitted under the hierarchy in 4.3.3.1.2 or 4.3.4.1.2, taking account of the special provision(s), if any.

<sup>6</sup> Not required when the authorized substances are listed in No. 10.2.

### 13. Extensions of validity

**NOTE:** This certificate shall be returned to the issuing service when the vehicle is taken out of service; if the vehicle is transferred to another carrier, operator or owner, as specified in No. 5; on expiry of the validity of the certificate; and if there is a material change in one or more essential characteristics of the vehicle.

**CHAPTER 9.2****REQUIREMENTS CONCERNING THE CONSTRUCTION  
OF VEHICLES****9.2.1            Compliance with the requirements of this Chapter**

9.2.1.1           EX/II, EX/III, FL, OX and AT vehicles shall comply with the requirements of this Chapter, according to the table below.

For vehicles other than of EX/II, EX/III, FL, OX and AT:

- the requirements of 9.2.3.1.1 (Braking equipment in accordance with ECE Regulation No. 13 or Directive 71/320/EEC) are applicable to all vehicles first registered (or which entered into service if the registration is not mandatory) after 30 June 1997;
- the requirements of 9.2.5 (Speed limitation device in accordance with ECE Regulation No. 89 or Directive 92/24/EEC) are applicable to all motor vehicles with a maximum mass exceeding 12 tonnes first registered after 31 December 1987 and all motor vehicles with a maximum mass exceeding 3.5 tonnes but not more than 12 tonnes first registered after 31 December 2007.

|                          |  | VEHICLES |                |    |                |    | COMMENTS   |
|--------------------------|--|----------|----------------|----|----------------|----|--|
| TECHNICAL SPECIFICATIONS |  | EX/II    | EX/III         | AT | FL             | OX |  |
| <b>9.2.2</b>             | <b>ELECTRICAL EQUIPMENT</b>            |          |                |    |                |    |  |
| 9.2.2.2                  | Wiring                                 |          | X              | X  | X              | X  |  |
| 9.2.2.3                  | Battery master switch                  |          |                |    |                |    |  |
| 9.2.2.3.1                |  |          | X <sup>a</sup> |    | X <sup>a</sup> |    | <sup>a</sup> The last sentence of 9.2.2.3.1 is applicable to vehicles first registered (or which entered into service if registration is not mandatory) as from 1 July 2005. |
| 9.2.2.3.2                |  |          | X              |    | X              |    |  |
| 9.2.2.3.3                |  |          |                |    | X              |    |  |
| 9.2.2.3.4                |  |          | X              |    | X              |    |  |
| 9.2.2.4                  | Batteries                              | X        | X              |    | X              |    |  |
| 9.2.2.5                  | Permanently energized circuits         |          |                |    |                |    |  |
| 9.2.2.5.1                |  |          |                |    | X              |    |  |
| 9.2.2.5.2                |  |          | X              |    |                |    |  |
| 9.2.2.6                  | Electrical installation at rear of cab |          | X              |    | X              |    |  |

|                          |                          | VEHICLES |                   |                   |                   |                   | COMMENTS   |
|--------------------------|--------------------------|----------|-------------------|-------------------|-------------------|-------------------|--|
| TECHNICAL SPECIFICATIONS |                          | EX/II    | EX/III            | AT                | FL                | OX                |  |
| <b>9.2.3</b>             | <b>BRAKING EQUIPMENT</b> |          |                   |                   |                   |                   |  |
| 9.2.3.1                  | General provisions       | X        | X                 | X                 | X                 | X                 |  |
|                          | Anti-lock braking system |          | X <sup>b, d</sup> | X <sup>b, d</sup> | X <sup>b, d</sup> | X <sup>b, d</sup> | <p><sup>b</sup> Applicable to vehicles first registered (or which entered into service if the registration is not mandatory) after 30 June 1993 in respect of motor vehicles (tractors and rigid vehicles) having a maximum mass exceeding 16 tonnes and trailers (i.e. full trailers, semi-trailers and centre-axle trailers) with a maximum mass exceeding 10 tonnes. Applicable to motor vehicles authorized to tow trailers with a maximum mass exceeding 10 tonnes, first registered after 30 June 1995. Applicable to all vehicles which are first approved in accordance with 9.1.2 after 30 June 2001 regardless of the date on which they were first registered or entered into service.</p> <p><sup>d</sup> As from 1 January 2010, all vehicles shall comply with the technical requirements of ECE Regulation No. 13 or of Directive 71/320/EEC, as amended, applicable at the date of their first registration, or of entry into service if registration is not mandatory, but at least those of ECE Regulation No.13, 06 series of amendments or Directive 71/320/EEC, as amended by Directive 91/422/EEC.</p> <p>Trailers (i.e. full trailers, semi-trailers and centre-axle trailers) shall be equipped with category A anti-lock braking system. Motor vehicles shall be equipped with a category 1 anti-lock braking system.</p> |
|                          | Endurance braking system |          | X <sup>c, g</sup> | X <sup>c, g</sup> | X <sup>c, g</sup> | X <sup>c, g</sup> | <p><sup>c</sup> Applicable to motor vehicles first registered after 30 June 1993 having a maximum mass exceeding 16 tonnes or authorized to tow a trailer with a maximum mass exceeding 10 tonnes.</p> <p><sup>g</sup> As from 1 January 2010, all motor vehicles shall meet the technical requirements of ECE Regulation No. 13 or of Directive 71/320/EEC, as amended, applicable at the date of their first registration, but at least those of ECE Regulation No. 13, 06 series of amendments or Directive 71/320/EEC, as amended by Directive 91/422/EEC.</p> <p>The endurance braking system shall be of type IIA.</p>   |

|                                     |                                    | VEHICLES       |                |                |                |                | COMMENTS   |
|-------------------------------------|------------------------------------|----------------|----------------|----------------|----------------|----------------|--|
| TECHNICAL SPECIFICATIONS            |                                    | EX/II          | EX/III         | AT             | FL             | OX             |  |
| <b>9.2.4</b>                        | <b>PREVENTION OF FIRE RISKS</b>    |                |                |                |                |                |  |
| 9.2.4.2                             | Vehicle cab                        |                |                |                |                | X              |  |
| 9.2.4.3                             | Fuel tanks                         | X              | X              |                | X              | X              |  |
| 9.2.4.4                             | Engine                             | X              | X              |                | X              | X              |  |
| 9.2.4.5                             | Exhaust system                     | X              | X              |                | X              |                |  |
| 9.2.4.6                             | Vehicle endurance braking          |                | X              | X              | X              | X              |  |
| 9.2.4.7                             | Combustion heaters                 |                |                |                |                |                |  |
| 9.2.4.7.1<br>9.2.4.7.2<br>9.2.4.7.5 |                                    | X <sup>e</sup> | X <sup>e</sup> | X <sup>e</sup> | X <sup>e</sup> | X <sup>e</sup> | <sup>e</sup> Applicable to motor vehicles equipped after 30 June 1999. Mandatory compliance by 1 January 2010 for vehicles equipped before 1 July 1999. If the date of equipping is not available the date of first registration of the vehicle shall be used instead. |
| 9.2.4.7.3<br>9.2.4.7.4              |                                    |                |                |                | X <sup>e</sup> |                | <sup>e</sup> Applicable to motor vehicles equipped after 30 June 1999. Mandatory compliance by 1 January 2010 for vehicles equipped before 1 July 1999. If the date of equipping is not available the date of first registration of the vehicle shall be used instead. |
| 9.2.4.7.6                           |                                    | X              | X              |                |                |                |  |
| <b>9.2.5</b>                        | <b>SPEED LIMITATION DEVICE</b>     | X <sup>f</sup> | X <sup>f</sup> | X <sup>f</sup> | X <sup>f</sup> | X <sup>f</sup> | <sup>f</sup> Applicable to motor vehicles with a maximum mass exceeding 12 tonnes first registered after 31 December 1987, and all motor vehicles with a maximum mass exceeding 3.5 tonnes but not more than 12 tonnes registered after 31 December 2007.              |
| <b>9.2.6</b>                        | <b>COUPLING DEVICE OF TRAILERS</b> | X              | X              |                |                |                |  |



9.2.1.2 MEMUs shall comply with the requirements of this Chapter applicable to EX/III-vehicles.

## **9.2.2 Electrical equipment**

### **9.2.2.1 General provisions**

The electrical installation as a whole shall meet the provisions of 9.2.2.2 to 9.2.2.6 in accordance with the table of 9.2.1.

### **9.2.2.2 Wiring**

9.2.2.2.1 The size of conductors shall be large enough to avoid overheating. Conductors shall be adequately insulated. All circuits shall be protected by fuses or automatic circuit breakers, except for the following:

- from the battery to the cold start and stopping systems of the engine;
- from the battery to the alternator;
- from the alternator to the fuse or circuit breaker box;
- from the battery to the starter motor;
- from the battery to the power control housing of the endurance braking system (see 9.2.3.1.2), if this system is electrical or electromagnetic;
- from the battery to the electrical lifting mechanism for lifting the bogie axle.

The above unprotected circuits shall be as short as possible.

9.2.2.2.2 Cables shall be securely fastened and positioned in such a way that the conductors are adequately protected against mechanical and thermal stresses.

### **9.2.2.3 Battery master switch**

9.2.2.3.1 A switch for breaking the electrical circuits shall be placed as close to the battery as practicable. If a single pole switch is used it shall be placed in the supply lead and not in the earth lead.

9.2.2.3.2 A control device to facilitate the disconnecting and reconnecting functions of the switch shall be installed in the driver's cab. It shall be readily accessible to the driver and be distinctively marked. It shall be protected against inadvertent operation by either adding a protective cover, by using a dual movement control device or by other suitable means. Additional control devices may be installed provided they are distinctively marked and protected against inadvertent operation. If the control device(s) are electrically operated, the circuits of the control device(s) are subject to the requirements of 9.2.2.5.

9.2.2.3.3 The switch shall have a casing with protection degree IP 65 in accordance with IEC Standard 529.

9.2.2.3.4 The cable connections on the switch shall have protection degree IP 54. However, this does not apply if these connections are contained in a housing which may be the battery box. In this case it is sufficient to insulate the connections against short circuits, for example with a rubber cap.

**9.2.2.4 Batteries**

The battery terminals shall be electrically insulated or covered by an insulating battery box cover. If the batteries are not located under the engine bonnet, they shall be fitted in a vented box.

**9.2.2.5 Permanently energized circuits**

- 9.2.2.5.1 (a) Those parts of the electrical installation including the leads which shall remain energized when the battery master switch is open, shall be suitable for use in hazardous areas. Such equipment shall meet the general requirements of IEC 60079, parts 0 and 14<sup>1</sup> and the additional requirements applicable from IEC 60079, parts 1, 2, 5, 6, 7, 11, 15 or 18<sup>2</sup>;

- (b) For the application of IEC 60079 part 14<sup>1</sup>, the following classification shall be used:

Permanently energized electrical equipment including the leads which is not subject to 9.2.2.3 and 9.2.2.4 shall meet the requirements for Zone 1 for electrical equipment in general or meet the requirements for Zone 2 for electrical equipment situated in the driver's cab. The requirements for explosion group IIC, temperature class T6 shall be met.

However, for permanently energized electrical equipment installed in an environment where the temperature caused by non-electrical equipment situated in that environment exceeds the T6 temperature limit, the temperature classification of the permanently energized electrical equipment shall be at least that of the T4 temperature class.

- (c) The supply leads for permanently energised equipment shall either comply with the provisions of IEC 60079, part 7 ("Increased safety") and be protected by a fuse or automatic circuit breaker placed as close to the source of power as practicable or, in the case of "intrinsically safe equipment", they shall be protected by a safety barrier placed as close to the source of power as practicable.

- 9.2.2.5.2 Bypass connections to the battery master switch for electrical equipment which must remain energized when the battery master switch is open shall be protected against overheating by suitable means, such as a fuse, a circuit breaker or a safety barrier (current limiter).

**9.2.2.6 Provisions concerning that part of the electrical installation situated to the rear of the driver's cab**

The whole installation shall be so designed, constructed and protected such that it cannot provoke any ignition or short-circuit under normal conditions of use of vehicles and that these risks can be minimized in the event of an impact or deformation. In particular:

**9.2.2.6.1 Wiring**

The wiring located to the rear of the driver's cab shall be protected against impact, abrasion and chafing during normal vehicle operation. Examples of appropriate protection are given in figures 1, 2, 3 and 4 below. However, the sensor cables of anti-lock braking devices do not need additional protection.

<sup>1</sup> The requirements of IEC 60079 part 14 do not take precedence over the requirement of this Part.

<sup>2</sup> As an alternative, the general requirements of EN 50014 and the additional requirements of EN 50015, 50016, 50017, 50018, 50019, 50020, 50021 or 50028 may be used

Figure N°1

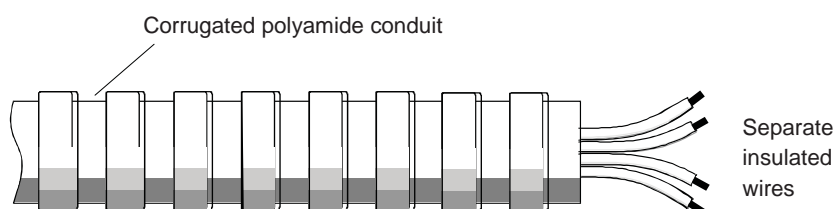


Figure N°2

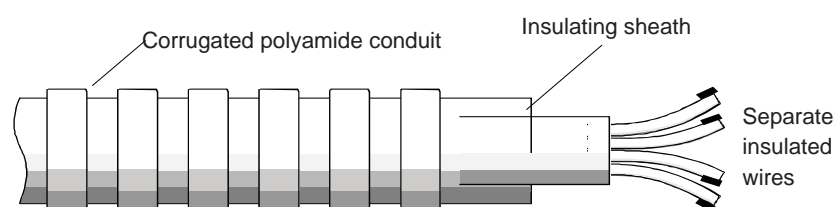


Figure N°3

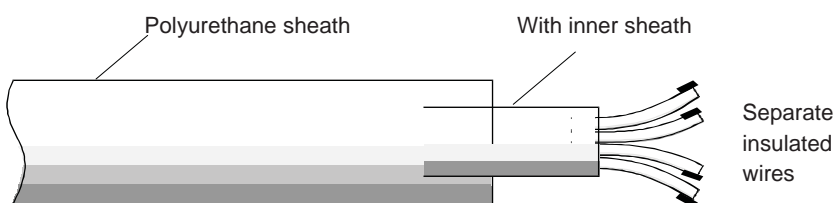
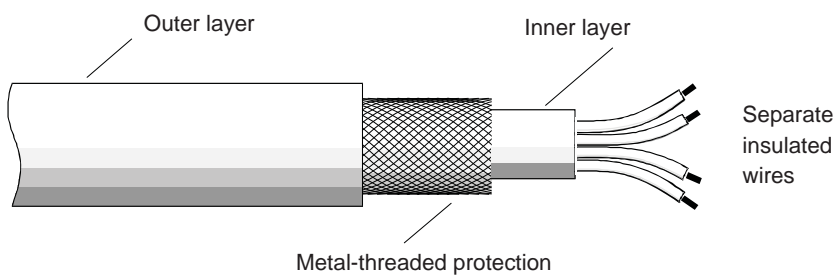


Figure N°4



**9.2.2.6.2**      *Lighting*

Lamp bulbs with a screw cap shall not be used.

**9.2.2.6.3**      *Electrical connections*

Electrical connections between motor vehicles and trailers shall have a protection degree IP54 in accordance with IEC standard 529 and be designed to prevent accidental disconnection. Examples of appropriate connections are given in ISO 12098:2004 and ISO 7638:1997.

**9.2.3**            **Braking equipment****9.2.3.1**        *General provisions*

9.2.3.1.1      Motor vehicles and trailers intended for use as transport units for dangerous goods shall fulfil all relevant technical requirements of ECE Regulation No.13<sup>3</sup> or Directive 71/320/EEC<sup>4</sup>, as amended, in accordance with the dates of application specified therein.

9.2.3.1.2      EX/III, FL, OX and AT vehicles shall fulfil the requirements of ECE Regulation No.13<sup>3</sup>, Annex 5.

9.2.3.2        (*Deleted*)

**9.2.4**            **Prevention of fire risks****9.2.4.1**        *General provisions*

The following technical provisions shall apply in accordance with the table of 9.2.1.

**9.2.4.2**        *Vehicle cab*

Unless the driver's cab is made of materials which are not readily flammable, a shield made of metal or other suitable material of the same width as the tank shall be fitted at the rear of the cab. Any windows in the rear of the cab or in the shield shall be hermetically closed and made of fire-resistant safety glass with fire-resistant frames. Furthermore, there shall be a clear space of not less than 15 cm between the tank and the cab or the shield.

**9.2.4.3**        *Fuel tanks*

The fuel tanks for supplying the engine of the vehicle shall meet the following requirements:

- (a) In the event of any leakage, the fuel shall drain to the ground without coming into contact with hot parts of the vehicle or the load;
- (b) Fuel tanks containing petrol shall be equipped with an effective flame trap at the filler opening or with a closure enabling the opening to be kept hermetically sealed.

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<sup>3</sup> ECE Regulation No. 13 (Uniform provisions concerning the approval of vehicles of categories M, N and O with regard to braking).

<sup>4</sup> Directive 71/320/EEC (originally published in the Official Journal of the European Communities No. L202 of 6.9.1971).

**9.2.4.4 Engine**

The engine propelling the vehicle shall be so equipped and situated to avoid any danger to the load through heating or ignition. In the case of EX/II and EX/III vehicles the engine shall be of compression-ignition construction.

**9.2.4.5 Exhaust system**

The exhaust system (including the exhaust pipes) shall be so directed or protected to avoid any danger to the load through heating or ignition. Parts of the exhaust system situated directly below the fuel tank (diesel) shall have a clearance of at least 100 mm or be protected by a thermal shield.

**9.2.4.6 Vehicle endurance braking**

Vehicles equipped with endurance braking systems emitting high temperatures placed behind the rear wall of the driver's cab shall be equipped with a thermal shield securely fixed and located between this system and the tank or load so as to avoid any heating, even local, of the tank wall or the load.

In addition, the thermal shield shall protect the braking system against any outflow or leakage, even accidental, of the load. For instance, a protection including a twin-shell shield shall be considered satisfactory.

**9.2.4.7 Combustion heaters**

9.2.4.7.1 Combustion heaters shall comply with the relevant technical requirements of ECE Regulation No. 122 <sup>5</sup>, as amended, or of Directive 2001/56/EC <sup>6</sup>, as amended, in accordance with the dates of application specified therein and the provisions of 9.2.4.7.2 to 9.2.4.7.6 applicable according to the table in 9.2.1.

9.2.4.7.2 The combustion heaters and their exhaust gas routing shall be designed, located, protected or covered so as to prevent any unacceptable risk of heating or ignition of the load. This requirement shall be considered as fulfilled if the fuel tank and the exhaust system of the appliance conform to provisions similar to those prescribed for fuel tanks and exhaust systems of vehicles in 9.2.4.3 and 9.2.4.5 respectively.

9.2.4.7.3 The combustion heaters shall be put out of operation by at least the following methods:

- (a) Intentional manual switching off from the driver's cab;
- (b) Stopping of the vehicle engine; in this case the heating device may be restarted manually by the driver;
- (c) Start up of a feed pump on the motor vehicle for the dangerous goods carried.

9.2.4.7.4 Afterrunning is permitted after the combustion heaters have been put out of operation. For the methods of 9.2.4.7.3 (b) and (c) the supply of combustion air shall be interrupted by suitable measures after an afterrunning cycle of not more than 40 seconds. Only heaters shall

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<sup>5</sup> ECE Regulation No. 122 (Regulation with regard the type approval of a heating system and of a vehicle with regard to its heating system).

<sup>6</sup> Directive 2001/56/EC of the European Parliament and of the Council of 27 September 2001 relating to heating systems for motor vehicles and their trailers (initially published in the Official Journal of the European Communities No. L292 of 9 November 2001).

be used for which proof has been furnished that the heat exchanger is resistant to the reduced afterrunning cycle of 40 seconds for the time of their normal use.

9.2.4.7.5 The combustion heater shall be switched on manually. Programming devices shall be prohibited.

9.2.4.7.6 Combustion heaters with gaseous fuels are not permitted.

## **9.2.5 Speed limitation device**

Motor vehicles (rigid vehicles and tractors for semi-trailers) with a maximum mass exceeding 3.5 tonnes, shall be equipped with a speed limitation device according to the technical requirements of ECE Regulation No. 89 <sup>7</sup>, as amended. The device shall be set in such a way that the speed cannot exceed 90 km/h, bearing in mind the technological tolerance of the device.

## **9.2.6 Coupling devices of trailers**

Coupling devices of trailers shall comply with the technical requirements of ECE Regulation No. 55 <sup>8</sup> or Directive 94/20/EC <sup>9</sup>, as amended, in accordance with the dates of application specified therein.

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<sup>7</sup> ECE Regulation No. 89: uniform provisions concerning the approval of:

- I. Vehicles with regard to limitation of their maximum speed;
- II. Vehicles with regard to the installation of a speed limitation device (SLD) of an approved type;
- III. Speed limitation devices (SLD).

As an alternative, the corresponding provisions of directive 92/6/EEC of the Council of 10 February 1992 (originally published in the Official Journal of the European Communities No. L 057 of 02.03.1992) and directive 92/24/EEC of the Council of 31 March 1992 (originally published in the Official Journal of the European Communities No. L 129 of 14.05.1992), as amended, may apply provided that they have been amended in accordance with the latest amended form of ECE Regulation No. 89 applicable at the time of the vehicle approval.

<sup>8</sup> ECE Regulation No. 55 (Uniform provisions concerning the approval of mechanical coupling components of combinations of vehicles).

<sup>9</sup> Directive 94/20/EC of the European parliament and of the Council of 30 of May 1994 (originally published in the Official Journal of the European Communities No. L 195 of 29.07.1994).

### CHAPTER 9.3

#### ADDITIONAL REQUIREMENTS CONCERNING COMPLETE OR COMPLETED EX/II OR EX/III VEHICLES INTENDED FOR THE CARRIAGE OF EXPLOSIVE SUBSTANCES AND ARTICLES (CLASS 1) IN PACKAGES

##### 9.3.1        **Materials to be used in the construction of vehicle bodies**

No materials likely to form dangerous compounds with the explosive substances carried shall be used in the construction of the body.

##### 9.3.2        **Combustion heaters**

9.3.2.1        Combustion heaters may only be installed on EX/II and EX/III vehicles for heating of the driver's cab or the engine.

9.3.2.2        Combustion heaters shall meet the requirements of 9.2.4.7.1, 9.2.4.7.2, 9.2.4.7.5 and 9.2.4.7.6.

9.3.2.3        The switch of the combustion heater may be installed outside the driver's cab.

It is not necessary to prove that the heat exchanger is resistant to the reduced afterrunning cycle.

9.3.2.4        No combustion heaters or fuel tanks, power sources, combustion air or heating air intakes as well as exhaust tube outlets required for the operation of the combustion heater shall be installed in the load compartment.

##### 9.3.3        **EX/II vehicles**

The vehicles shall be designed, constructed and equipped so that the explosives are protected from external hazards and the weather. They shall be either closed or sheeted. Sheeting shall be resistant to tearing and be of impermeable material, not readily flammable<sup>1</sup>. It shall be tautened so as to cover the loading area on all sides.

All openings in the load compartment of closed vehicles shall have lockable, close-fitting doors or rigid covers. The driver's compartment shall be separated from the load compartment by a continuous wall.

##### 9.3.4        **EX/III vehicles**

9.3.4.1        The vehicles shall be designed, constructed and equipped so that the explosives are protected from external hazards and the weather. These vehicles shall be closed. The driver's compartment shall be separated from the load compartment by a continuous wall. The loading surface shall be continuous. Load restraint anchorage points may be installed. All

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<sup>1</sup>        *In the case of flammability, this requirement will be deemed to be met if, in accordance with the procedure specified in ISO standard 3795:1989 'Road vehicles, and tractors and machinery for agriculture and forestry - Determination of burning behaviour of interior materials', samples of the sheeting have a burn rate not exceeding 100 mm/min.*

joints shall be sealed. All openings shall be capable of being locked. They shall be so constructed and placed as to overlap at the joints.

- 9.3.4.2 The body shall be made from heat and flame resistant materials with a minimum thickness of 10 mm. Materials classified as Class B-s3-d2 according to standard EN 13501-1: 2002 are deemed to fulfil this requirement.

If the material used for the body is metal, the complete inside of the body shall be covered with materials fulfilling the same requirement.

### **9.3.5 Engine and load compartment**

The engine propelling an EX/II or EX/III vehicle shall be placed forward of the front wall of the load compartment; it may nevertheless be placed under the load compartment, provided this is done in such a way that any excess heat does not constitute a hazard to the load by raising the temperature on the inner surface of the load compartment above 80 °C.

### **9.3.6 External heat sources and load compartment**

The exhaust system of EX/II and EX/III vehicles or others parts of these complete or completed vehicles shall be so constructed and situated that any excess heat shall not constitute a hazard to the load by raising the temperature on the inner surface of the load compartment above 80 °C.

### **9.3.7 Electrical equipment**

- 9.3.7.1 The rated voltage of the electrical system shall not exceed 24V.

- 9.3.7.2 Any lighting in the load compartment of EX/II vehicles shall be on the ceiling and covered, i.e. with no exposed wiring or bulb.

In the case of Compatibility Group J, the electrical installation shall be at least IP65 (e.g. flame-proof Eex d). Any electrical equipment accessible from the inside of the load compartment shall be sufficiently protected from mechanical impact from the inside.

- 9.3.7.3 The electrical installation on EX/III vehicles shall meet the relevant requirements of 9.2.2.2, 9.2.2.3, 9.2.2.4, 9.2.2.5.2 and 9.2.2.6.

The electrical installation in the load compartment shall be dust-protected (at least IP54 or equivalent) or, in the case of Compatibility Group J, at least IP65 (e.g. flame-proof Eex d).



## CHAPTER 9.4

### **ADDITIONAL REQUIREMENTS CONCERNING THE CONSTRUCTION OF THE BODIES OF COMPLETE OR COMPLETED VEHICLES INTENDED FOR THE CARRIAGE OF DANGEROUS GOODS IN PACKAGES (OTHER THAN EX/II AND EX/III VEHICLES)**

- 9.4.1            Combustion heaters shall meet the following requirements:
- (a)    The switch may be installed outside the driver's cab;
  - (b)    The device may be switched off from outside the load compartment; and
  - (c)    It is not necessary to prove that the heat exchanger is resistant to the reduced afterrunning cycle.
- 9.4.2            If the vehicle is intended for the carriage of dangerous goods for which a label conforming to models Nos. 1, 1.4, 1.5, 1.6, 3, 4.1, 4.3, 5.1 or 5.2 is prescribed, no fuel tanks, power sources, combustion air or heating air intakes as well as exhaust tube outlets required for the operation of the combustion heater shall be installed in the load compartment. It shall be ensured that the heating air outlet cannot be blocked by cargo. The temperature to which packages are heated shall not exceed 50° C. Heating devices installed inside the load compartments shall be designed so as to prevent the ignition of an explosive atmosphere under operating conditions.
- 9.4.3            Additional requirements concerning the construction of the bodies of vehicles intended for the carriage of given dangerous goods or specific packagings may be included in Part 7, Chapter 7.2 in accordance with the indications in Column (16) of Table A of Chapter 3.2, for a given substance.

## CHAPTER 9.5

### **ADDITIONAL REQUIREMENTS CONCERNING THE CONSTRUCTION OF THE BODIES OF COMPLETE OR COMPLETED VEHICLES INTENDED FOR THE CARRIAGE OF DANGEROUS SOLIDS IN BULK**

- 9.5.1 Combustion heaters shall meet the following requirements:
- (a) The switch may be installed outside the driver's cab;
  - (b) The device may be switched off from outside the load compartment; and
  - (c) It is not necessary to prove that the heat exchanger is resistant to the reduced afterrunning cycle.
- 9.5.2 If the vehicle is intended for the carriage of dangerous goods for which a label conforming to models Nos. 4.1, 4.3 or 5.1 is prescribed, no fuel tanks, power sources, combustion air or heating air intakes as well as exhaust tube outlets required for the operation of the combustion heater shall be installed in the load compartment. It shall be ensured that the heating air outlet cannot be blocked by cargo. The temperature to which the load is heated shall not exceed 50 °C. Heating devices installed inside the load compartments shall be designed so as to prevent the ignition of an explosive atmosphere under operating conditions.
- 9.5.3 The bodies of vehicles intended for the carriage of dangerous solids in bulk shall meet the requirements of Chapter 6.11 and 7.3, as appropriate, including those of 7.3.2 or 7.3.3 which may be applicable in accordance with the indications in columns (10) or (17) respectively of Table A of Chapter 3.2 for a given substance.

**CHAPTER 9.6****ADDITIONAL REQUIREMENTS CONCERNING COMPLETE OR COMPLETED VEHICLES INTENDED FOR THE CARRIAGE OF TEMPERATURE CONTROLLED SUBSTANCES**

- 9.6.1 Insulated, refrigerated and mechanically-refrigerated vehicles intended for the carriage of temperature controlled substances shall conform to the following conditions:
- (a) the vehicle shall be such and so equipped as regards its insulation and means of refrigeration, that the control temperature prescribed in 2.2.41.1.17 and 2.2.52.1.16 and in 2.2.41.4 and 2.2.52.4 for the substance to be carried is not exceeded. The overall heat transfer coefficient shall be not more than  $0.4 \text{ W/m}^2\text{K}$ ;
  - (b) the vehicle shall be so equipped that vapours from the substances or the coolant carried cannot penetrate into the driver's cab;
  - (c) a suitable device shall be provided enabling the temperature prevailing in the loading space to be determined at any time from the cab;
  - (d) the loading space shall be provided with vents or ventilating valves if there is any risk of a dangerous excess pressure arising therein. Care shall be taken where necessary to ensure that refrigeration is not impaired by the vents or ventilating valves;
  - (e) the refrigerant shall not be flammable; and
  - (f) the refrigerating appliance of a mechanically refrigerated vehicle shall be capable of operating independently of the engine used to propel the vehicle.
- 9.6.2 Suitable methods (see V8(3)) to prevent the control temperature from being exceeded are listed in Chapter 7.2 (R1 to R5). Depending on the method used, additional provisions concerning the construction of vehicle bodies may be included in Chapter 7.2.

## CHAPTER 9.7

### **ADDITIONAL REQUIREMENTS CONCERNING FIXED TANKS (TANK-VEHICLES), BATTERY-VEHICLES AND COMPLETE OR COMPLETED VEHICLES USED FOR THE CARRIAGE OF DANGEROUS GOODS IN DEMOUNTABLE TANKS WITH A CAPACITY GREATER THAN 1 M<sup>3</sup> OR IN TANK-CONTAINERS, PORTABLE TANKS OR MEGCs OF A CAPACITY GREATER THAN 3 M<sup>3</sup> (EX/III, FL, OX AND AT VEHICLES)**

#### **9.7.1 General provisions**

- 9.7.1.1 In addition to the vehicle proper, or the units of running gear used in its stead, a tank-vehicle comprises one or more shells, their items of equipment and the fittings for attaching them to the vehicle or to the running-gear units.
- 9.7.1.2 Once the demountable tank has been attached to the carrier vehicle, the entire unit shall meet the requirements prescribed for tank-vehicles.

#### **9.7.2 Requirements concerning tanks**

- 9.7.2.1 Fixed tanks or demountable tanks made of metal shall meet the relevant requirements of Chapter 6.8.
- 9.7.2.2 Elements of battery-vehicles and of MEGCs shall meet the relevant requirements of Chapter 6.2 in the case of cylinders, tubes, pressure drums and bundles of cylinders and the requirements of Chapter 6.8 in the case of tanks.
- 9.7.2.3 Tank-containers made of metal shall meet the requirements of Chapter 6.8, portable tanks shall meet the requirements of Chapter 6.7 or, if applicable, those of the IMDG Code (see 1.1.4.2).
- 9.7.2.4 Tanks made of fibre-reinforced plastics material shall meet the requirements of Chapter 6.9.
- 9.7.2.5 Vacuum-operated waste tanks shall meet the requirements of Chapter 6.10.

#### **9.7.3 Fastenings**

Fastenings shall be designed to withstand static and dynamic stresses in normal conditions of carriage, and minimum stresses as defined in 6.8.2.1.2, 6.8.2.1.11 to 6.8.2.1.15 and 6.8.2.1.16 in the case of tank-vehicles, battery-vehicles, and vehicles carrying demountable tanks.

#### **9.7.4 Earthing of FL vehicles**

Tanks made of metal or of fibre-reinforced plastics material of FL tank-vehicles and battery elements of FL battery-vehicles shall be linked to the chassis by means of at least one good electrical connection. Any metal contact capable of causing electrochemical corrosion shall be avoided.

*NOTE: See also 6.9.1.2 and 6.9.2.14.3.*

**9.7.5 Stability of tank-vehicles**

9.7.5.1 The overall width of the ground-level bearing surface (distance between the outer points of contact with the ground of the right-hand tyre and the left-hand tyre of the same axle) shall be at least equal to 90% of the height of the centre of gravity of the laden tank-vehicle. In an articulated vehicle the mass on the axles of the load-carrying unit of the laden semi-trailer shall not exceed 60% of the nominal total laden mass of the complete articulated vehicle.

9.7.5.2 In addition, tank-vehicles with fixed tanks with a capacity of more than 3 m<sup>3</sup> intended for the carriage of dangerous goods in the liquid or molten state tested with a pressure of less than 4 bar, shall comply with the technical requirements of ECE Regulation No. 111<sup>1</sup> for lateral stability, as amended, in accordance with the dates of application specified therein. The requirements are applicable to tank-vehicles which are first registered as from 1 July 2003.

**9.7.6 Rear protection of vehicles**

A bumper sufficiently resistant to rear impact shall be fitted over the full width of the tank at the rear of the vehicle. There shall be a clearance of at least 100 mm between the rear wall of the tank and the rear of the bumper (this clearance being measured from the rearmost point of the tank wall or from projecting fittings or accessories in contact with the substance being carried). Vehicles with a tilting shell for the carriage of powdery or granular substances and a vacuum-operated waste tank with a tilting shell with rear discharge do not require a bumper if the rear fittings of the shell are provided with a means of protection which protects the shell in the same way as a bumper.

*NOTE 1: This provision does not apply to vehicles used for the carriage of dangerous goods in tank-containers, MEGCs or portable tanks.*

*NOTE 2: For the protection of tanks against damage by lateral impact or overturning, see 6.8.2.1.20 and 6.8.2.1.21 or, for portable tanks, 6.7.2.4.3 and 6.7.2.4.5.*

**9.7.7 Combustion heaters**

9.7.7.1 Combustion heaters shall meet the requirements of 9.2.4.7.1, 9.2.4.7.2, 9.2.4.7.5 and the following:

- (a) The switch may be installed outside the driver's cab;
- (b) The device may be switched off from outside the load compartment; and
- (c) It is not necessary to prove that the heat exchanger is resistant to the reduced afterrunning cycle.

In addition for FL vehicles, they shall meet the requirements of 9.2.4.7.3 and 9.2.4.7.4.

9.7.7.2 If the vehicle is intended for the carriage of dangerous goods for which a label conforming to models Nos. 1.5, 3, 4.1, 4.3, 5.1 or 5.2 is prescribed, no fuel tanks, power sources, combustion air or heating air intakes as well as exhaust tube outlets required for the operation of the combustion heater shall be installed in the load compartment. It shall be ensured that the heating air outlet cannot be blocked by cargo. The temperature to which the load is heated shall not exceed 50 °C. Heating devices installed inside the load compartments shall be designed so as to prevent the ignition of an explosive atmosphere under operating conditions.

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<sup>1</sup> ECE Regulation No. 111: Uniform provisions concerning the approval of tank-vehicles of categories N and O with regard to rollover stability.

**9.7.8 Electrical equipment**

- 9.7.8.1 The electrical installation on FL vehicles for which an approval according to 9.1.2 is required shall meet the requirements of 9.2.2.2, 9.2.2.3, 9.2.2.4, 9.2.2.5.1 and 9.2.2.6.

However additions to or modifications of the electrical installations of the vehicle shall meet the requirements for the electrical apparatus of the relevant group and temperature class according to the substances to be carried.

**NOTE:** For transitional provisions, see also 1.6.5.

- 9.7.8.2 Electrical equipment on FL vehicles, situated in areas where an explosive atmosphere is, or may be expected to be, present in such quantities as to require special precautions, shall be suitable for use in a hazardous area. Such equipment shall meet the general requirements of IEC 60079 parts 0 and 14 and the additional requirements applicable from IEC 60079 parts 1, 2, 5, 6, 7, 11 or 18<sup>2</sup>. The requirements for the electrical apparatus of the relevant group and temperature class according to the substances to be carried shall be met.

For the application of IEC 60079 part 14<sup>2</sup>, the following classification shall be used:

**ZONE 0**

Inside tank compartments, fittings for filling and discharge and vapour recovery lines.

**ZONE 1**

Inside cabinets for equipment used for filling and discharge and within 0.5 m of venting devices and pressure relief safety valves.

- 9.7.8.3 Permanently energized electrical equipment, including the leads, which is situated outside Zones 0 and 1 shall meet the requirements for Zone 1 for electrical equipment in general or meet the requirements for Zone 2 according to IEC 60079 part 14<sup>2</sup> for electrical equipment situated in the driver's cab. The requirements for the relevant group of electrical apparatus according to the substances to be carried shall be met.

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<sup>2</sup> As an alternative, the general requirements of EN 50014 and the additional requirements of EN 50015, 50016, 50017, 50018, 50019, 50020 or 50028 may be used.

## CHAPTER 9.8

### ADDITIONAL REQUIREMENTS CONCERNING COMPLETE AND COMPLETED MEMUs

#### 9.8.1      **General provisions**

In addition to the vehicle proper, or the units of running gear used in its stead, a MEMU comprises one or more tanks and bulk containers, their items of equipment and the fittings for attaching them to the vehicle or to the running-gear units.

#### 9.8.2      **Requirements concerning tanks and bulk containers**

Tanks, bulk containers and special compartments for packages of explosives of MEMUs shall meet the requirements of Chapter 6.12.

#### 9.8.3      **Earthing of MEMUs**

Tanks, bulk containers and special compartments for packages of explosives made of metal or of fibre-reinforced plastics material shall be linked to the chassis by means of at least one good electrical connection. Any metal contact capable of causing electro-chemical corrosion or reacting with the dangerous goods carried in the tanks and bulk containers shall be avoided.

#### 9.8.4      **Stability of MEMUs**

The overall width of the ground-level bearing surface (distance between the outer points of contact with the ground of the right-hand tyre and the left-hand tyre of the same axle) shall be at least equal to 90% of the height of the centre of gravity of the laden vehicle. In an articulated vehicle the mass on the axles of the load-carrying unit of the laden semi-trailer shall not exceed 60% of the nominal total laden mass of the complete articulated vehicle.

#### 9.8.5      **Rear protection of MEMUs**

A bumper sufficiently resistant to rear impact shall be fitted over the full width of the tank at the rear of the vehicle. There shall be a clearance of at least 100 mm between the rear wall of the tank and the rear of the bumper (this clearance being measured from the rearmost point of the tank wall or from protecting fittings or accessories in contact with the substance being carried). Vehicles with a tilting shell with rear discharge do not require a bumper if the rear fittings of the shell are provided with a means of protection which protects the shell in the same way as a bumper.

***NOTE:** This provision does not apply to MEMUs where the tanks are protected adequately against rear impact by other means, e.g. machinery or piping not containing dangerous goods.*

**9.8.6 Combustion heaters**

9.8.6.1 Combustion heaters shall meet the requirements of 9.2.4.7.1, 9.2.4.7.2, 9.2.4.7.5, 9.2.4.7.6 and the following:

- (a) the switch may be installed outside the driver's cab;
- (b) the device shall be switched off from outside the MEMU compartment; and
- (c) it is not necessary to prove that the heat exchanger is resistant to the reduced afterrunning cycle.

9.8.6.2 No fuel tanks, power sources, combustion air or heating air intakes as well as exhaust tube outlets required for the operation of the combustion heater shall be installed in the load compartments containing tanks. It shall be ensured that the heating air outlet cannot be blocked. The temperature to which any equipment is heated shall not exceed 50 °C. Heating devices installed inside the compartments shall be designed so as to prevent the ignition of any explosive atmosphere under operating conditions.

**9.8.7 Additional safety requirements**

9.8.7.1 MEMUs shall be equipped with automatic fire extinguisher systems for the engine compartment.

9.8.7.2 Protection of the load by metal thermal shields against tyre fire shall be provided.

**9.8.8 Additional security requirements**

Process equipment and special compartments in MEMUs shall be fitted with locks.



**A VESZÉLYES ÁRUK NEMZETKÖZI KÖZÚTI  
SZÁLLÍTÁSÁRÓL SZÓLÓ  
EURÓPAI MEGÁLLAPODÁS  
(ADR)**

**„A” ÉS „B” MELLÉKLETE**

**2009.**

**„A” MELLÉKLET**

**ÁLTALÁNOS ELŐÍRÁSOK ÉS**  
**A VESZÉLYES ANYAGOKRA ÉS TÁRGYAKRA**  
**VONATKOZÓ ELŐÍRÁSOK**

# **1. RÉSZ**

## **ÁLTALÁNOS ELŐÍRÁSOK**

## 1.1 FEJEZET

### HATÁLY ÉS ALKALMAZÁSI TERÜLET

#### 1.1.1 Szerkezet

Az ADR „A” és „B” Melléklete kilenc részre van osztva. Az „A” Melléklet az 1 – 7. részből, a „B” Melléklet a 8. és 9. részből áll. Minden rész fejezetekből áll és minden fejezet szakaszokat és bekezdéseket tartalmaz. Az egyes részekben belül a rész sorszáma kapcsolódik az egyes fejezetek, szakaszok és bekezdések sorszámaához; például a 4. rész, 2 fejezet, 1 szakaszának számozása: „4.2.1”.

#### 1.1.2 Hatály

##### 1.1.2.1 Az ADR 2. cikk értelmében az „A” Melléklet a következőket határozza meg:

- a) azokat a veszélyes árukat, amelyek a nemzetközi szállításból ki vannak zárva;
- b) azokat a veszélyes árukat, amelyek nemzetközi szállítása engedélyezett és a szállításukhoz előírt feltételeket (beleértve a mentességeket), különösen:
  - az áruk besorolását (osztályozását), beleértve a besorolási kritériumokat és a vonatkozó vizsgálati módszereket;
  - a csomagolóeszközök használatát (beleértve az egybecsomagolást);
  - a tartányok használatát (beleértve a töltést);
  - a feladási eljárásokat (beleértve a küldeménydarabok jelölését és bárcázását, a szállítóeszközök táblázását és jelölését, valamint a szükséges okmányokat és információkat);
  - a csomagolóeszközök és tartányok gyártására, vizsgálatára és jóváhagyására vonatkozó előírásokat;
  - a szállítóeszközök használatát (beleértve a berakást, az együvé rakást és a kirakást).

##### 1.1.2.2 Az „A” Melléklet bizonyos előírásai az ADR 2. cikkével összhangban, a „B” Mellékletre, ill. az „A” és a „B” Mellékletre egyaránt vonatkoznak, a következők szerint:

###### 1.1.1 Szerkezet

###### 1.1.2.3 (A „B” Melléklet hatálya)

###### 1.1.2.4

###### 1.1.3.1 A szállítás jellegéből adódó mentességek

###### 1.1.3.6 Az egy szállítóegységben szállított mennyiségből adódó mentességek

###### 1.1.4 Más szabályzatok alkalmazhatósága

###### 1.1.4.5 Nem közúti szállítás

###### 1.2 Meghatározások és mértékegységek

###### 1.3 A veszélyes áruk szállításában résztvevő személyek képzése

###### 1.4 A résztvevők biztonsággal kapcsolatos kötelezettsége

###### 1.5 Eltérések

###### 1.6 Átmeneti előírások

###### 1.8 A biztonsági követelmények betartását biztosító ellenőrzések, ill. a biztonságot elősegítő, egyéb intézkedések

###### 1.9 A szállítás korlátozása az illetékes hatóságok által

###### 1.10 Közbiztonsági előírások

###### 3.1 fejezet

###### 3.2 fejezet 1, 2, 14, 15 és 19 oszlop (a 8. és a 9. rész előírásainak alkalmazása az egyes anyagokra és tárgyakra).

**1.1.2.3** Az ADR 2. cikk értelmében a „B” Melléklet a veszélyes árukat szállító járművek szerkezetére, felszerelésére és üzemeltetésére vonatkozó feltételeket határozza meg, így:

- a jármű személyzetére, felszerelésére, üzemeltetésére és az okmányokra vonatkozó követelményeket;
- a járművek szerkezetére és jóváhagyására vonatkozó követelményeket.

**1.1.2.4** Az ADR 1. cikk c) pontjában a „jármű” kifejezés nem jelent szükségszerűen egy és ugyanazon járművet. Nemzetközi egy szállítás akkor is, ha több különböző járművel végezik, feltéve, hogy a szállítást a fuvarokmányban megjelölt feladó és a címzett között, legalább két ADR Szerződő Fél területén végzik.

### **1.1.3 Mentességek**

#### **1.1.3.1 A szállítás jellegéből adódó mentességek**

Az ADR előírásait nem kell alkalmazni:

- a) a magánszemélyek által történő veszélyes áru szállításra, amennyiben az áru kiskereskedelmi csomagolásban van és személyes vagy háztartási használatra, továbbá szabadidő vagy sport célokra szolgál, feltéve, hogy a veszélyes áru normális szállítási feltételek melletti kiszabadulásának megakadályozására szükséges intézkedéseket megtették. Amennyiben ez az áru magánszemély által vagy magánszemély részére megtöltött, újratölthető tartályokban szállított gyúlékony folyékony anyag, akkor az összmenyiség egy tartályban legfeljebb 60 liter, egy szállítóegységen legfeljebb 240 liter lehet. Az IBC, a nagycsomagolás, ill. a tartály nem tekinthető kiskereskedelmi csomagolásnak.;
- b) az ebben a mellékletben nem szereplő gépek és készülékek szállítására, amelyek szerkezetükben vagy működtető elemeikben veszélyes árut tartalmaznak, feltéve, hogy a veszélyes áru normális szállítási feltételek melletti kiszabadulásának megakadályozására szükséges intézkedéseket megtették;
- c) a vállalatok (vállalkozások) olyan szállításaira, ami fő tevékenységükkel kapcsolatos, mint például a mély- és magasépítési munkaterületek ellátása, vagy méréssel, javítással és karbantartással kapcsolatos szállítások, ill. visszaszállítások küldeménydarabonként legfeljebb 450 liter mennyiségű veszélyes áru esetén és az 1.1.3.6 bekezdésben meghatározott mennyiségi határokon belül. Meg kell tenni a szükséges intézkedéseket a veszélyes áru normális szállítási feltételek melletti kiszabadulásának megakadályozására. Ez a fajta mentesség nem alkalmazható a 7 osztályra. Ugyancsak nem alkalmazható ez a mentesség a vállalatok (vállalkozások) által anyagbeszerzés, külső vagy belső anyagelosztás céljából végzett szállításokra;
- d) a kárelhárító szolgálatok által vagy felügyeletük mellett végzett szállításokra, amennyiben a szállítás a kárelhárítás érdekében szükséges, különösen:
  - a veszélyes árut tartalmazó, balesetet szenvedett, sérült vagy meghibásodott járműveket szállító járművek által végzett szállításokra; és
  - a rendkívüli eseményben vagy balesetben érintett veszélyes áru összegyűjtésére és biztonságos helyre történő elszállítására;
- e) emberi életek mentését vagy a környezet védelmét szolgáló, veszélyhelyzetben történő szállításokra, amennyiben teljesen biztonságos végrehajtásukhoz minden intézkedést megtettek;
- f) üres, tisztítatlan, telepített tárolótartályok, amelyekben a 2 osztály A, O vagy F csoportjába tartozó gázok, a 3 vagy a 9 osztály II vagy III csomagolási csoportjába tartozó anyagok vagy a 6.1 osztály II vagy III csomagolási csoportjába tartozó peszticidek voltak, azzal a feltétellel, hogy:
  - minden rajtuk lévő nyílás – az esetleges nyomáscsökkentő szerkezetek nyílásainak kivételével – légmentesen le van zárva;
  - megtették a szükséges intézkedéseket annak érdekében, hogy szokásos szállítási

- körülmények között a tartalom ne szivároгjon ki; és
- a rakomány úgy van rögzítve rekeszben, kalodában vagy egyéb kezelőeszközben, ill. magán a járművön vagy a konténerben, hogy szokásos szállítási körülmények között ne lazuljon ki, ill. ne mozduljon el.

Ez a mentesség nem vonatkozik az olyan telepített tárolótartályokra, amelyekben érzéketlenített robbanóanyag vagy az ADR által a szállításból kizárt anyag volt.

**Megjegyzés:** A radioaktív anyagokra lásd még az 1.7.1.4 bekezdést is.

#### 1.1.3.2 A gázok szállítására vonatkozó mentességek

Az ADR előírásait nem kell alkalmazni, ha a szállított anyagok (tárgyak) a következők:

- a) a szállítást végző jármű tartályaiban levő gázok, amelyek a jármű meghajtására vagy bármely berendezésének (pl. hűtőkészülék) működtetésére szolgálnak;
- b) a szállított járművek tüzelőanyagtartályában levő gázok. A zárószelepek a tartály és a motor között zárva kell lennie és az elektromos érintkezőket meg kell szakítani;
- c) a 2.2.2.1 bekezdés szerinti A és O csoport gázai, ha a gáz nyomása a tartályban vagy tartányban 20 °C-on nem haladja meg a 200 kPa-t (2 bar-t) és a gáz nem cseppfolyósított, ill. nem mélyhűtött cseppfolyósított gáz. Ide tartozik mindenfajta tartály és tartány, pl. a gépek és berendezések részeit képezők is;
- d) a jármű üzemelése során használt felszerelésekben (pl. tűzoltókészülékben) lévő gázok, beleértve a tartalék alkatrészekben (pl. felfújgumiabroncsban) lévő gázokat is. Ez a mentesség arra az esetre is vonatkozik, ha felfújgumiabroncsokat rakományként szállítanak;
- e) a járművek különleges készülékeiben (hűtőkészülék, halszállító tartályok, fűtőkészülék stb.) levő gázok, amelyek a szállítás során ezek működtetéséhez szükségesek, valamint az ilyen készülékek tartalék tartályai és üres, tisztítatlan cseretartályai, amelyeket ugyanazon szállítóegységben szállítanak;
- f) az italokban és élelmiszerekben levő gázok.

#### 1.1.3.3 Folyékony tüzelőanyagok szállítására vonatkozó mentességek

Az ADR előírásait nem kell alkalmazni, ha a szállított anyagok a következők:

- a) a szállítási tevékenységet végző jármű tüzelőanyagtartályaiban lévő és a jármű meghajtására vagy bármely berendezésének működtetésére szolgáló tüzelőanyag.  
Ez esetben a tüzelőanyag vagy olyan, a jármű motorjához és/vagy a segédberendezéshez közvetlenül csatlakoztatott, rögzített tüzelőanyagtartályban szállítható, amely megfelel a hatósági előírásoknak, vagy hordozható tüzelőanyag tartályban (pl. kannában) szállítható.  
A rögzített tartályok együttes térfogata nem haladhatja meg szállítóegységenként az 1500 litert és a pótkocsira szerelt tartály térfogata nem haladhatja meg az 500 litert. Szállítóegységenként legfeljebb 60 liter szállítható hordozható tüzelőanyagtartályokban. Ezek a korlátozások nem vonatkoznak a segélyszolgálatok által üzemeltetett járművekre;
- b) a rakományként szállított járművek, szállítóeszközök (pl. csónakok) tartályaiban levő tüzelőanyagok, amelyek meghajtásukra vagy bármely berendezésük működtetésére szolgálnak. A motor vagy a berendezés és a tüzelőanyagtartály között található csapot a szállítás közben zárva kell tartani, kivéve, ha a berendezésnek működőképesnek kell maradnia. Szükség esetén ezeket a járműveket, szállítóeszközöket állítva kell berakni és feldőlés ellen biztosítani kell.

**1.1.3.4** *A különleges előírások szerinti és a korlátozott, ill. engedményes mennyiségben csomagolt veszélyes áruk szállítására vonatkozó mentességek*

*Megjegyzés:* A radioaktív anyagokra lásd az 1.7.1.4 bekezdést.

**1.1.3.4.1** A 3.3 fejezet bizonyos különleges előírásai egyes veszélyes anyagok szállítását részben vagy teljesen felmentik az ADR előírásai alól. Ez a mentesség akkor alkalmazható, ha a különleges előírásra hivatkozás található a 3.2 fejezet „A” táblázat 6 oszlopában a szóban forgó veszélyes árua vonatkozóan.

**1.1.3.4.2** Bizonyos veszélyes áruk ugyancsak mentességet élvezhetnek, amennyiben a 3.4 fejezet feltételeit kielégítik.

**1.1.3.4.3** Bizonyos veszélyes áruk ugyancsak mentességet élvezhetnek, amennyiben a 3.5 fejezet feltételeit kielégítik.

**1.1.3.5** *Az üres, tisztítatlan csomagolóeszközökre vonatkozó mentességek*

Az üres, tisztítatlan csomagolóeszközök (beleértve az üres IBC-eket és nagycsomagolásokat), amelyekben a 2, a 3, a 4.1, az 5.1, a 6.1, a 8 és a 9 osztály anyagai voltak, nem esnek az ADR előírásainak hatálya alá, ha a lehetséges veszély elhárítására megfelelő intézkedéseket tettek. A veszély akkor tekinthető elhárítottnak, ha megtették a megfelelő intézkedéseket az 1 – 9 osztály bármelyikére jellemző veszély elhárítására.

**1.1.3.6** *Az egy szállítóegységben szállított mennyiségből adódó mentességek*

**1.1.3.6.1** Ezen bekezdés alkalmazása céljából a veszélyes áruk a „0”, „1”, „2”, „3” vagy „4” szállítási kategóriához vannak hozzárendelve, amint az a 3.2 fejezet „A” táblázat 15 oszlopában jelezve van. A „0” szállítási kategóriába tartozó anyagokat tartalmazott üres, tisztítatlan csomagolóeszközök ugyancsak a „0” szállítási kategóriába tartoznak. A nem a „0” szállítási kategóriába tartozó anyagokat tartalmazott üres, tisztítatlan csomagolóeszközök a „4” szállítási kategóriába tartoznak.

**1.1.3.6.2** Ha az egy szállítóegységben szállított veszélyes áruk mennyisége nem haladja meg az adott szállítási kategóriára az 1.1.3.6.3 pont táblázatának 3 oszlopában jelzett értéket (ha az egy szállítóegységben szállított veszélyes áruk ugyanabba a szállítási kategóriába tartoznak) vagy az 1.1.3.6.4 pont szerint számított értéket (ha az egy szállítóegységben szállított veszélyes áruk különböző szállítási kategóriába tartoznak), akkor ezek az áruk küldeménydarabokban egy szállítóegységben szállíthatók a következő előírások alkalmazása nélkül:

- 1. 10 fejezet, kivéve az 1 osztály 1.4 alosztálya UN 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 és 0500 tételei alá tartozó robbanó tárgyakat;
- 5.3 fejezet;
- 5.4.3 szakasz;
- 7.2 fejezet, kivéve a 7.2.4 szakasz V5 és V8 előírását;
- a 7.5.11 szakasz CV1 előírása;
- 8. rész, kivéve
  - 8.1.2.1 a),
  - 8.1.4.2 – 8.1.4.5,
  - 8.2.3,
  - 8.3.3, 8.3.4, 8.3.5,
  - 8.4 fejezet,
  - 8.5 fejezet S1 3) és 6),  
S2 1),  
S4 és S14 – S21 előírása;
- 9. rész.

**1.1.3.6.3**

Ha a szállítóegységben szállított veszélyes áruk ugyanabba a kategóriába tartoznak, a szállítóegységenkénti legnagyobb össz mennyiség a következő táblázat 3 oszlopában található.

| Szállítási kategória | Anyag vagy tárgy<br>csomagolási csoport vagy osztályozási kód/csoport vagy<br>UN szám  | Legnagyobb<br>össz mennyiség<br>szállító-<br>egységenként |
|----------------------|--|---|
| (1)                  | (2)  | (3)   |
| 0                    | <p>1 osztály: 1.1A, 1.1L, 1.2L, 1.3L és UN 0190</p> <p>3 osztály: UN 3343</p> <p>4.2 osztály: az I csomagolási csoportba tartozó anyagok</p> <p>4.3 osztály: UN 1183, 1242, 1295, 1340, 1390, 1403, 1928, 2813, 2965, 2968, 2988, 3129, 3130, 3131, 3134, 3148, 3396, 3398, 3399</p> <p>5.1 osztály: UN 2426</p> <p>6.1 osztály: UN 1051, 1600, 1613, 1614, 2312, 3250, 3294</p> <p>6.2 osztály: UN 2814, 2900</p> <p>7 osztály: UN 2912 – 2919, 2977, 2978, 3321 – 3333</p> <p>8 osztály: UN 2215 (maleinsavanhidrid, olvasztott)</p> <p>9 osztály: UN 2315, 3151, 3152, 3432 és az ilyen anyagokat vagy keverékeket tartalmazó készülékek</p> <p>és az UN 2908 alá tartozók kivételével azok az üres, tisztítatlan csomagolóeszközök, amelyek az ebbe a szállítási kategóriába tartozó anyagokat tartalmazzák.</p> | 0   |
| 1                    | <p>Az I csomagolási csoportba tartozó anyagok és tárgyak, amelyek nem szerepelnek a 0 szállítási kategóriában és a következő osztályok anyagai és tárgyai:</p> <p>1 osztály: 1.1B – 1.1J<sup>a)</sup>, 1.2B – 1.2J, 1.3C, 1.3G, 1.3H, 1.3J, 1.5D<sup>a)</sup></p> <p>2 osztály: T, TC<sup>a)</sup>, TO, TF, TOC<sup>a)</sup> és TFC csoport aeroszolok: C, CO, FC, T, TF, TC, TO, TFC és TOC csoport</p> <p>4.1 osztály: UN 3221 – 3224 és UN 3231 – 3240</p> <p>5.2 osztály: UN 3101 – 3104 és UN 3111 – 3120</p>   | 20  |
| 2                    | <p>A II csomagolási csoportba tartozó anyagok és tárgyak, amelyek nem szerepelnek a 0, az 1 vagy a 4 szállítási kategóriában és a következő osztályok anyagai és tárgyai:</p> <p>1 osztály: 1.4B – 1.4G és 1.6N</p> <p>2 osztály: F csoport aeroszolok: F csoport</p> <p>4.1 osztály: UN 3225 – 3230</p> <p>5.2 osztály: UN 3105 – 3110</p> <p>6.1 osztály: III csomagolási csoportba tartozó anyagok és tárgyak</p> <p>9 osztály: UN 3245</p>   | 333   |
| 3                    | <p>A III csomagolási csoportba tartozó anyagok és tárgyak, amelyek nem szerepelnek a 0, a 2 vagy a 4 szállítási kategóriában és a következő osztályok anyagai és tárgyai:</p> <p>2 osztály: A és O csoport aeroszolok: A és O csoport</p>  | 1000  |



| Szállítási kategória | Anyag vagy tárgy<br>csomagolási csoport vagy osztályozási kód/csoport vagy<br>UN szám  | Legnagyobb<br>összmenyiség<br>szállító-<br>egységenként |
|----------------------|--|---|
| (1)                  | (2)  | (3)   |
| 3<br>(folyt.)        | 3 osztály: UN 3473<br>4.3 UN 3476<br>8 osztály: UN 2794, 2795, 2800, 3028 és 3477<br>9 osztály: UN 2990, 3072  |   |
| 4                    | 1 osztály: 1.4S<br>4.1 osztály: UN 1331, 1345, 1944, 1945, 2254, 2623<br>4.2 osztály: UN 1361 és 1362 III csomagolási csoport<br>7 osztály: UN 2908 – 2911<br>9 osztály: UN 3268<br>valamint azok az üres, tisztítatlan csomagolóeszközök,<br>amelyek a 0 szállítási kategóriába tartozókon kívüli, többi<br>anyagot tartalmazták. | Korlátlan   |

a) Az UN 0081, 0082, 0084, 0241, 0331, 0332, 0482, 1005 és 1017 számú anyagnál a legnagyobb összmenyiség szállítóegységenként 50 kg.

Az előző táblázatban a „legnagyobb összmenyiség szállítóegységenként” jelentése a következő:

- tárgyakkal a bruttó tömeg kg-ban (az 1 osztályba tartozó tárgyakkal a robbanóanyag nettó tömege kg-ban; az ebben a mellékletben szereplő gépekben és készülékekben lévő veszélyes áru esetén, a bennük lévő veszélyes áru összmenyisége kg-ban vagy literben);
- szilárd anyagoknál, cseppfolyósított gázoknál, mélyhűtött, cseppfolyósított gázoknál és oldott gázoknál a nettó tömeg kg-ban;
- folyékony anyagoknál és sűrített gázoknál a tartály névleges űrtartalma literben (lásd a meghatározást az 1.2.1 szakaszban).

**1.1.3.6.4** Ha különböző szállítási kategóriába tartozó veszélyes árukat szállítanak egy szállítóegységben, akkor:

- az „1” szállítási kategóriába tartozó anyagok és tárgyak mennyisége 50-nel szorozva,
  - az „1” szállítási kategóriába tartozó, az 1.1.3.6.3 pont táblázatához fűzött a) megjegyzés szerinti anyagok és tárgyak mennyisége 20-szal szorozva,
  - a „2” szállítási kategóriába tartozó anyagok és tárgyak mennyisége 3-mal szorozva, és
  - a „3” szállítási kategóriába tartozó anyagok és tárgyak mennyisége
- együttesen nem haladhatja meg az 1000-t.

**1.1.3.6.5** E bekezdés alkalmazásánál nem kell figyelembe venni azokat a veszélyes árukat, amelyek az 1.1.3.2 – 1.1.3.5 bekezdés szerint mentességet élveznek.

#### **1.1.3.7 Lítium akkumulátorok szállítására vonatkozó menteségek**

Az ADR előírásait nem kell alkalmazni:

- a szállítást végző járműben alkalmazott lítium akkumulátorokra, amelyek a jármű meghajtására vagy bármely berendezésének működtetésére szolgálnak;
- a szállítás során használt (vagy használni szándékozott) eszközökben (pl. laptopban) lévő lítium akkumulátorokra, amelyek ezen eszközök működtetésére szolgálnak.

#### **1.1.4 Más szabályzatok alkalmazhatósága**

##### **1.1.4.1 (fenntartva)**

**1.1.4.2      *Tengeri vagy légi szállítást is magában foglaló szállítási lánc***

**1.1.4.2.1** Az olyan küldeménydarabokat, konténereket, mobil tartányokat és tankkonténereket, amelyek nem felelnek meg teljesen az ADR-nek a csomagolásra, az egybecsomagolásra, a küldeménydarabok jelölésére és bárcázására, a nagybárcák és narancssárga táblák alkalmazására vonatkozó előírásainak, de megfelelnek az IMDG kódex vagy az ICAO Műszaki Utasítások előírásainak, a tengeri vagy légi szállítást is magában foglaló szállítási láncban történő továbbításra a következő feltételekkel fel lehet venni:

- a) Ha a küldeménydarabok nincsenek az ADR-nek megfelelően bárcázva és jelölve, akkor az IMDG Kódex vagy az ICAO Műszaki Utasítások szerinti veszélyességi bárcá(k)nak és jelölésnek kell rajtuk lenni.
- b) Az egy küldeménydarabba történő egybecsomagolásra az IMDG Kódex vagy az ICAO Műszaki Utasítások előírásait kell alkalmazni.
- c) A tengeri szállítást is magában foglaló szállítási láncban történő továbbításnál, ha a konténerek, mobil tartányok vagy tankkonténerek nincsenek az e Melléklet 5.3 fejezete szerint jelölve és nagybárcával ellátva, akkor az IMDG Kódex 5.3 fejezete szerinti jelölésnek és nagybárcá(k)nak kell rajtuk lenni. Ilyen esetekben magának a járműnek a jelölésére csak az e Melléklet 5.3.2.1.1 pontjának előírásait kell alkalmazni. Üres, tisztítatlan mobil tartányokat és tankkonténereket ezen előírás szerint egészen a tisztítóállomásig lehet szállítani (szállítási láncban történő továbbítást követően).

Ez a könnyítés nem vonatkozik azokra az árukra, amelyek az ADR 1 – 9 osztályába tartozó veszélyes áruk, azonban az IMDG Kódex vagy az ICAO Műszaki Utasítások előírásai szerint nem veszélyesek.

**1.1.4.2.2** Azok a szállítóegységek, amelyek az 1.1.4.2.1 c) pontban említett konténert, mobil tartányt vagy tankkonténert szállító járművön kívüli egyéb jármű(vek)ből állnak és nincsenek az ADR 5.3.1 szakasza szerint nagybárcával ellátva, de az IMDG Kódex 5.3 fejezete szerint meg vannak jelölve és el vannak látva nagybárcával, akkor vehetők fel tengeri szállítást is magában foglaló szállítási láncban történő továbbításra, ha az ADR 5.3.2 szakaszának narancssárga táblával való megjelölésre vonatkozó előírásait betartják.

**1.1.4.2.3** A tengeri vagy légi szállítást is magában foglaló szállítási lánc esetén az 5.4.1 és az 5.4.2 szakaszban előírt okmányok és információk, illetve a 3.3 fejezet szerinti különleges előírásokban megkövetelt információk helyettesíthetők az IMDG Kódexben, ill. az ICAO Műszaki Utasításokban előírt fuvarokmánnyal, illetve információkkal, feltéve, hogy az ADR által előírt kiegészítő információk szerepelnek benne.

***Megjegyzés:** Az 1.1.4.2.1 pont szerinti szállításra lásd az 5.4.1.1.7 pontot is. Konténerben történő szállításra lásd az 5.4.2 szakaszt is.*

**1.1.4.3      *A tengeri szállításra engedélyezett IMO-típusú mobil tartányok használata***

Azok az IMO-típusú mobil tartányok (1, 2, 5 és 7 típusú IMO tartányok), amelyek nem felelnek meg teljesen a 6.7 vagy a 6.8 fejezet követelményeinek, de amelyeket az IMDG Kódex (29-98 módosítás) előírásai szerint (beleértve az átmeneti előírásokat is) 2003. január 1-je előtt gyártottak és engedélyeztek, 2009. december 31-ig továbbra is használhatók, amennyiben kielégítik az IMDG Kódex (29-98 módosítás) vonatkozó vizsgálati előírásait, és az IMDG Kódex (33-06 módosítás) 3.2 fejezet 12 és 14 oszlopában hivatkozott előírásokat teljes mértékben kielégítik. 2009. december 31-e után azonban csak akkor használhatók, ha kielégítik az IMDG Kódex vonatkozó vizsgálati előírásait és az ADR 3.2 fejezet 10 és 11 oszlopában található utasításokat, és megfelelnek az ADR 4.2 fejezet előírásainak is.<sup>1)</sup>

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1) A Nemzetközi Tengerészeti Szervezet (IMO) a DSC.1/Circ.12 számú körlevéllel (ill. helyesbítéseivel) kiadta „A meglévő IMO-típusú mobil tartányok és közúti tartányjárművek veszélyes áruk szállítására történő további használatára vonatkozó útmutatót” („Guidance on the Continued Use of Existing IMO Type Portable Tanks and Road Tank Vehicles for the Transport of Dangerous Goods”), amelynek szövege megtalálható az IMO honlapján: [www.imo.org](http://www.imo.org).

**1.1.4.4** (fenntartva)

**1.1.4.5** *Nem közúti szállítás*

**1.1.4.5.1** Ha az ADR előírásainak hatálya alá tartozó szállítást végző járművet útvonalának egy részén nem közúti szállítással továbbítják, akkor ezen az útvonalrészen csak azok a belföldi vagy nemzetközi szabályok alkalmazhatók, amelyek a veszélyes áruknak az útvonal szóban forgó részén a közúti jármű továbbítására használt szállítási móddal való szállítását esetleg szabályozzák.

**1.1.4.5.2** Az előző 1.1.4.5.1 pontban hivatkozott esetben az érintett Szerződő Felek megállapodhatnak az ADR alkalmazásában a szállítás azon szakaszára, amely során a járművet nem közúton továbbítják, szükség esetén kiegészítve további követelményekkel, kivéve, ha az érintett ADR Szerződő Felek közötti ezen megállapodások ellentétesek a veszélyes áruknak az útvonal szóban forgó szakaszán a közúti jármű továbbítására alkalmazott szállítási módra vonatkozó nemzetközi konvenciók, pl. az Életbiztonság a tengeren tárgyú nemzetközi egyezmény (SOLAS) előírásaival, amelynek ezen ADR Szerződő Felek ugyancsak szerződő felei lehetnek.

Ezeket a megállapodásokat a kezdeményező Szerződő Félnek be kell terjesztenie az Egyesült Nemzetek Európai Gazdasági Bizottsága Titkárságának, amely a Szerződő Feleket értesíti.

**1.1.4.5.3** Abban az esetben, ha az ADR előírásainak hatálya alá eső szállítás a közúti útvonal egészén vagy egy részén olyan nemzetközi egyezmény előírásainak hatálya alá is esik, amely a veszélyes áruknak nem közúton való szállítását szabályozza, de hatálya egyes, gépjárművel végzett szolgáltatásokra is kiterjed, erre az útszakaszra egyidejűleg érvényesek ennek a nemzetközi egyezménynek az előírásai és az ADR azon előírásai, amelyek az említett egyezménnyel nem összeférhetetlenek. Az ADR egyéb előírásai a szóban forgó útszakaszra nem érvényesek.

## 1.2 FEJEZET

### MEGHATÁROZÁSOK ÉS MÉRTÉKEGYSÉGEK

#### 1.2.1 Meghatározások

**Megjegyzés:** Ez a szakasz minden általános és különleges meghatározást tartalmaz.

Az ADR alkalmazásában:

#### A

**ADN:** a Veszélyes Áruk Nemzetközi Belvízi Szállításáról szóló Európai Megállapodás;

**Aeroszol** vagy **aeroszol csomagolás:** a 6.2.6 szakasz követelményeit kielégítő, fémből, üvegből vagy műanyagból készült, nem utántölthető tartály, amely sűrített, cseppfolyósított vagy nyomás alatt oldott gázt tartalmaz valamilyen folyékony, pépszerű vagy por alakú anyaggal együtt vagy akár nélküle, olyan adagoló szerkezettel, amely lehetővé teszi a tartalomnak gázban szuszpendált szilárd vagy folyékony részecskék, hab, paszta, por formájában, folyadék vagy gáz alakban való kibocsátását;

**Állandósult nyomás:** a nyomástartó tartály tartalmának nyomása a termikus és diffúziós egyensúly elérése után;

**Állati eredetű anyagok:** az állati tetemek, állati testrészek és az állati eredetű takarmány;

**ASTM:** American Society for Testing and Materials (Amerikai Anyagvizsgálati Társaság), (ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959, United States of America);

**Átalakított csomagolóeszköz:** különösen

- a) az olyan fémhordók,
  - i) amelyeket nem UN típusból alakítottak át a 6.1 fejezet előírásainak megfelelő, UN típusúvá; vagy
  - ii) amelyeket a 6.1 fejezetnek megfelelő valamely UN típusból egy másik UN típusúvá alakítottak át; vagy
  - iii) amelyek valamely lényeges szerkezeti elemét (pl. a nem levehető tetőt) kicserélték;
- b) az olyan műanyag hordók,
  - i) amelyeket egyik UN típusból egy másik UN típusúvá alakítottak át (pl. 1H1-ből 1H2-vé); vagy
  - ii) amelyek valamely lényeges szerkezeti elemét kicserélték.

Az átalakított csomagolóeszközök a 6.1 fejezet ugyanazon követelményei alá esnek, mint amelyeket az azonos típusú, új csomagolóeszközökre kell alkalmazni;

**Átalakított IBC:** lásd *nagyméretű csomagolóeszköz (IBC)*;

#### B

**Battériás jármű:** olyan jármű, amelynek egymással gyűjtőcsővel összekötött és tartósan a járműre rögzített elemei vannak. A következő elemek tekinthetők a battériás jármű elemeinek: palackok, nagypalackok, gázhordók, palackkötegek és a 2 osztály gázainak szállítására készült, 450 liternél nagyobb befogadóképességű tartányok;

**Bélés:** olyan különálló tömlő vagy zsák, beleértve nyílásainak zárószerkezeteit, amelyet a csomagolóeszközbe (nagycsomagolásba, IBC-be) helyeztek el, de nem alkotja annak szerves részét;

**Belső csomagolóeszköz:** olyan csomagolóeszköz, amelyet a szállításhoz külső csomagolással kell ellátni;

**Belső tartály:** olyan tartály, amelyet külső csomagolással kell ellátni ahhoz, hogy befogadó funkcióját betöltse;

**Berakó:** az a vállalkozás, amelyik a veszélyes árut a járműbe vagy nagykonténerbe berakja;

**Biztonsági szelep:** nyomáskülönbség hatására automatikusan működésbe lépő, rugóterhelésű szerkezet, amelynek feladata a nem megengedett belső nyomás kialakulásának megakadályozása a tartányban;

**Biztonsági tartály (a 7 osztály anyagainak szállításánál):** a csomagolási elemeknek a tervező által meghatározott együttese, amelynek feladata a radioaktív anyagok kiszabadulásának megakadályozása a szállítás során;

## C

**CGA:** Compressed Gas Association (Sűrített Gáz Egyesület), (CGA, 4221 Walney Road, 5<sup>th</sup> Floor, Chantilly VA 20151-2923, United States of America);

**Címzett:** a fuvarozási szerződés szerinti címzett. Ha a címzett a fuvarozási szerződésre vonatkozó előírásokkal összhangban harmadik személyt jelöl meg, az ADR értelmében ezt a személyt kell címzettnek tekinteni. Ha a szállítási műveletet fuvarozási szerződés nélkül végzik, az a vállalkozás tekintendő címzettnek, amely megérkezéskor a veszélyes árut átveszi;

**Criticality safety index (CSI):** lásd *kritikussági biztonsági mutatószám (CSI)*

**CSC Egyezmény:** „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” módosított kiadása, kiadja a Nemzetközi Tengerészeti Szervezet (IMO), London (Magyarországon kihirdette a 2003. évi LXIV. törvény);

## Cs

**Cserefelépítmény:** lásd *konténer*;

**Csomagolási csoport:** olyan csoport, melyhez csomagolás céljából egyes anyagok veszélyességük mértéke szerint rendelhetők hozzá. A csomagolási csoportok a következőket jelentik (bővebb magyarázat a 2. részben található):

I csomagolási csoport: nagyon veszélyes anyagok;

II csomagolási csoport: közepesen veszélyes anyagok;

III csomagolási csoport: kevésbé veszélyes anyagok;

**Megjegyzés:** Bizonyos, veszélyes anyagokat tartalmazó tárgyak is valamely csomagolási csoporthoz vannak hozzárendelve.

**Csomagoló:** az a vállalkozás, amely a veszélyes árut csomagolóeszközbe, nagycsomagolásba vagy IBC-be teszi, ill. szükség esetén előkészíti a küldeménydarabokat a szállításhoz;

**Csomagolóeszköz (csomagolás):** egy vagy több tartály és minden egyéb szerkezeti elem vagy anyag, amely szükséges ahhoz, hogy a tartály betölthesse befogadó és egyéb biztonsági funkcióját (lásd még *átalakított csomagolóeszköz, belső csomagolóeszköz, felújított csomagolóeszköz, finomlemez csomagolóeszköz, IBC, ismételten felhasznált csomagolóeszköz, kármentő csomagolás, kombinált csomagolás, köztes csomagolóeszköz, külső csomagolóeszköz, nagycsomagolás, összetett (műanyag) csomagolóeszköz, összetett (üveg, porcelán, kőagyag) csomagolóeszköz és portömör csomagolóeszköz*);

## E

**Égéshő felhasználásával működő fűtőberendezés:** olyan fűtőberendezés, amely valamilyen

folyékony vagy gáznemű tüzelőanyaggal működik a motortól függetlenül, ehhez a jármű meghajtására szolgáló motor hulladékhője nem használható;

**Egyesítőcsomagolás:** olyan – a 7 osztály esetében egyetlen feladó által használt – burkolat, amit egy vagy több küldeménydarab egységbe fogására használnak a szállítás alatti könnyebb kezelés és rakodás céljából.

Egyesítőcsomagolás például:

- a) a rakományképző eszköz, pl. rakodólap, amelyre több küldeménydarabot raknak vagy halmazolnak és műanyag pántszalaggal, zsugor- vagy nyújtható fóliával vagy más alkalmas módon rögzítenek; vagy
- b) a külső védőcsomagolás, mint pl. láda vagy rekesz;

**EK Irányelv:** az Európai Közösség illetékes intézményei által hozott olyan előírás, amely az elérendő eredmény tekintetében kötelező mindazokra a tagállamokra, amelyek címzettjei az irányelvnek, de a végrehajtás formáját és módszerét a nemzeti hatóságok választhatják meg;

**EN (szabvány)\*:** Az Európai Szabványügyi Bizottság (CEN) által kiadott európai szabvány (CEN – 36 rue de Stassart B-1050 Brussels);

**Engedély:**

**Egyoldalú engedély (a 7 osztály anyagainak szállításánál):** a mintadarab olyan engedélye, amelyet csak a mintadarab származási országa illetékes hatóságnak kell megadnia. Amennyiben a származási ország nem valamely ADR Szerződő Fél, akkor a küldemény által érintett első ADR Szerződő Fél illetékes hatóságának kell ezt az engedélyt elismernie (lásd a 6.4.22.6 bekezdést).

**Többoldalú engedély (a 7 osztály anyagainak szállításánál):** az olyan engedély, amelyet a mintadarabnak, ill. a szállításnak a származási, ill. kiindulási országa illetékes hatósága ad, és mindazon országok illetékes hatósága, amely országba vagy amely országon keresztül a küldeményt szállítják. E vonatkozásban az „amely országba vagy amely országon keresztül” kifejezés egyértelműen nem terjed ki arra az esetre, amikor az ország fölött szállítják, vagyis az engedélyre és értesítésre vonatkozó követelmények nem vonatkoznak arra az országra, amely fölött a radioaktív anyagot légi járművel szállítják, feltéve, hogy nincs tervezett leszállás abban az országban.

**ENSZ-EGB előírás:** „A közúti járművekre, a közúti járművekbe szerelhető alkatrészekre, ill. a közúti járműveknél használatos tartozékokra vonatkozó egységes műszaki előírások elfogadásáról és az ezen előírások alapján kibocsátott jóváhagyások kölcsönös elismerésének feltételeiről” szóló Egyezmény (1958. évi Egyezmény módosított formában) mellékletét képező előírás (Magyarországon kihirdette az 1960. évi 21. tvr.);

**ENSZ Minta Szabályzat:** az ENSZ „Ajánlások a veszélyes áruk szállítására – Minta szabályzat” kiadvány tizenötödik javított kiadása (ST/SG/AC.10/1/Rev.15);

**F**

**Fa IBC:** merev vagy összecsucskható fa testből és bélésből (de nem belső csomagolásból), továbbá szerkezeti és üzemi szerelvényekből álló IBC;

**Fahordó:** fából kör keresztmetszettel, domború paláttal készült csomagolóeszköz, dongákból és fenekekből összeállítva és abroncsokkal ellátva;

**Fedett jármű:** olyan jármű, amelynek karosszériája lezárható szekrényből áll;

**Feladó:** az a vállalkozás, amely a veszélyes árut a saját nevében vagy harmadik fél megbízásából feladja. Ha a szállítási műveletet fuvarozási szerződés alapján végzik, a feladó

\* A magyar szöveg a szabványok címét a Magyar Szabványügyi Testület szabványkatalógusában szereplő fordításban közli. A szabványok szóhasználata esetenként jelentősen eltérhet az ADR szóhasználatától.



a fuvarozási szerződés szerinti feladót jelenti;

**Felújított csomagolóeszköz:** különösen

- a) az olyan fémhordók, amelyeket
  - i) az eredeti szerkezeti anyagig megtisztítottak, eltávolítva minden korábbi tartalmat, a belső és külső korróziós nyomokat és a külső bevonatokat és bárcákat;
  - ii) visszaállítottak eredeti alakjukra és körvonalukra, peremeiket (ha vannak) kiegyengették és tömítették és minden, nem beépített tömítésüket kicserélték;
  - iii) tisztítás után, de festés előtt megvizsgáltak, és kicserélték azokat, amelyeken látható kitörések, az anyagvastagság jelentős csökkenése, fémkifáradás, sérült menetek vagy záróelemek, vagy egyéb jelentős hiányosságok tapasztalhatók;
- b) az olyan műanyag hordók és kannák,
  - i) amelyeket az eredeti szerkezeti anyagig megtisztítottak, eltávolítva minden korábbi tartalmat, külső bevonatot és bárcát;
  - ii) amelyek minden, nem beépített tömítését kicserélték; és
  - iii) amelyeket tisztítás után megvizsgáltak, és kicserélték azokat, amelyeken látható kopások, törések, repedések, sérült menetek vagy záróelemek, vagy egyéb jelentős hiányosságok tapasztalhatók;

**Fém IBC:** fém-testből, valamint a megfelelő üzemi és szerkezeti szerelvényekből álló IBC;

**Finomlemez csomagolóeszköz:** olyan kör, ellipszis, négyszög vagy sokszög keresztmetszetű (vagy kúp alakú), valamint kúpos nyakú vagy vödör alakú, ónozott acéllemezből vagy finomlemezből 0,5 mm-nél kisebb falvastagsággal, lapos vagy domború fenékkal, egy vagy több töltőnyílással készült csomagolóeszköz, amely nem esik a hordóra vagy kannára vonatkozó meghatározás alá;

**Folyékony anyag:** olyan anyag, amelynek gőznyomása 50 °C-on legfeljebb 300 kPa (3 bar) és 101,3 kPa nyomáson 20 °C-on nem teljesen gáz alakú, és

- a) olvadáspontja vagy olvadás kezdőpontja 101,3 kPa nyomáson legfeljebb 20 °C; vagy
- b) az ASTM D 4359-90 vizsgálati módszerrel meghatározva folyékony; vagy
- c) a 2.3.4 szakaszban leírt folyékonyág meghatározási vizsgálat (penetrométer eljárás) kritériumai szerint nem pasztaszerű;

**Megjegyzés:** A „folyékony állapotban történő szállítás” a tartányokra vonatkozó előírások tekintetében:

- az előző meghatározás szerint folyékony anyag szállítása, vagy
- olyan szilárd anyag szállítása, amelyet olvasztott állapotban adnak át a szállításra.

## G

**Gáz:** olyan anyag, amelynek

- a) gőznyomása 50 °C-on meghaladja a 300 kPa-t (3 bar-t); vagy
- b) 20 °C-on és 101,3 kPa normál nyomáson teljesen gáz alakú;

**Gázhordó:** szállításra használt, hegesztett, nyomástartó tartály legalább 150 liter, de legfeljebb 1000 liter űrtartalommal (pl. hengeres tartály gördítőabroncsokkal; csúszótalpakra erősített, gömb alakú tartály);

**Gázpatron** (gázzal töltött kis méretű tartály): olyan nem utántölthető tartály, amely túlnyomás alatti gázt vagy gázkeveréket tartalmaz, és szeleppel is ellátható;

**Gázzal töltött kis méretű tartály:** lásd **gázpatron**;

**GHS:** a „Vegyí anyagok osztályozásának és címkézésének egyetemes harmonizált rendszere” második módosítása, amelyet az ENSZ ST/SG/AC.10/30/Rev.2 jelű kiadványa

tartalmaz;

## Gy

**Gyúlékony alkotórész (aeroszoloznál):** a „Vizsgálatok és kritériumok kézikönyv”, III. rész 31.1.3 szakaszához fűzött 1 – 3. megjegyzésben meghatározott gyúlékony folyékony anyag, gyúlékony szilárd anyag, ill. gyúlékony gáz és gázkeverék. Ez a meghatározás nem terjed ki a piroforos, az önmelegedő és a vízzel reaktív anyagokra. A kémiai égéshőt a következő módszerek valamelyikével kell meghatározni: ASTM D 240, ISO/FDIS 13943: 1999 (E/F) 86.1 – 86.3, ill. NFPA 30B;

**Gyűjtőmegnevezés:** az anyagok vagy tárgyak jól körülhatárolt csoportját jelentő tétel (lásd a 2.1.1.2 bekezdés B., C. és D. pontját);

## H

**Hajlékony falú IBC:** fóliából, szövetből vagy más hajlékony anyagból vagy ilyen anyagok kombinációjából készült csomagolóeszköz-testből álló IBC, szükség esetén belső bevonattal vagy béléssel, a megfelelő üzemi és kezelő szerelvényekkel felszerelve;

**Hajlékony falú IBC rendszeres karbantartása:** lásd **nagyméretű csomagolóeszköz (IBC)**;

**Hordó:** fémből, papírlémezről, műanyagból, rétegelt falemezből vagy más alkalmas anyagból készült, henger alakú csomagolóeszköz, sík vagy domború fenékkal. Ez a meghatározás magában foglalja az egyéb alakú csomagolóeszközöket is, pl. kúpos nyakú, kör keresztmetszetű tartályokat vagy vödröket. A fahordók és a kannák nem tartoznak ezen meghatározás alá;

**Hulladék:** olyan anyag, oldat, keverék és tárgy, amelyet általában közvetlenül nem lehet felhasználni, de amelyet újrahasznosítási eljárás, lerakóhelyen való tárolás, égetéssel vagy más módon történő ártalmatlanítás céljából szállítanak;

**Hulladék szállítására szolgáló, vákuummal üzemelő tartány:** olyan rögzített tartány, leszerelhető tartány, tankkonténer vagy tartányos cserefelépítmény, amelyet elsődlegesen veszélyes hulladékok szállítására használnak, és a hulladékok töltését, ill. ürítését szolgáló speciális kialakítása, ill. felszerelése megfelel a 6.10 fejezet előírásainak. Az olyan tartány, amely mindenben megfelel a 6.7 vagy a 6.8 fejezet előírásainak, nem minősül „hulladék szállítására szolgáló, vákuummal üzemelő tartány”-nak;

## I

**IAEA:** Nemzetközi Atomenergia Ügynökség (NAÜ), (IAEA, P.O.Box 100, A-1400 Wien);

**IBC:** lásd **nagyméretű csomagolóeszköz**;

**ICAO:** International Civil Aviation Organization (Nemzetközi Polgári Repülési Szervezet), (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada);

**ICAO Műszaki Utasítások:** a Nemzetközi Polgári Repülésről szóló Chicagói Egyezmény 18. Függeléke, a Veszélyes Áruk Légi Szállításának Biztonságát Szolgáló Műszaki Utasítások, amelyet a Nemzetközi Polgári Repülési Szervezet (ICAO), (Montreal) ad ki. Magyarországon kihirdette az 1971. évi 25. tvr. és a 20/1997.(X.21) KHVM rendelet;

**Illetékes hatóság:** az a hatóság vagy hatóságok vagy egyéb szervezet vagy szervezetek, amelye(ke)t az egyes országokban, az egyes esetekre a belföldi jogszabályok szerint kijelölnek;

**IMDG Kódex:** az „Életbiztonság a tengeren” tárgyú nemzetközi egyezmény (SOLAS egyezmény), 1974, A rész, VII. fejezetének végrehajtására szolgáló Veszélyes Áruk Nemzetközi Tengerészeti Kódexe, amelyet a Nemzetközi Tengerészeti Szervezet (IMO), (London), ad ki. Magyarországon kihirdette a 2001. évi XI. törvény;



**IMO:** International Maritime Organization (Nemzetközi Tengerészeti Szervezet), (IMO, 4 Albert Embankment, London SE1 7SR, United Kingdom);

**Ismételten felhasznált csomagolóeszköz:** olyan csomagolóeszköz, amelyet megvizsgáltak és olyan sérülésektől mentesnek találtak, amelyek befolyásolnák a teljesítőképességi vizsgálatok elviselését; a fogalom kiterjed azokra a csomagolóeszközökre is, amelyeket azonos vagy hasonló összeférhetőségű termékkel töltenek meg ismételten és a termék feladója által ellenőrzött elosztási láncban szállítanak;

**ISO (szabvány):** a Nemzetközi Szabványügyi Szervezet (ISO) (1, rue de Varembe – CH-1204 Geneva 20) által kiadott nemzetközi szabvány;

## J

**Jármű:** lásd *battériás jármű, fedett jármű, nyitott jármű, ponyvás jármű és tartányjármű*;

**Járműszemélyzet tagja:** a járművezető és minden olyan személy, aki biztonsági, közbiztonsági, oktatási vagy üzemi okból kíséri a járművezetőt;

**Javított IBC:** lásd *nagyméretű csomagolóeszköz (IBC)*;

## K

**Kanna:** fémből vagy műanyagból készült, négy- vagy sokszög keresztmetszetű, egy- vagy többnyílású csomagolóeszköz;

**Kármentő csomagolás:** olyan különleges csomagolóeszköz, amelybe sérült, meghibásodott vagy szivárgó veszélyes áru küldeménydarabot vagy kiszóródott, kifolyt veszélyes árut lehet elhelyezni visszanyerés vagy ártalmatlanítás céljából történő szállításhoz;

**Kérelmező:** megfelelőség-értékelés vonatkozásában a gyártó vagy valamely Szerződő Fél országában felhatalmazott képviselője. Időszakos és soron kívüli vizsgálat vonatkozásában a **kérelmező** a vizsgálóhely, az üzemben tartó vagy valamely Szerződő Fél országában felhatalmazott képviselőjük;

**Megjegyzés:** *Megfelelőség-értékelési kérelmet kivételes esetben harmadik fél (pl. az 1.2.1 szakasz meghatározása szerinti üzemben tartó) is benyújthat.*

**Kezelő szerelvény (hajlékony falú IBC-knél):** az IBC testéhez erősített vagy az IBC test folytatásaként kialakított fül, hurok, szem vagy keret;

**Kiskonténer:** lásd *konténer*;

**Kizárólagos használat (a 7 osztály anyagainak szállításánál):** a jármű vagy a nagykonténer egyetlen feladó általi használata, amikor is a szállítás előtt, alatt és után az összes be- és kirakási műveletet a feladó vagy a címzett utasítása szerint végzik;

**Kombinált csomagolás:** szállítási csomagolóeszköz-kombináció, amely egy vagy több belső csomagolóeszközből áll, amelye(ke)t külső csomagolóeszközbe helyeztek el a 4.1.1.5 bekezdésnek megfelelően;

**Megjegyzés:** *A „kombinált csomagolás” „belső elemét” mindig „belső csomagolás”-nak nevezik és nem „belső tartály”-nak. Az üvegpalack jó példa az ilyen „belső csomagolás”-ra.*

**Konténer:** olyan szállítóeszköz (daruzható, emelhető vagy más hasonló szerkezet), amely

- tartós jellegű és ennek megfelelően elég szilárd ahhoz, hogy ismételten felhasználható legyen;
- kifejezetten úgy van kialakítva, hogy megkönnyítse az áruknak egy vagy több szállítóeszközzel – a rakomány megbontása nélkül – történő szállítását;

- a rakodást és a különböző szállítóeszközök közötti gyors átrakást lehetővé tevő elemekkel van ellátva;
- kialakításánál fogva az áru egyszerűen berakható és kirakható;
- a radioaktív anyagok szállítására használt konténerek kivételével befogadóképessége legalább  $1\text{ m}^3$ .

Ezen kívül:

A **kiskonténer** olyan konténer, amelynek vagy külső méretei (hosszúsága, szélessége, magassága) 1,5 m-nél kisebbek vagy befogadóképessége legfeljebb  $3\text{ m}^3$ ;

**A nagykonténer**

- a) olyan konténer, amely nem felel meg a kiskonténer meghatározásának;
- b) „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény (CSC)” értelmében:  
olyan méretű konténer, amelynek az alsó négy sarokkal behatárolt területe
  - i) legalább  $14\text{ m}^2$  (150 négyzetláb); vagy
  - ii) legalább  $7\text{ m}^2$  (75 négyzetláb), ha felső sarokelemekkel rendelkezik;

A **nyitott konténer** nyitott tetejű konténer vagy szállítólap alapú konténer;

A **ponyvás konténer** a berakott áru védelme érdekében ponyvával ellátott nyitott konténer;

A **zárt konténer** teljesen zárt, szilárd tetejű, oldalfalú, végfalú és padlójú konténer. Ide tartozik az a nyitható tetejű konténer is, amelynek teteje a szállítás alatt zárva tartható;

A **cserefelépítmény** olyan konténer, amely az EN 283 Európai Szabvány (1991. évi kiadás) szerint a következő jellemzőkkel bír:

- szilárdság szempontjából csak szárazföldi (vasúti és közúti) és ro-ro-hajón történő szállításra van méretezve;
- nem halmazolható;
- a közúti járművekről a jármű rakfelületén levő berendezéssel saját támasztólábaira lerakható, ill. visszarakható;

**Megjegyzés:** A „konténer” fogalom nem terjed ki a hagyományos csomagoló-eszközökre, IBC-kre, tankkonténerekre és járművekre. Radioaktív anyagok szállításánál azonban a konténerek csomagolóeszközként használhatók.

**Köztes csomagolóeszköz:** olyan csomagolóeszköz, amelyet a belső csomagolások vagy tárgyak és a külső csomagolás közé helyeznek;

**Kritikus hőmérséklet:** az a hőmérséklet, amely felett az anyag nem létezhet folyékony halmazállapotban;

**Kritikussági biztonsági mutatószám (CSI) hasadóanyagot tartalmazó küldeménydarabhoz, egyesítőcsomagoláshoz vagy konténerhez (a 7 osztály anyagainak szállításánál):** olyan szám, amelyet a hasadó anyagot tartalmazó küldeménydarabok, egyesítőcsomagolások vagy konténerek együttesének ellenőrzésére használnak;

**Küldemény:** olyan veszélyes áru küldeménydarab(ok) vagy rakomány, amelyet a feladó szállításra átad;

**Küldeménydarab:** a csomagolási művelet végterméke, amely a feladásra kész csomagolóeszközből, nagycsomagolásból vagy IBC-ből és tartalmából áll. A fogalom kiterjed a gázok szállítására használt, ezen fejezet szerinti tartályokra, valamint az olyan tárgyakra is, amelyek méretük, tömegük vagy kialakításuk folytán csomagolás nélkül vagy rekeszben (csúszótalpon), kosárban vagy rakodóeszközben szállíthatók. A radioaktív anyagok

szállítását kivéve, nem terjed ki e fogalom azokra az árukra, amelyeket ömlesztve szállítanak, sem a tartányban szállított anyagokra;

**Megjegyzés:** A radioaktív anyagokra lásd a 2.2.7.2 bekezdést, a 4.1.9.1.1 pontot és a 6.4 fejezetet.

**Küldeménydarab tömege:** ellenkező meghatározás hiányában a küldeménydarab bruttó tömege. Az áru szállításához használt konténer és tartány tömege a bruttó tömegbe nem számít bele;

**Külső csomagolóeszköz:** az összetett csomagolás vagy kombinált csomagolás külső védelme felszívó anyaggal, tömítőanyaggal és minden egyéb elemmel, ami szükséges a belső tartályok vagy belső csomagolóeszközök befogadásához és védelméhez;

## L

**Láda:** fémből, fából, rétegelt falemezből, farostlemezből, papírllemezből, műanyagból vagy más alkalmas anyagból készült, négyszögletes vagy sokszög alakú oldalakkal rendelkező teljes falú csomagolóeszköz. Kis nyílások olyan célokra, mint a könnyebb megfogás vagy felnyitás vagy a besorolási követelmények kielégítése, engedélyezettek, amennyiben ezek nem befolyásolják a csomagolóeszköz integritását a szállítás alatt;

**Légmentesen zárt tartány:** folyékony anyagok szállítására szolgáló, legalább 4 bar nyomásra méretezett tartány, vagy szilárd (porszerű vagy szemcsés) anyagok szállítására szolgáló tartány – a tervezési nyomásától függetlenül –, amelynek nyílásai légmentesen zárva vannak, és:

- nincs rajta se biztonsági szelep, se hasadótárcsa vagy más hasonló biztonsági berendezés, se vákuumszelep; vagy
- nincs rajta se biztonsági szelep, se hasadótárcsa vagy más hasonló biztonsági berendezés, de van rajta a 6.8.2.2.3 pont előírásának megfelelő vákuumszelep; vagy
- van rajta biztonsági szelep, ami előtt a 6.8.2.2.10 pont szerint hasadótárcsa van, de nincs rajta vákuumszelep; vagy
- van rajta biztonsági szelep, ami előtt a 6.8.2.2.10 pont szerint hasadótárcsa van, és van rajta a 6.8.2.2.3 pont előírásának megfelelő vákuumszelep is;

**Legnagyobb nettó tömeg:** egyetlen csomagolás tartalmának legnagyobb tiszta tömege, vagy belső csomagolások és ezek tartalmának legnagyobb együttes tömege kg-ban;

**Legnagyobb normál üzemi nyomás (a 7 osztály anyagainak szállításánál):** a közepes tengerszint feletti levegőnyomást meghaladó azon legnagyobb nyomás, amely a biztonsági tartály belsejében a szállítás során fennálló környezeti feltételeknek megfelelő hőmérsékleti és napsugárzási viszonyok mellett, szellőztetés, segédrendszer általi külső hűtés vagy szállítás közbeni üzemi ellenőrzés nélkül egy év alatt kialakulhat;

**Legnagyobb űrtartalom:** a tartály vagy csomagolóeszköz (beleértve az IBC-t és a nagycsomagolást is) legnagyobb befogadóképessége m<sup>3</sup>-ben vagy literben;

**Legnagyobb üzemi nyomás (túlnyomás):** a következő három érték közül a legnagyobb:

- a) a tartányban a töltés során megengedett legnagyobb tényleges nyomás (legnagyobb megengedett töltési nyomás);
- b) a tartányban az ürítés során megengedett legnagyobb tényleges nyomás (legnagyobb megengedett ürítési nyomás); és
- c) az a tényleges túlnyomás, amelyet a tartányra annak tartalma (beleértve azokat az idegen gázokat is, amelyeket tartalmazhat) a legnagyobb üzemi hőmérsékleten fejt ki.

Hacsak a 4.3 fejezetben levő különleges előírások másként nem rendelkeznek, az üzemi nyomás (túlnyomás) számszerű értéke nem lehet kisebb, mint a tartalom gőznyomása (abszolút nyomása) 50 °C-on.

A biztonsági szelepekkel (hasadótárcsával vagy anélkül) felszerelt tartányok esetén azonban

a legnagyobb üzemi nyomásnak (túlnyomásnak) a biztonsági szelepekre előírt nyitónyomással kell egyenlőnek lennie. Ez a követelmény nem vonatkozik a 2 osztály sűrített, cseppfolyósított és oldott gázainak szállítására szolgáló tartányokra. (lásd még *próbanyomás, tervezési nyomás, töltési nyomás és ürítési nyomás*);

**Megjegyzés:** 1. A mobil tartányokra lásd a 6.7 fejezetet.  
2. A zárt mélyhűtő tartályokra lásd a 6.2.1.3.6.5 ponthoz fűzött megjegyzést.

**Leszerelhető tartány:** olyan, 450 liternél nagyobb befogadóképességű tartány, de nem rögzített tartány, nem mobil tartány, nem tankkonténer és nem battériás jármű vagy MEG-konténer eleme, amelyet nem úgy alakítottak ki, hogy az árut a rakomány megbontása nélkül lehessen szállítani, és amelyet rendes körülmények között csak üres állapotban lehet emelni;

**Lobbanáspont:** egy folyékony anyag azon legalacsonyabb hőmérséklete, amelynél gőzei a levegővel gyúlékony keveréket alkotnak;

## M

### **Megengedett legnagyobb bruttó tömeg:**

- a) (a hajlékony falú IBC-ket kivéve, minden más IBC típusnál) az IBC, az üzemi és a szerkezeti szerelvények tömegének, valamint a legnagyobb nettó rakomány tömegének az összege;
- b) (tartányoknál) a tartány saját tömege és a szállításra megengedett legnagyobb rakomány össztömege;

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

**Megengedett legnagyobb rakomány (hajlékony falú IBC-knél):** az a legnagyobb nettó tömeg, amelyre az IBC-t kialakították és amelynek szállítására engedélyezték;

**Megfelelőség biztosítása (radioaktív anyagoknál):** az illetékes hatóság által alkalmazott rendszeres intézkedési program, amelynek célja annak biztosítása, hogy az ADR követelményei a gyakorlatban megvalósuljanak;

**Megfelelőség-értékelés:** egy termék megfelelőségének ellenőrzése az 1.8.6 és az 1.8.7 szakasznak a típusjóváhagyásra, a gyártás felügyeletére és az üzembe helyezés előtti vizsgálatra vonatkozó előírásai szerint;

**MEG-konténer:** lásd *többeleemes gázkonténer*;

**Megtartó rendszer (a 7 osztály anyagainak szállításánál):** a hasadóanyagnak és a csomagolási elemeknek a tervező által meghatározott és az illetékes hatóság által jóváhagyott együttese, amelynek feladata a kritikussági biztonság fenntartása;

**Mélyhűtő tartály:** szállításra használt, hőszigetelt, nyomástartó tartály mélyhűtött, cseppfolyósított gázokhoz, legfeljebb 1000 liter űrtartalommal;

**MEMU:** lásd *robbanóanyag előállító mobil egység*;

**Merev falú belső tartály (összetett IBC-knél):** olyan tartály, amely üres állapotban, a zárószerkezet helyre tétele és a külső burkolat segítségével is megtartja szokásos alakját. Minden belső tartályt, amely nem „merev falú”, „hajlékony falú”-nak kell tekinteni;

**Merev falú IBC rendszeres karbantartása: nagyméretű csomagolóeszköz (IBC);**

**Merev falú műanyag IBC:** merev műanyag testből álló IBC, amely vázszerkezettel rendelkezhet, és a megfelelő üzemi szerelvényekkel látható el;

**Minőségbiztosítás:** bármely szervezet vagy szerv által alkalmazott rendszeres ellenőrzési és felügyeleti program, amelynek célja annak biztosítása, hogy az ADR biztonsági előírásai a gyakorlatban megvalósuljanak;

**Minta** (a 7 osztály anyagainak szállításánál): valamely különleges formájú radioaktív anyag, kis mértékben diszpergálódó radioaktív anyag, küldeménydarab vagy csomagolás leírása, ami lehetővé teszi az ilyen tárgy pontos azonosítását. A leíráshoz adatlapok, szerkezeti rajzok, az előírásokkal való egyezőséget tanúsító jelentések és más mértékadó dokumentumok tartozhatnak;

**m.n.n. (másként meg nem nevezett) tétel:** olyan gyűjtőmegnevezés, amelyhez olyan anyagok, keverékek, oldatok vagy tárgyak rendelhetők, amelyek

- a) nincsenek a 3.2 fejezet „A” táblázatában név szerint megemlítve; és
- b) az m.n.n. tétel megnevezésének, osztályának, osztályozási kódjának és csomagolási csoportjának megfelelő kémiai, fizikai és/vagy veszélyes tulajdonságokkal rendelkeznek;

**Mobil tartány:** a 6.7 fejezetben, ill. az IMDG Kódexben található meghatározás szerinti, multimodális tartány, amelyhez a 3.2 fejezet „A” táblázat 10 oszlopában mobil tartány utasítás (T-jel) van feltüntetve; amennyiben a 2 osztály anyagainak szállítására használják, 450 liternél nagyobb befogadóképességű;

**Mobil tartány üzemben tartója:** lásd **tankkonténer vagy mobil tartány üzemben tartója**;

**Műanyagszövet (hajlékony falú IBC-knél):** alkalmas műanyagból álló nyújtott szalagokból vagy monoszálakból készült anyag;

**Műszaki megnevezés:** elfogadott kémiai – adott esetben biológiai – megnevezés, vagy a tudományos és műszaki kézikönyvekben, folyóiratokban és egyéb szakirodalomban jelenleg használt, egyéb megnevezés (lásd a 3.1.2.8.1.1 pontot);

## N

**Nagycsomagolás:** olyan csomagolóeszköz, amelynél a belső csomagolások vagy tárgyak egy külső csomagolóeszközbe vannak helyezve és

- a) gépi mozgatásra alkalmas kivitelű;
- b) amelynek befogadóképessége meghaladja a 400 kg nettó tömeget, ill. a 450 litert, de legfeljebb 3 m<sup>3</sup>;

**Nagykonténer:** lásd **konténer**;

**Nagyméretű csomagolóeszköz (IBC):** a 6.1 fejezetben nem említett, merev vagy hajlékony falú, szállítható csomagolóeszköz, amelynek

- a) úrtartalma
  - i) nem haladja meg a 3 m<sup>3</sup>-t a II és a III csomagolási csoportba tartozó, szilárd és folyékony anyagok esetében;
  - ii) nem haladja meg az 1,5 m<sup>3</sup>-t az I csomagolási csoportba tartozó, szilárd anyagok esetében, ha azok hajlékony falú, merev falú műanyag, összetett, papírlemez vagy fa IBC-kbe vannak csomagolva;
  - iii) nem haladja meg a 3 m<sup>3</sup>-t az I csomagolási csoportba tartozó, szilárd anyagok esetében, ha azok fém IBC-kbe vannak csomagolva;
  - iv) nem haladja meg a 3 m<sup>3</sup>-t a 7 osztály radioaktív anyagai esetében;
- b) gépi mozgatásra alkalmas kivitelű;
- c) a szállítás és kezelés során fellépő erőhatásoknak oly módon áll ellen, mint azt a 6.5 fejezet szerinti próbák meghatározzák (lásd még *fa IBC*, *fém IBC*, *hajlékony falú IBC*, *merev falú műanyag IBC*, *összetett IBC műanyag belső tartállyal és papírlemez IBC*).

**Megjegyzés:** 1. A 6.7 fejezet előírásainak megfelelő mobil tartányok, ill. a 6.8 fejezet előírásainak megfelelő tankkonténerek nem tekinthetők IBC-knek.  
2. A 6.5 fejezet előírásainak megfelelő IBC-k az ADR értelmében nem tekinthetők konténereknek.

Az **átalakított IBC** olyan fém, merev falú műanyag vagy összetett IBC,

- a) amelyet nem UN típusúból alakítottak át UN típusúvá; vagy
- b) amelyet valamely UN típusúból egy másik UN típusúvá alakítottak át.

Az átalakított IBC-kre az ADR ugyanazon követelményei vonatkoznak, mint amelyeket az azonos típusú, új IBC-kre kell alkalmazni (lásd még a gyártási típus meghatározását a 6.5.6.1.1 pontban).

A **javított IBC** olyan fém, merev falú műanyag vagy összetett IBC, amely ütdés vagy bármilyen más ok (pl. korrózió, ridegedés, a gyártási típushoz képest gyengült ellenállóképesség) miatt kijavítottak, hogy megegyezzen a gyártási típussal és képes legyen a gyártási típus vizsgálatok elviselésére. Az összetett IBC-k merev falú műanyag belső tartályának a cseréje a gyártó eredeti specifikációja szerinti belső tartályra az ADR értelmében az IBC javításának minősül. A merev falú IBC-k rendszeres karbantartása azonban nem minősül javításnak. A merev falú műanyag IBC testeken és az összetett IBC-k belső tartályán nem végezhető javítás. A hajlékony falú IBC-k csak az illetékes hatóság engedélyével javíthatók;

A **hajlékony falú IBC rendszeres karbantartása** a hajlékony falú, műanyag vagy textilszövet IBC-ken a következő, rendszeresen elvégzett munkákat jelenti:

- a) tisztítás; vagy
- b) az IBC szerves részét nem képező alkotóelemek, pl. különálló bélések és zárószalagok cseréje a gyártó eredeti előírásainak megfelelővel;

amennyiben ez az IBC árumegtartó funkcióját nem befolyásolja kedvezőtlenül, ill. az IBC gyártási típusát nem változtatja meg;

A **merev falú IBC rendszeres karbantartása** a fém, merev falú műanyag és összetett IBC-ken a következő, rendszeresen elvégzett munkákat jelenti:

- a) tisztítás;
- b) a zárószervezetek (beleértve a hozzátartozó tömítéseket) vagy az üzemi szerelvények eltávolítása és visszahelyezése vagy a gyártó eredeti előírásainak megfelelővel való cseréje, feltéve, hogy az IBC tömörségét ellenőrzik; vagy
- c) a veszélyes áru megtartására vagy az ürítési nyomás fenntartására közvetlenül nem szolgáló szerkezeti szerelvények kijavítása (pl. a tartólábak, emelő tartozékok helyreigazítása), hogy megegyezzenek a gyártási típussal, amennyiben ez az IBC megtartó funkcióját nem befolyásolja;

**Nagypalack** (a 2 osztályban): varrat nélküli, szállításra használt, nyomástartó tartály 150 liternél nagyobb, de legfeljebb 3000 liter űrtartalommal;

**Ny**

**Nyitott jármű:** olyan jármű, amelynek rakfelülete csupasz, vagy csak oldalfalakkal és hátsó fallal van ellátva;

**Nyitott konténer:** lásd *konténer*;

**Nyomástartó tartály:** gyűjtőfogalom, amelyhez a palackok, a nagypalackok, a gázhordók, a zárt mélyhűtő tartályok és a palackkötegek tartoznak;

**O**

**„Offshore” ömlesztettáru-konténer:** olyan többször használható ömlesztettáru-konténer, amelyet speciálisan nyílt tengeri létesítményekhez, létesítményektől, ill. létesítmények közötti szállításra terveztek. Az „offshore” ömlesztettáru-konténert a nyílt tengeren kezelt „offshore” konténerekre vonatkozó jóváhagyási útmutató szerint kell tervezni és gyártani, amit a Nemzetközi Tengerészeti Szervezet (IMO) MSC/Circ.860 dokumentuma tartalmaz;



**Orsó** (az 1 osztályban): műanyagból, fából, papírlémezről, fémből vagy egyéb alkalmas anyagból készített eszköz központi tengellyel és a tengely mindkét végén oldalsó tárcsával vagy anélkül. Az anyagok és tárgyak a tengely köré tekerceselhetők és azokat az oldalsó tárcsák tarthatják meg;

## Ö

**ÖBH:** lásd *öngyorsuló bomlási hőmérséklet*;

**Ömlesztettáru-konténer:** olyan megtartó rendszer (beleértve mindenfajta bélést és bevonatot), amely a vele közvetlenül érintkező szilárd anyag szállítására szolgál. A csomagolóeszközök, IBC-k, nagycsomagolások és tartányok nem tartoznak ide.

Az ömlesztettáru-konténer

- tartós jellegű és ennek megfelelően elég szilárd ahhoz, hogy ismételten felhasználható legyen;
- kifejezetten úgy van kialakítva, hogy megkönnyítse az áruknak egy vagy több szállítási móddal – a rakomány megbontása nélkül – történő szállítását;
- a könnyű kezelhetőséget lehetővé tevő elemekkel van ellátva;
- befogadóképessége legalább 1,0 m<sup>3</sup>.

Ömlesztettáru-konténer lehet pl. konténer, „offshore” ömlesztettáru-konténer, billenő-puttony, ömlesztettáru-siló, cserefelépítmény, konténerteknő, görgős konténer, a jármű rakodótete;

**Ömlesztett szállítás:** csomagolatlan szilárd anyagok vagy tárgyak szállítása járműveken vagy konténerekben. A fogalom nem vonatkozik sem a csomagolt árukra (küldeménydarabokra), sem a tartányokban szállított anyagokra;

**Öngyorsuló bomlási hőmérséklet (ÖBH):** az a legalacsonyabb hőmérséklet, amelynél a szállítás során használt csomagolásban levő anyagnál az öngyorsuló bomlás bekövetkezhet. Az ÖBH meghatározására vonatkozó követelményeket és a zárt térben történő hevítés hatását a Vizsgálatok és kritériumok kézikönyv II. része tartalmazza. [Az öngyorsuló bomlási hőmérséklet (ÖBH) a francia température de décomposition auto-accélération (TDAA), ill. az angol self-accelerating decomposition temperature (SADT) magyar megfelelője.];

**Összetett IBC műanyag belső tartállyal:** olyan IBC, amely merev külső burkolatot képező vázszerkezetből áll, amely a műanyag belső tartályt, valamint a megfelelő üzemi és szerkezeti szerelvényeket veszi körül. Kialakítása olyan, hogy a belső tartály és a külső burkolat összeszerelve szétválaszthatatlan egységet képez és így töltik, tárolják, szállítják vagy ürítik;

**Megjegyzés:** A „műanyag” az összetett IBC-knél a belső tartállyal kapcsolatosan használva az egyéb polimer anyagokat, mint pl. a gumit is jelenti.

**Összetett (műanyag) csomagolóeszköz:** belső műanyag tartályból és külső (fém, papírlémez, rétegelt falemez stb.) csomagolásból álló csomagolóeszköz. Ez a csomagolóeszköz, ha egyszer már összeállították, szétválaszthatatlan marad, így töltik, raktározzák, szállítják és ürítik;

**Megjegyzés:** Lásd az összetett (üveg, porcelán, kőagyag) csomagolóeszközhöz fűzött megjegyzést.

**Összetett (üveg, porcelán, kőagyag) csomagolóeszköz:** belső üveg, porcelán- vagy kőagyag tartályból és külső (fém, fa, papírlémez, műanyag, habosított műanyag stb.) csomagolásból áll. Ez a csomagolóeszköz, ha egyszer összeállították, szétválaszthatatlan marad, így töltik, raktározzák, szállítják és ürítik;

**Megjegyzés:** Egy „összetett csomagolóeszköz” „belső elemét” a szokásos körülmények között „belső tartálynak” nevezik. Például egy 6HA1 típusú összetett (műanyag) csomagolóeszköz „belső eleme” egy ilyen fajta

„belső tartály”, mivel ezt a szokásos körülmények között nem arra alakították ki, hogy „külső csomagolás” nélkül „befogadó” funkciót lásson el, és így nem „belső csomagolásról” van szó.

## P

**Palack:** legfeljebb 150 liter űrtartalmú, szállításra használt, nyomástartó tartály (lásd még *palackköteg*);

**Palackköteg:** szállításra használt, szerkezeti egységbe épített palackok, amelyek egymással gyújtócsővel vannak összekötve és szilárdan egymáshoz vannak erősítve. A palackok együttes űrtartalma legfeljebb 3000 liter lehet, a 2 osztály mérgező (a 2.2.2.1.3 pont szerint T betűvel kezdődő csoportba tartozó) gázainak szállítására használt palackkötegek űrtartalma azonban legfeljebb 1000 liter lehet;

**Papírlemez IBC:** papírlemez testből különálló fenékkal és tetővel vagy anélkül, szükség esetén béléssel (de nem belső csomagolással), és megfelelő szerkezeti és üzemi szerelvényekből álló IBC;

**Ponyvás jármű:** a felrakott áru védelme érdekében ponyvával ellátott nyitott jármű;

**Ponyvás konténer:** lásd *konténer*;

**Portömör csomagolóeszköz:** olyan csomagolóeszköz, amely nem engedi át a szilárd tartalmat, beleértve a szállítás alatt keletkező finom szilárd anyagot is;

**Próbanyomás:** az üzembe helyezés előtti, ill. az időszakos vizsgálat alkalmával végzett nyomáspróba során kifejtett nyomás (lásd még *legnagyobb üzemi nyomás (túlnyomás)*, *tervezési nyomás*, *töltési nyomás* és *ürítési nyomás*);

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

## R

**Radioaktív tartalom** (a 7 osztály anyagainak szállításánál): a csomagolásban együtt levő radioaktív anyag bármely szennyezett vagy felaktivált szilárd vagy folyékony anyaggal és gázzal;

**Referencia acél:** a 370 N/mm<sup>2</sup> szakítószilárdságú és 27% szakadási nyúlású acél;

**Rekesz:** rácsos kialakítású (nem teljes falú) külső csomagolóeszköz;

**RID:** a Veszélyes Áruk Nemzetközi Vasúti Fuvarozásáról szóló Szabályzat (RID), amely a Nemzetközi Vasúti Fuvarozási Egyezmény (COTIF) C Függeléke (Magyarországon kihirdette a 2006. évi LXXVII. törvény);

**Robbanóanyag előállító mobil egység (MEMU):** olyan egység (vagy olyan egységgel felszerelt jármű), amely arra szolgál, hogy nem robbanóanyagok közé tartozó veszélyes árukból robbanóanyagot állítsanak vele elő és azt közvetlenül a felhasználás helyére (a robbantólyukba) juttassák. Az egység különféle tartányokat, ömlesztettáru-konténereket, a munkafolyamathoz tartozó felszereléseket, valamint szivattyúkat, keverő és adagoló berendezést, ill. egyéb szükséges felszerelést tartalmazhat. A MEMU-nak lehet olyan különleges raktere is, amelyben robbanóanyagot tartalmazó küldeménydarabok vannak;

**Megjegyzés:** Annak ellenére, hogy a MEMU meghatározásában szerepel az, hogy robbanóanyagot állítsanak elő vele és azt közvetlenül a felhasználás helyére juttatják, a MEMU-ra vonatkozó követelmények csak a vele való szállításra vonatkoznak és nem az említett tevékenységekre.

**Rögzített tartány:** szerkezetileg tartósan a járműre szerelt, legalább 1000 liter befogadóképességű tartány (a jármű ily módon tartányjárművé válik) vagy egy ilyen jármű alvázának elválaszthatatlan részét képező tartány;



**S**

**Sugárzási szint** (a 7 osztály anyagainak szállításánál): a megfelelő sugárzásra vonatkozó dózis-teljesítmény millisievert per óra egységben megadva;

**Sz**

**Szabályozási hőmérséklet:** az a legmagasabb hőmérséklet, amelyen a szerves peroxid vagy az önreaktív anyag biztonságosan szállítható;

**Szállítás:** a veszélyes áru helyváltoztatása, beleértve a közlekedési okokból történő megállásokat, ill. minden olyan, közlekedési szempontból szükségessé vált időszakot a helyváltoztatás előtt, alatt és után, amely alatt a veszélyes áru a járműben, tartányban vagy konténerben van.

Ez a fogalom kiterjed a veszélyes áruk átmeneti tárolására is a közlekedési ágak, ill. a közlekedési eszközök cseréjénél (átrakásnál), azzal a feltétellel, hogy az áru átvételének és kiszolgáltatásának helyét feltüntető fuvarokmányt kérésre bemutatják, ill. a küldeménydarabokat vagy a tartányokat nem nyitják fel, kivéve, ha az illetékes hatóságok ellenőrzik;

**Szállítási mutatószám (Transport index, TI) küldeménydarabhoz, egyesítőcsomagoláshoz, konténerhez vagy csomagolatlan LSA-I vagy SCO-I küldeményhez** (a 7 osztály anyagainak szállításánál): olyan szám, amelyet a besugárzás ellenőrzésére használnak;

**Szállító:** az a vállalkozás, amely a szállítási műveletet végrehajtja, akár fuvarozási szerződés alapján, akár anélkül;

**Szállítóegység:** olyan gépjármű, amelyhez nincs pótkocsi kapcsolva, vagy gépjárműből és hozzákapcsolt pótkocsiból álló járműszerelvény;

**Szerkezeti acél:** a 360...440 N/mm<sup>2</sup> közötti legkisebb szakítószilárdságú acél;

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

**Szerkezeti szerelvény:**

- tartányjármű vagy leszerelhető tartány esetében a tartány külső vagy belső erősítő- és rögzítő-, védő- vagy stabilizáló-elemei;
- tankkonténer esetében a tartány külső vagy belső erősítő- és rögzítő-, védő- vagy stabilizáló-elemei;
- battériás jármű vagy MEG-konténer elemei esetében a tartány vagy a tartály külső vagy belső erősítő- és rögzítő-, védő- vagy stabilizáló-elemei;
- hajlékony falú IBC-ek kivéve, minden más IBC típusnál a test erősítő-, rögzítő-, kezelő-, védő- vagy stabilizáló-elemei (beleértve a belső műanyag tartállyal rendelkező összetett IBC-k esetében a rakodólap állapot is);

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

**Szilárd anyag:**

- amelynek olvadáspontja vagy olvadás kezdőpontja 101,3 kPa nyomáson 20 °C-nál magasabb; vagy
- az ASTM D 4359-90 vizsgálati módszerrel meghatározva nem folyékony, vagy a 2.3.4 szakaszban leírt folyékonyság meghatározási vizsgálat (penetrométer eljárás) kritériumai szerint pasztaszerű;

**T**

**Tálca** (az 1 osztályban): fém, műanyag, papírlemez vagy más alkalmas anyagú lemez,

amelyet a belső, a köztes vagy a külső csomagolásba helyeznek és azokba szorosan illeszkedik. A tálca felülete lehet alakos, hogy a csomagolások vagy tárgyak beültethetők, szilárdan rögzíthetők és egymástól elválaszthatók legyenek;

**Tankkonténer:** gáz alakú, folyékony, porszerű vagy szemcsés anyagok szállítására használt, a konténer meghatározásnak megfelelő szállítóeszköz, amely a tartányból és szerelvényeiből áll, beleértve azokat a szerelvényeket is, amelyek lehetővé teszik a tankkonténer helyváltoztatását egyensúlyhelyzete jelentős megváltoztatása nélkül; amennyiben a 2 osztály anyagainak szállítására használják, 450 liternél nagyobb befogadóképességű;

**Megjegyzés:** A 6.5 fejezet előírásainak megfelelő IBC-k nem tekinthetők tankkonténereknek.

**Tankkonténer vagy mobil tartány üzemben tartója:** az a vállalkozás, amelynek a nevén a tankkonténert vagy a mobil tartányt nyilvántartásba vették;

**Tartály (az 1 osztályban):** köztes vagy belső csomagolásként használt láda, palack, hordó, kanna, doboz és hüvely, beleértve mindenféle zárószervezetüket;

**Tartály:** anyagok vagy tárgyak befogadására vagy tartására alkalmas befogadódény, beleértve mindenfajta zárószervezetét is. Ez a meghatározás a tartányokra nem vonatkozik (lásd még *belső tartály, gázpatron, mélyhűtő tartály, merev belső tartály és nyomástartó tartály*);

**Tartály névleges űrtartalma:** a tartályban található veszélyes áru literben kifejezett névleges térfogata. A sűrített gázok tartályainál ez megegyezik a víztöltet térfogatával;

**Tartány:** maga a tartányköpeny, beleértve annak üzemi és szerkezeti szerelvényeit. Ahol a tartány szó önmagában szerepel, tankkonténert, mobil tartányt, leszerelhető tartányt vagy rögzített tartányt jelent az ebben a részben szereplő meghatározás szerint, ill. olyan tartányt, amely a battériás jármű vagy a MEG-konténer elemét képezi (lásd még leszerelhető tartány, MEG-konténer, mobil tartány és rögzített tartány);

**Megjegyzés:** A mobil tartányokra lásd a 6.7.4.1 bekezdést.

**Tartány, ill. tartánykamra befogadóképessége (űrtartalma):** a tartány, ill. tartánykamra teljes belső térfogata, literben vagy m<sup>3</sup>-ben kifejezve. Ha a tartányt, ill. tartánykamrát az alakja vagy a szerkezeti kialakítása miatt nem lehet teljesen feltölteni, akkor a töltési fok meghatározásánál és a tartány jelölésénél a csökkentett befogadóképességet kell alapul venni;

**Tartányjármű:** a folyadékok, gáz halmazállapotú, porszerű vagy szemcsés anyagok szállítására használt, egy vagy több rögzített tartánnyal felszerelt jármű. A tartányjármű magán a járművön vagy az azt helyettesítő futómű-elemeken kívül egy vagy több tartányból, szerelvényeiből és a tartányokat a járműhöz vagy a futómű-elemekhez csatlakoztató alkatrészekből áll;

**Tartányköpeny:** az anyagot tartalmazó burkolat (beleértve a nyílásokat és zárószervezeteiket);

**Megjegyzés:** 1. Ez a meghatározás nem vonatkozik a tartályokra.  
2. A mobil tartányokra lásd a 6.7 fejezetet.

**Tartányos cserefelépítmény:** a tartányos cserefelépítmény tankkonténernek tekintendő;

**Tartány-vizsgálati könyv (gépkönyv):** olyan dokumentáció, amely tartalmazza a tartányra, battériás járműre, ill. MEG-konténerre vonatkozóan az összes fontos műszaki adatot, mint például a 6.8.2.3, a 6.8.2.4 és a 6.8.3.4 bekezdésben említett bizonyítványokat, ill. tanúsítványokat;

**Teljes rakomány:** egyetlen feladótól származó rakomány, amely részére egy jármű vagy nagykonténer kizárólagos használatra van fenntartva, és amelynek be- és kirakását a feladó vagy a címzett utasításai szerint végzik;

**Megjegyzés:** A 7 osztálynál a megfelelő kifejezés a kizárólagos használat.

**Tervezési nyomás:** a próbanyomással legalább egyenlő elméleti nyomás, amely a szállított anyag veszélyességi foka szerint kisebb vagy nagyobb mértékben meghaladhatja az üzemi nyomást. A tervezési nyomás csak a tartány falvastagságának meghatározására való a külső és belső erősítőelemek figyelembe vétele nélkül (lásd még *legnagyobb üzemi nyomás* (túlnyomás), *próbanyomás*, *töltési nyomás* és *ürítési nyomás*);

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

**Test** (az összetett IBC-ket kivéve minden más IBC típusnál): maga a tartály, beleértve a nyílásokat és azok zárószerkezeteit, de kizárva az üzemi szerelvényeket;

**Többeleemes gázkonténer (MEG-konténer):** olyan szállítóeszköz, amelynek egymással gyújtócsővel összekötött és vázra szerelt elemei vannak. A következő elemek tekinthetők a többeleemes gázkonténer elemeinek: palackok, nagypalackok, gázhordók, palackkötegek és a 2 osztály gázainak szállítására készült, 450 liternél nagyobb befogadóképességű tartányok;

**Megjegyzés:** Az UN MEG-konténerekre lásd a 6.7 fejezetet.

**Töltési fok:** a gáz tömegének és a felhasználásra kész nyomástartó tartályt teljesen kitöltő víz tömegének aránya 15 °C-on;

**Töltési nyomás:** az a legnagyobb nyomás, amely a tartányban a nyomás alatti töltéskor ténylegesen fellép (lásd még *legnagyobb üzemi nyomás* (túlnyomás), *próbanyomás*, *tervezési nyomás* és *ürítési nyomás*);

**Töltő:** bármely vállalkozás, amely a veszélyes árut tartányba (tartányjárműbe, leszerelhető tartányba, mobil tartányba vagy tankkonténerbe), battériás jármű tartályaiba vagy MEG-konténerbe tölti, ill. az ömlesztett veszélyes árut járműbe, nagykonténerbe vagy kiskonténerbe rakja;

**Tömörégi próba:** tartányok, csomagolóeszközök vagy IBC-k, szerelvények és zárószerkezetek szivárgásmentességének meghatározására szolgáló vizsgálat;

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

**Transport index (TI):** lásd *szállítási mutatószám (TI)*

**Túlnyomásos gázpatron:** lásd *aeroszol vagy aeroszol csomagolás*;

## U

**UIC:** Union Internationale des Chemins de Fer (Nemzetközi Vasútegylet), (UIC, 16 rue Jean Rey, F-75015 Paris, France);

**UNECE:** United Nations Economic Commission for Europe (ENSZ Európai Gazdasági Bizottság), (UNECE, Palais des Nations, 8-14 avenue de la Paix, CH-1211 Geneva 10, Switzerland);

**UN szám** (azonosító szám): az anyagok és tárgyak négyjegyű azonosító száma, amely az „ENSZ Minta Szabályzat”-ból származik;

## Ü

**Ürítési nyomás:** az a legnagyobb nyomás, amely a tartányban a nyomás alatti ürítéskor ténylegesen fellép (lásd még *legnagyobb üzemi nyomás* (túlnyomás), *próbanyomás*, *tervezési nyomás* és *töltési nyomás*);

**Üzemi nyomás:** a sűrített gáz állandósult nyomása a megtöltött nyomástartó tartályban 15 °C referencia hőmérsékleten;

**Megjegyzés:** Tartányokra lásd a legnagyobb üzemi nyomás (túlnyomás) fogalmát.

**Üzemi szerelvények:**

- a) tartányoknál a töltő- és ürítő-, a szellőző-, a biztonsági, a fűtő- és hőszigetelő berendezések, valamint a mérőeszközök;
- b) battériás jármű vagy MEG-konténer elemeinél a töltő-, ürítő- és biztonsági berendezések, az összekötő csövek, valamint a mérőeszközök;
- c) IBCk-nél a töltő- és ürítő-, a nyomáscsökkentő-, szellőző-, a fűtő- és hőszigetelő berendezések, valamint a mérőeszközök;

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

**V**

**Vákuum-szelep:** nyomáskülönbség hatására automatikusan működésbe lépő, rugóterhelésű szerkezet, amelynek feladata a nem megengedett vákuum kialakulásának megakadályozása a tartányban;

**Vállalat:** lásd **vállalkozás**;

**Vállalkozás:** a természetes személy vagy jogi személy, függetlenül attól, hogy folytat-e jövedelemszerző tevékenységet; a jogi személyiség nélküli társaság vagy személyek társulása, függetlenül attól, hogy folytat-e jövedelemszerző tevékenységet; a hivatalos testületet, függetlenül attól, hogy rendelkezik-e jogi személyiséggel, vagy hogy jogi személyiséggel rendelkező hatóságtól függ-e;

**Védett IBC (fém IBC-nél):** az ütközéssel szembeni kiegészítő védelemmel ellátott IBC, ez a védelem lehet pl. többrétegű (szendvicsszerkezetű) vagy kettős falú konstrukció vagy fémrácsos vázszerkezet;

**Veszélyes áruk:** olyan anyagok és tárgyak, amelyek szállítását az ADR tiltja vagy csak feltételekkel engedi meg;

**Veszélyes reakció:**

- a) égés és/vagy jelentős hőfejlődés;
- b) gyúlékony, fojtó hatású, gyújtó hatású (oxidáló) és/vagy mérgező gázok fejlődése;
- c) maró anyagok képződése;
- d) vegyileg nem állandó anyagok képződése; vagy
- e) veszélyes nyomásnövekedés (csak tartányoknál);

**Vészhőmérséklet:** az a hőmérséklet, amelynél a hőmérséklet-szabályozás megszűnése esetén a vészhelyzeti eljárásokat alkalmazni kell;

**Visszaforgatott műanyag:** használt ipari csomagolóeszközökből visszanyert anyag, melyet új csomagolóeszközzé való feldolgozásához megtisztítanak és előkészítenek;

**Vizsgálatok és kritériumok kézikönyv:** az ENSZ „Ajánlások a veszélyes áruk szállítására, Vizsgálatok és kritériumok kézikönyv” negyedik javított kiadása (az ST/SG/AC.10/11/Rev.4/Amend.1. és az ST/SG/AC.10/11/Rev.4/Amend.2 jelű dokumentummal módosított ST/SG/AC.10/11/Rev.4);

**Vizsgáló szervezet:** az illetékes hatóság által elismert, független vizsgáló szervezet;

**Z**

**Zárószerkezet:** a tartály nyílását záró szerkezet;

**Zárt konténer:** lásd **konténer**;

**Zs**

**Zsák:** papírból, műanyag fóliából, textilből, szövött anyagból vagy más alkalmas anyagból készült hajlékony csomagolóeszköz.

## 1.2.2 Mértékegységek

### 1.2.2.1 Az ADR-ben a következő mértékegységek<sup>a)</sup> alkalmazhatók

| Fizikai mennyiség               | SI-egység <sup>b)</sup> |                   | Egyéb engedélyezett mértékegység |                   | A mértékegységek közötti arány   |
|---------------------------------|-------------------------|-------------------|----------------------------------|-------------------|--|
|                                 | neve                    | jele              | neve                             | jele              |  |
| Hosszúság                       | méter                   | m                 | –                                | –                 |  |
| Terület, felület                | négyzetméter            | m <sup>2</sup>    | –                                | –                 |  |
| Térfogat                        | köbméter                | m <sup>3</sup>    | liter                            | l <sup>c)</sup>   | 1 l = 10 <sup>-3</sup> m <sup>3</sup>                                      |
| Idő                             | másodperc               | s                 | perc<br>óra<br>nap               | min<br>h<br>d     | 1 min = 60 s<br>1 h = 3600 s<br>1 d = 86 400 s                             |
| Tömeg                           | kilogramm               | kg                | gramm<br>tonna                   | g<br>t            | 1 g = 10 <sup>-3</sup> kg<br>1 t = 10 <sup>3</sup> kg                      |
| Sűrűség                         | –                       | kg/m <sup>3</sup> | –                                | kg/l              | 1 kg/l = 10 <sup>3</sup> kg/m <sup>3</sup>                                 |
| Hőmérséklet                     | kelvin                  | K                 | Celsius-fok                      | °C                | 0 °C = 273,15 K  |
| Hőmérséklet-különbség           | kelvin                  | K                 | Celsius-fok                      | °C                | 1 °C = 1 K   |
| Erő                             | newton                  | N                 | –                                | –                 | 1 N = 1 kg·m/s <sup>2</sup>  |
| Nyomás                          | Pascal                  | Pa                | bar                              | bar               | 1 bar = 10 <sup>5</sup> Pa<br>1 Pa = 1 N/m <sup>2</sup>                    |
| Mechanikai feszültség           | –                       | N/m <sup>2</sup>  | –                                | N/mm <sup>2</sup> | 1 N/mm <sup>2</sup> = 1 MPa  |
| Munka<br>Energia<br>Hőmennyiség | joule                   | J                 | kilowattóra<br>elektronvolt      | kWh<br>eV         | 1 kWh = 3,6 MJ<br>1 J = 1 N·m = 1 W·s<br>1 eV = 0,1602·10 <sup>-18</sup> J |
| Teljesítmény                    |                         |                   |                                  |                   |  |
| Kinematikai viszkozitás         |                         |                   |                                  |                   |  |
| Dinamikai viszkozitás           | –                       | Pa·s              | –                                | mPa·s             | 1 mPa·s = 10 <sup>-3</sup> Pa·s  |
| Aktivitás                       | becquerel               | Bq                | –                                | –                 | –  |
| Dózisegyenérték                 | sievert                 | Sv                | –                                | –                 | –  |

a) A korábbi, már nem törvényes mértékegységekkel adott mennyiség értékek törvényes mértékegységű értékre való átszámításához a következő kerekített értékeket kell alkalmazni:

**Erő:**

$$1 \text{ kg} = 9,807 \text{ N}$$

$$1 \text{ N} = 0,102 \text{ kg}$$

**Nyomás:**

$$1 \text{ Pa} = 1 \text{ N/m}^2 = 10^{-5} \text{ bar} = 1,02 \cdot 10^{-5} \text{ kg/cm}^2 = 0,75 \cdot 10^{-2} \text{ Torr}$$

$$1 \text{ bar} = 10^5 \text{ Pa} = 1,02 \text{ kg/cm}^2 = 750 \text{ Torr}$$

$$1 \text{ kg/cm}^2 = 9,807 \cdot 10^4 \text{ Pa} = 0,9807 \text{ bar} = 736 \text{ Torr}$$

$$1 \text{ Torr} = 1,33 \cdot 10^2 \text{ Pa} = 1,33 \cdot 10^{-3} \text{ bar} = 1,36 \cdot 10^{-3} \text{ kg/cm}^2$$

**Munka, energia, hőmennyiség:**

$$1 \text{ J} = 1 \text{ N} \cdot \text{m} = 0,278 \cdot 10^{-6} \text{ kWh} = 1,102 \text{ kg} \cdot \text{m} = 0,239 \cdot 10^{-3} \text{ kcal}$$

$$1 \text{ kWh} = 3,6 \cdot 10^6 \text{ J} = 367 \cdot 10^3 \text{ kg} \cdot \text{m} = 860 \text{ kcal}$$

$$1 \text{ kg} \cdot \text{m} = 9,807 \text{ J} = 2,72 \cdot 10^{-6} \text{ kWh} = 2,34 \cdot 10^{-3} \text{ kcal}$$

$$1 \text{ kcal} = 4,19 \cdot 10^3 \text{ J} = 1,16 \cdot 10^{-3} \text{ kWh} = 427 \text{ kg} \cdot \text{m}$$

**Teljesítmény:**

$$1 \text{ W} = 0,102 \text{ kg} \cdot \text{m/s} = 0,86 \text{ kcal/h} \quad 1 \text{ m}^2/\text{s} = 10^4 \text{ St (stokes)}$$

$$1 \text{ kg} \cdot \text{m/s} = 9,807 \text{ W} = 8,43 \text{ kcal/h} \quad 1 \text{ St} = 10^{-4} \text{ m}^2/\text{s}$$

$$1 \text{ kcal/h} = 1,16 \text{ W} = 0,119 \text{ kg} \cdot \text{m/s}$$

**Dinamikai viszkozitás:**

$$1 \text{ Pa} \cdot \text{s} = 1 \text{ N} \cdot \text{s/m}^2 = 10 \text{ P (poise)} = 0,102 \text{ kg} \cdot \text{s/m}^2$$

**Mechanikai feszültség:**

$$1 \text{ kg/mm}^2 = 9,807 \text{ N/mm}^2$$

$$1 \text{ N/mm}^2 = 0,102 \text{ kg/mm}^2$$

**Kinematikai viszkozitás:**

$$\begin{aligned}
 1 \text{ P} &= 0,1 \text{ Pa}\cdot\text{s} &= 0,1 \text{ N}\cdot\text{s}/\text{m}^2 &= 1,02\cdot 10^{-2} \text{ kg}\cdot\text{s}/\text{m}^2 \\
 1 \text{ kg}\cdot\text{s}/\text{m}^2 &= 9,807 \text{ Pa}\cdot\text{s} &= 9,807 \text{ N}\cdot\text{s}/\text{m}^2 &= 98,07 \text{ P}
 \end{aligned}$$

b) A Nemzetközi mértékegységrendszer (SI) az Általános Súly- és Mértékügyi Értekezlet határozatainak eredménye (Cím: Pavillon de Breteuil, Parc de St-Cloud, F-92 310 Sèvres).

c) Írógép használata esetén a literre vonatkozó „l” rövidítés mellett az „L” rövidítés is megengedett.

A mértékegységek többszöröseit és törtrészeit a mértékegységek jele elé tett, egy szorzót jelentő, következő prefixumok (SI-prefixumok) egyikével lehet képezni.

| Szorzó                      |            |            | A prefixum |       |
|-----------------------------|------------|------------|------------|-------|
|                             |            |            | neve       | jele  |
| 1 000 000 000 000 000 000 = | $10^{18}$  | trillió    | exa        | E     |
| 1 000 000 000 000 000 =     | $10^{15}$  | billiárd   | peta       | P     |
| 1 000 000 000 000 =         | $10^{12}$  | billió     | tera       | T     |
| 1 000 000 000 =             | $10^9$     | milliárd   | giga       | G     |
| 1 000 000 =                 | $10^6$     | millió     | mega       | M     |
| 1 000 =                     | $10^3$     | ezer       | kilo       | k     |
| 100 =                       | $10^2$     | száz       | hekto      | h     |
| 10 =                        | $10^1$     | tíz        | deka       | da    |
| 0,1 =                       | $10^{-1}$  | tized      | deci       | d     |
| 0,01 =                      | $10^{-2}$  | század     | centi      | c     |
| 0,001 =                     | $10^{-3}$  | ezred      | milli      | m     |
| 0,000 001 =                 | $10^{-6}$  | milliomod  | mikro      | $\mu$ |
| 0,000 000 001 =             | $10^{-9}$  | milliárdod | nano       | n     |
| 0,000 000 000 001 =         | $10^{-12}$ | billiomod  | piko       | p     |
| 0,000 000 000 000 001 =     | $10^{-15}$ | billiárdod | femto      | f     |
| 0,000 000 000 000 000 001 = | $10^{-18}$ | trilliomod | atto       | a     |

**1.2.2.2** Kifejezett ellentétes meghatározás hiányában a „%” az ADR-ben a következőket jelenti:

- szilárd vagy folyékony anyagok keveréke, valamint oldatok és folyadékokkal átitatott szilárd anyagok esetén a keverék, az oldat vagy az átitatott anyag teljes tömegére vonatkoztatott tömeg%-ot;
- sűrített gázkeverékek esetén: ha a töltés nyomásra történik, a térfogatarányt a gázkeverék teljes térfogatának százalékában megadva; vagy ha a töltés tömegre történik, a tömegarányt a gázkeverék teljes tömegének százalékában megadva;
- cseppfolyósított gázkeverék, valamint oldott gázkeverék esetén: a tömegarányt a gázkeverék teljes tömegének százalékában megadva.

**1.2.2.3** A tartályokra vonatkozó mindenféle nyomás (pl. próbanyomás, belső nyomás, a biztonsági szelepek nyitónyomása) mindig túlnyomásban van megadva (a légköri nyomáshoz viszonyított túlnyomásban); ezzel szemben a gőznyomás mindig abszolút nyomásban van kifejezve.

**1.2.2.4** Ha az ADR töltési fokot ír elő tartályokra vagy tartányokra, ez mindig 15 °C anyaghőmérsékletre vonatkozik, kivéve, ha más hőmérséklet van megjelölve.

## 1.3 FEJEZET

### A VESZÉLYES ÁRUK SZÁLLÍTÁSÁBAN RÉSZTVEVŐ SZEMÉLYEK KÉPZÉSE

#### 1.3.1 Hatály és alkalmazási terület

Az 1.4 fejezetben hivatkozott résztvevők által alkalmazott, a veszélyes áruk szállításával kapcsolatos munkakört ellátó személyeknek feladatukhoz és felelősségükhöz igazodó képzésben kell részesülniük a veszélyes árukra vonatkozó előírásokból. A veszélyes árukkal kapcsolatos közbiztonsági előírásokról szóló 1.10 fejezet képzési követelményeit is figyelembe kell venni.

**Megjegyzés:** 1. A biztonsági tanácsadó képzésére lásd az 1.8.3 szakaszt.  
2. A járművezető képzésére lásd a 8.2 fejezetet.  
3. A 7 osztályra vonatkozó képzésre lásd az 1.7.2.5 bekezdést is.  
4. A személyzetet még a veszélyes áruk szállításával kapcsolatos feladat megkezdése előtt kell a képzésben részesíteni..

#### 1.3.2 A képzés jellege

Az érintett személyek feladatához és felelősségéhez igazodva a következő képzés szükséges:

##### 1.3.2.1 Általános tájékoztató oktatás

A személyzetnek meg kell ismernie a veszélyes áruk szállítására vonatkozó általános előírásokat.

##### 1.3.2.2 Munkakörre (feladatra) szakosított oktatás

A személyzetet feladatával és felelősségével arányban álló részletességgel ki kell oktatni a veszélyes áruk szállítására vonatkozó előírásokra.

Ha a veszélyes árut multimodális szállítással továbbítják, a többi szállítási módra vonatkozó előírásokat is ismertetni kell.

##### 1.3.2.3 Biztonsági képzés

A személyzetet ki kell oktatni a veszélyes áruk által képviselt veszélyekről és kockázatról azzal arányban, hogy a veszélyes áruk szállításakor, be- vagy kirakásakor bekövetkező baleset esetén mekkora a sérülés veszélye, ill. mennyire van kitéve a veszélyes áru hatásának.

Az oktatás célja, hogy a személyzet tudatában legyen a biztonságos árukezelés szabályainak és a veszélyhelyzet elhárítására teendő intézkedéseknek.

##### 1.3.2.4 (törölve)

#### 1.3.3 Dokumentálás

Az oktatásra vonatkozó iratokat a munkáltatónak és a munkavállalónak is meg kell őriznie, és új munkakör betöltése esetén ellenőrizni kell. A személyzet oktatását ismeretfelújító oktatás keretében rendszeresen ki kell egészíteni az előírásokban történt változásokkal.



## 1.4 FEJEZET

### A RÉSZTVEVŐK BIZTONSÁGGAL KAPCSOLATOS KÖTELEZETTSÉGEI

#### 1.4.1 Általános biztonsági előírások

**1.4.1.1** A veszélyes áru szállításában résztvevőknek az előrelátható veszély természetének és mértékének megfelelő intézkedéseket kell tenniük, hogy elkerüljék a sérüléseket és károkat, ill. a lehető legkisebbre csökkentsék a következményeket. Az ADR előírásait azonban mindenképpen be kell tartani.

**1.4.1.2** Amennyiben olyan közvetlen veszély áll fenn, ami a közbiztonságot veszélyezteti, a résztvevőknek azonnal értesíteniük kell a vészelhárító szolgálatokat, és rendelkezésükre kell bocsátaniuk azokat az információkat, amelyeket beavatkozásukhoz igényelnek.

**1.4.1.3** Az ADR a különböző résztvevőkre háruló kötelezettségeket részletesebben is megadhatja.

Ha egy Szerződő Fél véleménye szerint nem jár a biztonság csökkenésével, a valamely résztvevőre háruló kötelezettségeket belföldi jogszabályaiban átháríthatja egy vagy több másik résztvevőre, feltéve, hogy az 1.4.2 és az 1.4.3 szakaszban felsorolt kötelezettségeknek eleget tesznek. Ezekről az eltérésekről a Szerződő Félnek értesítenie kell az ENSZ Európai Gazdasági Bizottság Titkárságát, amely a Szerződő Felek tudomására hozza.

Az 1.2.1, az 1.4.2 és az 1.4.3 szakasznak a résztvevők és kötelezettségeik meghatározására vonatkozó előírásai nem érintik a belföldi jog jogkövetkezményekre (büntetőjogi, kártérítési felelősség stb.) vonatkozó azon előírásait, amelyek abból fakadnak, hogy a kérdéses résztvevő pl. természetes vagy jogi személy, önálló vállalkozó, munkaadó vagy alkalmazott.

#### 1.4.2 A fő résztvevők kötelezettsége

*Megjegyzés: A radioaktív anyagokra lásd még az 1.7.6 szakaszt is.*

##### 1.4.2.1 Feladó

**1.4.2.1.1** A veszélyes áru feladója csak olyan küldeményt adhat át szállításra, amely megfelel az ADR előírásainak. A feladóra – az 1.4.1 szakasz figyelembevételével – különösen a következő kötelezettségek hárulnak:

- a) meg kell győződnie arról, hogy a veszélyes áru az ADR-rel összhangban van besorolva és az ADR szerint szállítható;
- b) el kell látnia a szállítót információval és adatokkal, ill. szükség esetén az előírt fuvarokmányokkal és kísérő okmányokkal (jóváhagyások, engedélyek, bejelentések, bizonyítványok stb.), különös tekintettel az 5.4 fejezet és a 3. részben levő táblázatok előírásaira;
- c) csak olyan csomagolóeszközöket, nagycsomagolásokat, IBC-eket és tartányokat (tartányjárműveket, leszerelhető tartányokat, battériás járműveket, MEG-konténereket, mobil tartányokat és tankkonténereket) szabad használnia, amelyek jóvá vannak hagyva és az adott anyag szállítására alkalmasak, ill. el vannak látva az ADR által előírt jelölésekkel;
- d) be kell tartania a feladás módjára és a szállítási korlátozásokra vonatkozó előírásokat;
- e) biztosítania kell, hogy még az üres, tisztítatlan és nem gáztalanított tartányok (tartányjárművek, leszerelhető tartányok, battériás járművek, MEG-konténerek, mobil tartányok és tankkonténerek) ill. az üres, tisztítatlan járművek, valamint az ömlesztett áruhoz használt nagy- és kiskonténerek is el legyenek látva a megfelelő jelölésekkel és veszélyességi bárcákkal, továbbá az üres, tisztítatlan tartányok ugyanolyan tömören le legyenek zárva, mint megtöltött állapotban.



**1.4.2.1.2** Ha a feladó más résztvevők (csomagoló, berakó, töltő stb.) szolgáltatásait veszi igénybe, megfelelő intézkedéseket kell foganatosítani annak biztosítására, hogy a küldemény megfeleljen az ADR előírásainak. Az 1.4.2.1.1 a), b), c) és e) pont esetében azonban a feladó megbízhat a többi résztvevőtől kapott adatokban és információkban.

**1.4.2.1.3** Ha a feladó harmadik fél nevében vagy megbízásából jár el, ez utóbbinak a feladót írásban kell tájékoztatnia arról, hogy veszélyes áruval van szó, és rendelkezésére kell bocsátania minden információt és okmányt, amire a feladónak szüksége van kötelezettségei teljesítéséhez.

#### **1.4.2.2 Szállító (fuvarozó)**

**1.4.2.2.1** A szállítóra (fuvarozóra) – az 1.4.1 szakasz figyelembevételével – különösen a következő kötelezettségek hárulnak:

- a) meg kell győződnie arról, hogy a szállítandó veszélyes áru az ADR szerint szállítható;
- b) meg kell győződnie arról, hogy az előírt okmányok a szállítóegységen vannak;
- c) szemrevételezéssel meg kell győződnie arról, hogy sem a járműnek, sem a rakománynak nincs nyilvánvaló hiányossága, nem szivárog, nincs rajta repedés, szükséges berendezései nem hiányoznak stb.;
- d) meg kell győződnie arról, hogy a tartányjármű, battériás jármű, leszerelhető tartány, mobil tartány, tankkonténer vagy MEG-konténer időszakos vizsgálatának érvényességi ideje még nem járt le;

***Megjegyzés:** A tartányok, a battériás járművek és a MEG-konténerek az érvényességi idejük lejárta után is szállíthatók a 4.1.6.10 bekezdés (nyomástartó tartályokból álló battériás járművek és MEG-konténerek esetén), a 4.2.4.4 bekezdés, a 4.3.2.4.4, a 6.7.2.19.6, a 6.7.3.15.6 és a 6.7.4.14.6 pontok feltételei szerint.*

- e) ellenőriznie kell, hogy a járművek ne legyenek túlterhelve;
- f) meg kell győződnie arról, hogy a járműre előírt nagybárcák és jelölések el vannak helyezve;
- g) meg kell győződnie arról, hogy a járművezető számára az írásbeli utasításban előírt eszközök a járművön vannak.

Az előzőeket – értelemszerűen – a fuvarokmány, ill. a kísérő okmányok alapján, a jármű vagy a konténer, vagy adott esetben a rakomány szemrevételezésével kell végrehajtani.

**1.4.2.2.2** Az 1.4.2.2.1 a), b), e) és f) pont esetében azonban a szállító (fuvarozó) megbízhat a többi résztvevőtől kapott információkban és adatokban.

**1.4.2.2.3** Ha a szállító (fuvarozó) az 1.4.2.2.1 pont alapján az ADR előírásainak megsértését tapasztalja, akkor a küldeményt mindaddig nem továbbíthatja, amíg az előírások nem teljesülnek.

**1.4.2.2.4** Ha a szállítás során olyan szabálytalanságot észlel, amely a szállítás biztonságát veszélyeztet, a küldemény továbbítását – a közlekedés és a küldemény biztonsága, ill. a közbiztonság figyelembevételével – a lehető leghamarabb meg kell szakítani. A szállítás csak akkor folytatható, ha a küldemény megfelel az előírásoknak. Az útvonal hátralevő része szerint illetékes hatóság(ok) azonban engedélyt adhat(nak) a szállítás folytatására.

Amennyiben a szabálytalanság nem szüntethető meg, ill. a szállítás folytatására engedélyt nem adtak, az illetékes hatóságoknak a szükséges hatósági eszközökkel támogatniuk kell a szállítót (fuvarozót). Ugyanez vonatkozik arra az esetre, ha a fuvarozó tájékoztatja hatóságot, hogy a feladó nem közölte vele az áru veszélyességét, és a fuvarozási szerződésekre vonatkozó jogszabályok alapján az árut lerakni, megsemmisíteni vagy ártalmatlanná tenni kívánja.

**1.4.2.2.5** (fenntartva)

**1.4.2.3** *Címzett*

**1.4.2.3.1** A címzett kötelezettsége az áru átvétele – kivéve, ha az átvétel megtagadására kellő indokkal rendelkezik –, ill. kirakás után ellenőrizni, hogy az őt érintő ADR előírásokat betartották.

A címzettre – az 1.4.1 szakasz figyelembevételével – a következő kötelezettségek hárulnak:

- a) el kell végeznie az ADR által megkövetelt esetekben a járművek és konténerek előírt tisztítását és fertőtlenítést;
- b) biztosítania kell, hogy ha már a konténereket teljesen kiürítették, kitisztították, ill. fertőtlenítették, ne legyenek rajtuk az 5.3 fejezet szerinti jelölések.

**1.4.2.3.2** Ha a címzett más résztvevők (kirakó, tisztító, fertőtlenítő helyek stb.) szolgáltatásait is igénybe veszi, akkor megfelelő intézkedéseket kell fogantatnia annak biztosítására, hogy az ADR előírásainak megfeleljenek.

**1.4.2.3.3** Ha az ellenőrzés során az ADR előírásainak megsértését tapasztalják, a címzett csak azután adhatja vissza a konténert/nagykonténert a szállítónak (fuvarozónak), miután a szabálytalanságot megszüntették.

**1.4.3** *A többi résztvevő kötelezettségei*

A többi résztvevőt, ill. kötelezettségeiket a következő – nem teljes körű – felsorolás tartalmazza. A többi résztvevő kötelezettségei az előző 1.4.1 szakaszból következnek, amennyiben tudatában vannak vagy tudatában kell lenniük, hogy feladataikat az ADR hatálya alá eső szállítási tevékenység részeként végzik.

**1.4.3.1** *Berakó*

**1.4.3.1.1** A berakóra – az 1.4.1 szakasz figyelembevételével – különösen a következő kötelezettségek hárulnak:

- a) csak akkor adhatja át az árut a szállítónak (fuvarozónak), ha az az ADR szerint szállítható;
- b) amikor becsomagolt veszélyes árut vagy üres, tisztítatlan csomagolóeszközt ad át szállításra, ellenőriznie kell a csomagolóeszközök sértetlenségét. Nem adhat át olyan küldeménydarabot, amelynek csomagolóeszköze sérült – különösen, ha az nem tömített, szivárog vagy fennáll a veszélyes áru kifolyásának veszélye –, amíg a sérülést ki nem javították; ugyanez vonatkozik az üres, tisztítatlan csomagolóeszközökre is;
- c) amikor veszélyes árut rak járműre, nagykonténerbe vagy kiskonténerbe, be kell tartania a rakodásra és árukezelésre vonatkozó különleges előírásokat;
- d) miután a veszélyes árut konténerbe rakta, be kell tartania a veszély jelölésére vonatkozó, 5.3 fejezet szerinti követelményeket;
- e) amikor a küldeménydarabokat berakja, be kell tartania az együvé rakásra vonatkozó tiltásokat, figyelembe véve a járművön vagy nagykonténerben levő, korábban berakott veszélyes árut, valamint az élelmiszerektől, egyéb fogyasztási cikkektől és takarmánytól való elkülönítésre vonatkozó előírásokat.

**1.4.3.1.2** Az 1.4.3.1.1. a), d) és e) pont esetében azonban a berakó megbízhat a többi résztvevőtől kapott információkban és adatokban.

**1.4.3.2** *Csomagoló*

A csomagolóra – az 1.4.1 szakasz figyelembevételével – különösen a következő kötelezettségek hárulnak:

- a) be kell tartania a csomagolási és az egybecsomagolási feltételekre vonatkozó előírásokat;
- b) amikor egy küldeménydarabot szállításra előkészít, be kell tartania a küldeménydarabok jelölésére és bárcázására vonatkozó előírásokat.

#### **1.4.3.3 Töltő**

A töltőre – az 1.4.1 szakasz figyelembevételével – különösen a következő kötelezettségek hárulnak:

- a) a tartány megtöltése előtt meg kell győződnie arról, hogy a tartány és szerelvényei kielégítő műszaki állapotban vannak;
- b) meg kell győződnie arról, hogy a tartányjármű, battériás jármű, leszerelhető tartány, mobil tartány, tankkonténer vagy MEG-konténer időszakos vizsgálatának érvényességi ideje még nem járt le;
- c) tartányba csak olyan veszélyes árut tölthet, amelynek szállítására az adott tartány engedélyezve van;
- d) a tartányok töltése során be kell tartania a szomszédos tartány-kamrákban levő veszélyes árukra vonatkozó előírásokat;
- e) a töltés során be kell tartania a betöltendő anyagra engedélyezett legnagyobb töltési fokot vagy űrtartalom literenkénti legnagyobb töltési tömeget;
- f) a tartány megtöltése után ellenőriznie kell a zárószervezetek tömörségét;
- g) biztosítania kell, hogy az általa megtöltött tartány külsején ne maradjon a betöltött anyagból semmilyen veszélyes maradék;
- h) a veszélyes áru szállításra történő előkészítése során biztosítania kell, hogy a narancssárga táblák, veszélyességi bárcák (nagybárcák) az előírás szerint el legyenek helyezve a tartányokon, a járműveken és az ömlesztett árut tartalmazó kis- és tankonténereken;
- i) (fenntartva)
- j) meg kell győződnie arról, hogy ömlesztett áru járműbe, ill. konténerbe rakodása során a 7.3 fejezet vonatkozó előírásait betartják.

#### **1.4.3.4 Tankkonténer vagy mobil tartány üzemben tartó**

A tankkonténer vagy mobil tartány üzemben tartójára – az 1.4.1 szakasz figyelembevételével – különösen a következő kötelezettségek hárulnak:

- a) biztosítania kell, hogy a gyártásra, a szerelvényekre, a vizsgálatokra és a jelölésre vonatkozó követelményeknek megfeleljenek;
- b) biztosítania kell, hogy a tartányt és szerelvényeit oly módon tartsák karban, ami biztosítja, hogy rendes üzemeltetési körülmények között a tankkonténer vagy a mobil tartány a következő időszakos vizsgálatig kielégíti az ADR előírásait;
- c) soron kívüli ellenőrzést kell végeztetnie, ha a tartány vagy szerelvényei biztonságát javítás, átalakítás vagy baleset csökkentheti.

#### **1.4.3.5 (fenntartva)**

## 1.5 FEJEZET ELTÉRÉSEK

### 1.5.1 Ideiglenes eltérések

- 1.5.1.1** Az ADR Megállapodás 4. cikk 3. pontja alapján a Szerződő Felek illetékes hatóságai közvetlenül egymás között megállapodhatnak abban, hogy területeiken bizonyos szállításokat ideiglenesen az ADR előírásaitól eltérően engedélyeznek, feltéve, hogy ez a biztonságot nem veszélyezteti. Annak a hatóságnak, amely az ideiglenes eltérést kezdeményezte, erről az eltérésről értesítenie kell az ENSZ Európai Gazdasági Bizottság Titkárságát, amely ezután erről a Szerződő Feleket értesíti.\*

***Megjegyzés:** Az 1.7.4 szakasz szerinti „külön megegyezés” nem tekinthető az ezen fejezet szerinti ideiglenes eltérésnek.*

- 1.5.1.2** Az ideiglenes eltérés érvényességének időtartama nem lehet öt évnél hosszabb az életbe lépésétől számítva. Az ideiglenes eltérés automatikusan megszűnik az ADR megfelelő módosításának életbelépési dátumától kezdve.

- 1.5.1.3** Az ideiglenes eltérések alapján végzett szállítási tevékenység az ADR értelmében szállítási tevékenységnek minősül.

- 1.5.2** (fenntartva)

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\* A titkárság megjegyzése: Az ezen szakasz alapján elfogadott ideiglenes eltérések az ENSZ Európai Gazdasági Bizottsága honlapján (<http://www.unece.org/trans/danger/danger.htm>) megtekinthetők.

## 1.6 FEJEZET

### ÁTMENETI ELŐÍRÁSOK

#### 1.6.1 Általános előírások

**1.6.1.1** Az ADR anyagai és tárgyai – más előírás hiányában – 2009. június 30-ig az ADR 2008. december 31-ig érvényes előírásai szerint is szállíthatók.

**1.6.1.2** a) Azok a 7A, 7B, 7C, 7D és 7E számú veszélyességi bárcák, ill. nagybárcák, amelyek 2004. december 31-ig megfeleltek az akkor érvényes mintának, 2010. december 31-ig tovább használhatók.

b) Azok az 5.2 számú veszélyességi bárcák, ill. nagybárcák, amelyek 2006. december 31-ig megfeleltek az akkor érvényes mintának, 2010. december 31-ig tovább használhatók.

**1.6.1.3** Azok az 1 osztályba tartozó anyagok és tárgyak, amelyek valamely Szerződő Fél fegyveres erőihez tartoznak és amelyeket 1990. január 1-je előtt az ADR akkor érvényes előírásainak megfelelően csomagoltak, 1990. január 1-je után is szállíthatók, amennyiben a csomagolások sértetlenek és a fuvarokmányba tett bejegyzés szerint ezek 1990. január 1-je előtt csomagolt katonai áruk. Az erre az osztályra 1990. január 1-jétől érvényes egyéb előírásokat be kell tartani.

**1.6.1.4** Azok az 1 osztályba tartozó anyagok és tárgyak, amelyeket 1990. január 1-je és 1996. december 31-e között az ADR ezen időszakban érvényes előírásainak megfelelően csomagoltak, 1997. január 1-je után is szállíthatók, amennyiben a csomagolások sértetlenek és a fuvarokmányba tett bejegyzés szerint ezek az 1 osztályba tartozó olyan áruk, amelyeket 1990. január 1-je és 1996. december 31-e között csomagoltak.

**1.6.1.5** (fenntartva)

**1.6.1.6** Azok az IBC-k, amelyeket 2003. január 1-je előtt az ADR 2001. június 30-ig érvényes 3612 szélzetszáma (1) bekezdése szerint gyártottak, de a 6.5.2.1.1 pont szerinti betűk, számok és jelek magassága nem felel meg a 2001. július 1-től érvényes előírásoknak, továbbra is használhatók.

**1.6.1.7** Azok a típusjóvá hagyások, amelyeket a nagy vagy közepes molekulatömegű polietilénből gyártott hordókra, kannákra, ill. összetett csomagolóeszközökre a 6.1.5.2.6 pont 2004. december 31-ig érvényes előírásai alapján 2005. július 1-je előtt adtak ki, de nem felelnek meg a 4.1.1.19 bekezdés követelményeinek, 2009. december 31-ig érvényesek. Az e típusjóvá hagyások alapján gyártott és jelöléssel ellátott csomagolóeszközök a 4.1.1.15 bekezdésben meghatározott felhasználási időtartamuk leteltéig használhatók.

**1.6.1.8** Az 5.3.2.2 bekezdés 2004. december 31-ig érvényes követelményeinek megfelelő narancssárga táblák továbbra is használhatók.

**1.6.1.9** (törölve)

**1.6.1.10** Azok a 2003. július 1-je előtt gyártott lítium-cellák, ill. akkumulátorok, amelyeket a 2002. december 31-ig érvényes előírások szerint bevizsgáltak, de a 2003. január 1-jétől érvényes előírások szerint nem vizsgáltak, valamint az ilyen lítium-cellákat, ill. akkumulátorokat tartalmazó készülékek 2013. június 30-ig szállíthatók, ha egyébként minden más előírásnak megfelelnek.

**1.6.1.11** Azok a típusjóvá hagyások, amelyeket 2007. július 1-e előtt, a 6.1.6.1 bekezdés a) pontjának 2006. december 31-ig érvényes követelményei alapján adtak ki nagy és közepes molekulatömegű polietilénből gyártott hordókra, kannákra, összetett csomagolóeszközökre, ill. nagy molekulatömegű polietilénből gyártott IBC-kre, de amelyek nem felelnek meg a 6.1.6.1 bekezdés a) pont 2007. január 1-től érvényes követelményeinek, továbbra is

érvényesek.

- 1.6.1.12** A Szerződő Felek csak 2009. december 31-ig korlátozhatják a járművek közúti alagútban való közlekedését az 1.9.5 szakasz előírásaitól eltérően, a nemzeti előírásaik szerint.
- 1.6.1.13** A 2009. január 1-je előtt először forgalomba helyezett (vagy először használatba vett) járműveknél az 5.3.2.2.1 és az 5.3.2.2.2 pont azon követelményeit, amelyek szerint a táblának, a számoknak és a betűknek rögzítve kell maradniuk, bármilyen helyzetben van is a jármű, 2009. december 31-ig nem szükséges alkalmazni.
- 1.6.1.14** Azok az IBC-k, amelyeket 2011. január 1-je előtt, a 2010. december 31-ig érvényes előírások szerint, olyan gyártási típus alapján gyártottak, amelyen nem végeztek el a 6.5.6.13 bekezdés szerinti rázó vizsgálatot, továbbra is használhatók.
- 1.6.1.15** A 2011. január 1-je előtt gyártott, átalakított, ill. javított IBC-ken nem szükséges feltüntetni a 6.5.2.2.2 pont szerinti legnagyobb megengedett halmazolási terhelést. Az ilyen IBC-k a 6.5.2.2.2 pont szerinti jelölés nélkül 2010. december 31-e után is használhatók, de ha ezen időpont után az IBC-t átalakítják vagy javítják, akkor el kell látni a 6.5.2.2.2 pont szerinti jelöléssel.
- 1.6.1.16** A tenyészet esetén „A” kategóriába sorolandó (lásd a 2.2.62.1.12.2 pontot) kórokozók kivételével, a „B” kategóriájú kórokozóval fertőzött állati eredetű anyagok 2014. december 31-ig az illetékes hatóság által meghatározott előírások<sup>2)</sup> szerint szállíthatók.
- 1.6.1.17** Az UN 3077 és az UN 3082 tétel alá soroltak kivételével az 1 – 9 osztályba tartozó anyagok, amelyek a 2.2.9.1.10 pont osztályozási kritériumai szerint nincsenek besorolva, és az 5.2.1.8 bekezdés és az 5.3.6 szakasz szerint nincsenek megjelölve, 2010. december 31-ig a környezetre veszélyes anyagok szállítására vonatkozó előírások betartása nélkül szállíthatók.
- 1.6.1.18** A 3.4.9 – 3.4.13 szakaszok előírásait csak 2011. január 1-től kell alkalmazni.
- 1.6.2 Nyomástartó tartályok és a 2 osztály anyagaihoz használt tartályok**
- 1.6.2.1** Azok az 1997. január 1-je előtt gyártott tartályok, amelyek az ADR 1997. január 1-jétől érvényes előírásainak nem felelnek meg, de amelyek szállítása az ADR 1996. december 31-ig érvényes előírásai szerint engedélyezett volt, ezen időpont után is szállíthatók, amennyiben a P200 és a P203 csomagolási utasításban előírt időszakos vizsgálatok alapján megfelelnek.
- 1.6.2.2** Azok az 1.2.1 szakaszban található meghatározás szerinti palackok, amelyeket első alkalommal vagy időszakosan 1997. január 1-je előtt vizsgáltak, következő töltésük vagy következő időszakos vizsgálatuk időpontjáig üres, tisztíthatatlan állapotban bárcák nélkül is szállíthatók.
- 1.6.2.3** A 2003. január 1-je előtt gyártott tartályok 2003. január 1-je után is viselhetik azokat a jelöléseket, amelyek a 2002. december 31-ig érvényes követelményeknek felelnek meg.
- 1.6.2.4** Továbbra is használhatók az olyan műszaki szabályzat szerint, korábban tervezett és gyártott nyomástartó tartályok, amelyet az illetékes hatóság a 6.2.5 szakasz értelmében már nem ismerhet el.
- 1.6.2.5** Továbbra is használhatók azok a nyomástartó tartályok, ill. zárószerkezeteik, amelyeket olyan, a gyártásukkor érvényes szabványok szerint terveztek és gyártottak (lásd a 6.2.4 szakaszt), amelyek az ADR akkor érvényes előírásai szerint alkalmazhatók voltak.
- 1.6.2.6** Azok a nem a 2 osztályba tartozó anyagokhoz használt nyomástartó tartályok, amelyeket a 4.1.4.4 bekezdés 2008. december 31-ig érvényes előírásai szerint, 2009. július 1-je előtt

2) Fertőzött állati tetemekre vonatkozó előírások találhatók pl. az Európai Parlament és a Tanács 1774/2002/EK (2002. október 3.) rendeletében a nem emberi fogyasztásra szánt állati melléktermékekre vonatkozó egészségügyi előírások megállapításáról (az EK Hivatalos Lapja L 273 szám, 2002. 10. 10., 1. oldal)



gyártottak, és amelyek nem felelnek meg a 4.1.3.6 bekezdés 2009. január 1-től érvényes előírásainak, továbbra is használhatók, amennyiben a 4.1.4.4 bekezdés 2008. december 31-ig érvényes többi előírását is betartják.

- 1.6.2.7** 2011. június 30-áig a Szerződő Felek tovább alkalmazhatják a 6.2.1.4.1 – 6.2.1.4.4 pontok 2008. december 31-ig érvényes követelményeit az 1.8.6, 1.8.7 szakaszok és a 6.2.2.9, 6.2.3.6 – 6.2.3.8 bekezdések követelményei helyett.

**1.6.3 Rögzített tartányok (tartányjárművek), leszerelhető tartányok és battériás járművek**

- 1.6.3.1** Azok a rögzített tartányok (tartányjárművek), leszerelhető tartányok és battériás járművek, amelyeket az 1978. október 1-jétől alkalmazandó előírások életbelépése előtt gyártottak, továbbra is használhatók, ha a tartány szerelvényei kielégítik a 6.8 fejezet követelményeit. A tartányok falvastagságát – a 2 osztály mélyhűtött, cseppfolyósított gázainak szállítására használt tartányok kivételével – szerkezeti acélból gyártott tartánynál legalább 0,4 MPa (4 bar) tervezési nyomásra (túlnyomásra), alumíniumból és alumínium-ötvözetből gyártott tartánynál legalább 200 kPa (2 bar) tervezési nyomásra (túlnyomásra) kell méretezni. Nem kör keresztmetszetű tartányoknál a számítás alapjául szolgáló átmérőt olyan körből kell meghatározni, amelynek területe egyenlő a tartány tényleges keresztmetszeti területével.

- 1.6.3.2** Az időszakos vizsgálatokat az átmeneti előírások szerint tovább használt rögzített tartányok (tartányjárművek), leszerelhető tartányok és battériás járművek esetén a 6.8.2.4 és a 6.8.3.4 bekezdés előírásai és az egyes osztályokra vonatkozó különleges előírások szerint kell végrehajtani. Hacsak a korábbiakban nagyobb próbanyomás nem volt előírva, az alumíniumból és alumínium-ötvözetből gyártott tartányoknál elegendő a 200 kPa (2 bar) próbanyomás (túlnyomás).

- 1.6.3.3** Azok a rögzített tartányok (tartányjárművek), leszerelhető tartányok és battériás járművek, amelyek az 1.6.3.1 és az 1.6.3.2 bekezdés szerinti átmeneti előírásoknak megfelelnek, 1993. szeptember 30-ig tovább használhatók olyan veszélyes áruk szállítására, amelyekre eredetileg engedélyezték. Ez az átmeneti időszak nem érvényes a 2 osztályba tartozó anyagok szállítására használt rögzített tartányokra (tartányjárművekre), leszerelhető tartányokra és battériás járművekre, sem az olyan rögzített tartányokra (tartányjárművekre), leszerelhető tartányokra és battériás járművekre, amelyeknek falvastagsága és szerelvényei megfelelnek a 6.8 fejezet előírásainak.

- 1.6.3.4** a) Azok az 1985. május 1-je előtt, az ADR 1978. október 1-je és 1985. április 30-a között érvényes előírásai szerint gyártott rögzített tartányok (tartányjárművek), leszerelhető tartányok és battériás járművek, amelyek nem felelnek meg az 1985. május 1-jétől érvényes előírásoknak, ezt az időpontot követően továbbra is használhatók.
- b) Azok a rögzített tartányok (tartányjárművek), leszerelhető tartányok és battériás járművek, amelyeket az 1985. május 1-je és az 1988. január 1-jétől alkalmazandó előírások életbelépése közötti időben, az akkor érvényes ADR előírások szerint gyártottak, továbbra is használhatók.

- 1.6.3.5** Azok az 1993. január 1-je előtt, az 1992. december 31-ig érvényes előírások szerint gyártott rögzített tartányok (tartányjárművek), leszerelhető tartányok és battériás járművek, amelyek nem felelnek meg az 1993. január 1-jétől érvényes előírásoknak, továbbra is használhatók.

- 1.6.3.6** a) Azoknak a rögzített tartányoknak (tartányjárműveknek), leszerelhető tartányoknak és battériás járműveknek, amelyeket 1978. január 1-je és 1984. december 31-e között gyártottak, amennyiben 2004. december 31-e után is használják, meg kell felelniük az 1990. január 1-jétől érvényes 211 127 szélzetszám (5) bekezdésének a falvastagság és a sérülések elleni védelem tekintetében.
- b) Azoknak a rögzített tartányoknak (tartányjárműveknek), leszerelhető tartányoknak és battériás járműveknek, amelyeket 1985. január 1-je és 1989. december 31-e között gyártottak, amennyiben 2010. december 31-e után is használják, meg kell felelniük az

1990. január 1-jétől érvényes 211 127 szélzetszám (5) bekezdésének a falvastagság és a sérülések elleni védelem tekintetében.

- 1.6.3.7** Azok az 1999. január 1-je előtt, az 1998. december 31-ig érvényes előírások szerint gyártott rögzített tartányok (tartányjárművek), leszerelhető tartányok és battériás járművek, amelyek nem felelnek meg az 1999. január 1-jétől érvényes előírásoknak, továbbra is használhatók.
- 1.6.3.8** A 2 osztály anyagainak szállítására szolgáló, 1997. január 1-je előtt gyártott rögzített tartányok (tartányjárművek), leszerelhető tartányok és battériás járművek a következő időszakos vizsgálat időpontjáig viselhetik az 1996. december 31-ig érvényes előírások szerinti jelölést. Amikor az ADR módosítása következtében egyes gázok helyes szállítási megnevezése módosul, a táblán, ill. a tartányon (lásd a 6.8.3.5.2, ill. a 6.8.3.5.3 pontot) nem szükséges a megnevezést módosítani, amennyiben a gáz(ok) megnevezését a rögzített tartányon (tartányjárművön), leszerelhető tartányon, battériás járművön vagy a rajtuk levő táblán [lásd a 6.8.3.5.6 b) és c) pontot] a következő időszakos vizsgálat során módosítják.
- 1.6.3.9 –  
1.6.3.10** (fenntartva)
- 1.6.3.11** Azok az 1997. január 1-je előtt, az 1996. december 31-ig érvényes előírások szerint gyártott rögzített tartányok (tartányjárművek) és leszerelhető tartányok, amelyek nem felelnek meg a 211 332 és a 211 333 szélzetszám 1997. január 1-jétől érvényes előírásainak, továbbra is használhatók.
- 1.6.3.12 –  
1.6.3.14** (fenntartva)
- 1.6.3.15** Azok a 2007. június 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártott rögzített tartányok (tartányjárművek) és leszerelhető tartányok, amelyek nem felelnek meg a 6.8.2.2.3 pont 2007. január 1-jétől érvényes előírásainak, a következő időszakos vizsgálatig tovább használhatók.
- 1.6.3.16** Azoknál a 2007. január 1-je előtt gyártott rögzített tartányoknál (tartányjárműveknél), leszerelhető tartányoknál és battériás járműveknél, amelyek nem felelnek meg a 4.3.2 szakasz, a 6.8.2.3, a 6.8.2.4 és a 6.8.3.4 bekezdés tartány-vizsgálati könyvre (gépkönyvre) vonatkozó előírásainak, a tartány-vizsgálati könyvhöz (gépkönyvhöz) szükséges dokumentumokat legkésőbb a következő időszakos vizsgálat időpontjától kezdődően kell megőrizni.
- 1.6.3.17** Azok a 2007. július 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártott rögzített tartányok (tartányjárművek) és leszerelhető tartányok, amelyek a 3 osztály I csomagolási csoportjába tartozó, 50 °C-on legfeljebb 175 kPa (1,75 bar) gőznyomású (abszolút nyomás) anyagok szállítására szolgálnak és a 2006. december 31-ig érvényes előírások szerint L1.5BN tartánykód volt hozzájuk rendelve, az említett anyagok szállítására 2018. december 31-ig tovább használhatók.
- 1.6.3.18** Azok a 2003. január 1-je előtt, a 2001. június 30-ig érvényes előírások szerint gyártott rögzített tartányok (tartányjárművek), leszerelhető tartányok, és battériás járművek, amelyek nem felelnek meg a 2001. július 1-jétől érvényes előírásoknak, továbbra is használhatók.
- 1.6.3.19** Azok a 2003. január 1-je előtt, a 6.8.2.1.21 pont 2002. december 31-ig érvényes előírásai szerint gyártott rögzített tartányok (tartányjárművek) és leszerelhető tartányok, amelyek nem felelnek meg a 2003. január 1-jétől érvényes előírásoknak, továbbra is használhatók.
- 1.6.3.20** Azok a 2003. július 1-je előtt, a 2002. december 31-ig érvényes előírások szerint gyártott rögzített tartányok (tartányjárművek) és leszerelhető tartányok, amelyek nem felelnek meg a 6.8.2.1.7 pont 2003. január 1-jétől érvényes követelményeinek és a 6.8.4 szakasz b) pont TE15 különleges előírása 2003. január 1-jétől 2006. december 31-ig érvényes követelményeinek, továbbra is használhatók.



- 1.6.3.21** (törölve)
- 1.6.3.22 – 1.6.3.24** (fenntartva)
- 1.6.3.25** A vizsgálat fajtáját („P”, ill. „L”) a 6.8.2.5.1 pont szerinti tartánytáblán a 2007. január 1-je után végrehajtott első vizsgálatig nem szükséges feltüntetni.
- 1.6.3.26** Azok a 2007. január 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártott rögzített tartányok (tartányjárművek) és leszerelhető tartányok, amelyek nem felelnek meg a külső tervezési nyomás feltüntetésére vonatkozóan a 6.8.2.5.1 pont 2007. január 1-től érvényes előírásainak, továbbra is használhatók.
- 1.6.3.27 – 1.6.3.29** (fenntartva)
- 1.6.3.30** Azok a 2005. július 1-je előtt, a 2004. december 31-ig érvényes előírások szerint gyártott, hulladékok szállítására szolgáló, vákuummal üzemelő rögzített tartányok (tartányjárművek) és leszerelhető tartányok, amelyek nem felelnek meg a 6.10.3.9 bekezdés 2005. január 1-jétől érvényes előírásainak, továbbra is használhatók.
- 1.6.3.31** Továbbra is használhatók azok a rögzített tartányok (tartányjárművek), leszerelhető tartányok és battériás jármű elemeit képező tartányok, amelyeket olyan, a gyártásukkor érvényes műszaki szabályzat szerint terveztek és gyártottak, amelyet a 6.8.2.7 bekezdés akkor érvényes előírásai szerint az illetékes hatóság elismert.
- 1.6.3.32** Továbbra is használhatók azok a rögzített tartányok (tartányjárművek) és leszerelhető tartányok, amelyeket 2007. július 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártottak, és amelyek a 2006. december 31-ig érvényes 6.8.2.6 bekezdés táblázatában hivatkozott EN 13317:2002 szabvány szerinti (beleértve a szabvány 2007. január 1-jétől már nem elfogadott B Melléklete B.2 táblázatát és ábráját is) búvónyílásfedéllel vannak ellátva, vagy amelyeken a búvónyílásfedél anyaga nem felel meg az EN 13094:2004 szabvány 5.2 paragrafusára vonatkozó követelményeinek.
- 1.6.3.33** Ha egy rögzített tartány (tartányjármű) vagy leszerelhető tartány már 2009. január 1-je előtt válaszfalakkal vagy hullámtörő lemezekkel legfeljebb 7500 liter űrtartalmú rekeszekre volt osztva, a 6.8.2.5.1 pontban előírt adatok között az űrtartalom adatát nem kell kiegészíteni az „S” jellel mindaddig, amíg a 6.8.2.4.2 pont szerinti, következő időszakos vizsgálatot el nem végzik.
- 1.6.3.34** Azoknál a cseppfolyósított, ill. mélyhűtött, cseppfolyósított gázok szállítására szolgáló rögzített tartányoknál (tartányjárműveknél) és leszerelhető tartányoknál, amelyek megfelelnek az ADR gyártási követelményeinek, de amelyeket 2009. július 1-je előtt válaszfalakkal vagy hullámtörő lemezekkel 7500 liternél nagyobb űrtartalmú rekeszekre osztottak, a töltési fok – a 4.3.2.2.4 pont előírásától eltérően – a befogadóképesség 20%-ánál nagyobb és 80%-ánál kisebb is lehet.
- 1.6.3.35** Az 1.8.6 és az 1.8.7 szakasz követelményeit, valamint a 6.8.4 szakasz TA4 és TT9 különleges előírását a Szerződő Feleknek 2011. július 1-je előtt nem szükséges alkalmazni.
- 1.6.3.36 – 1.6.3.39** (fenntartva)
- 1.6.3.40** *Szálvázaz műanyag tartányok*
- Azok a szálvázaz műanyag tartányok, amelyeket 2002. július 1-je előtt gyártottak a B.1c Függelék 2001. június 30-ig érvényes előírásai alapján, a 2001. július 1-je előtt jóváhagyott gyártási típusnak megfelelően, élettartamuk végéig tovább használhatók, amennyiben a 2001. június 30-ig érvényes minden előírásnak megfeleltek és folyamatosan megfelelnek.

A 2001. június 30-ig érvényes előírások szerint azonban új gyártási típus 2001. július 1-je után nem hagyható jóvá.

#### **1.6.4 Tankkonténerek, mobil tartányok és MEG-konténerek**

**1.6.4.1** Azok a tankkonténerek, amelyeket 1988. január 1-je előtt, az 1987. december 31-ig érvényes előírások szerint gyártottak, és nem felelnek meg az 1988. január 1-jétől érvényes előírásoknak, továbbra is használhatók.

**1.6.4.2** Azok a tankkonténerek, amelyeket 1993. január 1-je előtt, az 1992. december 31-ig érvényes előírások szerint gyártottak, és nem felelnek meg az 1993. január 1-jétől érvényes előírásoknak, továbbra is használhatók.

**1.6.4.3** Azok az 1999. január 1-je előtt, az 1998. december 31-ig érvényes előírások szerint gyártott tankkonténerek, amelyek nem felelnek meg az 1999. január 1-jétől érvényes előírásoknak, továbbra is használhatók.

**1.6.4.4** (fenntartva)

**1.6.4.5** Amikor az ADR módosítása következtében egyes gázok helyes szállítási megnevezése módosul, a táblán, ill. a tartányon (lásd a 6.8.3.5.2 és a 6.8.3.5.3 pontot) nem szükséges a megnevezést módosítani, amennyiben a gáz(ok) megnevezését a tankkonténeren, a MEG-konténeren vagy a rajtuk levő táblán [lásd a 6.8.3.5.6 b) és c) pontot] a következő időszakos vizsgálat során módosítják.

**1.6.4.6** Azok a 2007. január 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártott tankkonténerek, amelyek nem felelnek meg a külső tervezési nyomás feltüntetésére vonatkozóan a 6.8.2.5.1 pont 2007. január 1-jétől érvényes előírásainak, továbbra is használhatók.

**1.6.4.7** Azok az 1997. január 1-je előtt, az 1996. december 31-ig érvényes előírások szerint gyártott tankkonténerek, amelyek nem felelnek meg a 212 332 és a 212 333 szélzetszám 1997. január 1-jétől érvényes előírásainak, továbbra is használhatók.

**1.6.4.8** (fenntartva)

**1.6.4.9** Továbbra is használhatók azok a tankkonténerek és MEG-konténerek, amelyeket olyan, a gyártásukkor érvényes műszaki szabályzat szerint terveztek és gyártottak, amelyet a 6.8.2.7 bekezdés akkor érvényes előírásai szerint az illetékes hatóság elismert.

**1.6.4.10** (törölve)

**1.6.4.11** (fenntartva)

**1.6.4.12** Azok a 2003. január 1-je előtt, a 2001. június 30-ig érvényes előírások szerint gyártott tankkonténerek és a MEG-konténerek, amelyek nem felelnek meg a 2001. július 1-jétől érvényes előírásoknak, továbbra is használhatók.

**1.6.4.13** Azok a 2003. július 1-je előtt, a 2002. december 31-ig érvényes előírások szerint gyártott tankkonténerek, amelyek nem felelnek meg a 6.8.2.1.7 pont 2003. január 1-jétől érvényes követelményeinek és a 6.8.4 szakasz b) pont TE15 különleges előírása 2003. január 1-jétől 2006. december 31-ig érvényes követelményeinek, továbbra is használhatók.

**1.6.4.14** (fenntartva)

**1.6.4.15** A vizsgálat fajtáját („P”, ill. „L”) a 6.8.2.5.1 pont szerinti tartánytáblán a 2007. január 1-je után végrehajtott első vizsgálatig nem szükséges feltüntetni.

**1.6.4.16** (törölve)

**1.6.4.17** Azok a 2007. július 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártott

tankkonténerek, amelyek nem felelnek meg a 6.8.2.2.3 pont 2007. január 1-jétől érvényes előírásainak, a következő időszakos vizsgálatig tovább használhatók.

**1.6.4.18** Azoknál a 2007. január 1-je előtt gyártott tankkonténereknél és MEG-konténereknél, amelyek nem felelnek meg a 4.3.2 szakasz, a 6.8.2.3, a 6.8.2.4 és a 6.8.3.4 bekezdés tartány-vizsgálati könyvre (gépkönyvre) vonatkozó előírásainak, a tartány-vizsgálati könyvhöz (gépkönyvhöz) szükséges dokumentumokat legkésőbb a következő időszakos vizsgálat időpontjától kezdődően kell megőrizni.

**1.6.4.19** Azok a 2007. július 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártott tankkonténerek, amelyek a 3 osztály I csomagolási csoportjába tartozó, 50 °C-on legfeljebb 175 kPa (1,75 bar) gőznyomású (abszolút nyomás) anyagok szállítására szolgálnak és a 2006. december 31-ig érvényes előírások szerint L1.5BN tartánycód volt hozzájuk rendelve, az említett anyagok szállítására 2016. december 31-ig tovább használhatók.

**1.6.4.20** Azok a 2005. január 1-je előtt, a 2004. december 31-ig érvényes előírások szerint gyártott, hulladékok szállítására szolgáló, vákuummal üzemelő tankkonténerek, amelyek nem felelnek meg a 6.10.3.9 bekezdés 2005. január 1-jétől érvényes előírásainak, továbbra is használhatók.

**1.6.4.21 –  
1.6.4.29** (fenntartva)

**1.6.4.30** A 2007. január 1-től érvényes tervezési előírásoknak nem megfelelő, de 2008. január 1-je előtt kiadott gyártási típus bizonyítvány szerint gyártott mobil tartányok, ill. UN MEG-konténerek továbbra is használhatók.

**1.6.4.31** Azokhoz az anyagokhoz, amelyekhez a 3.2 fejezet „A” táblázat 11 oszlopában TP35 különleges előírás van hozzárendelve, a 2008. december 31-ig érvényes ADR-ben előírt T14 mobil tartány utasítás 2014. december 31-ig tovább alkalmazható.

**1.6.4.32** Ha egy tankkonténer tartánya már 2009. január 1-je előtt válaszfalakkal vagy hullámtörő lemezekkel legfeljebb 7500 liter űrtartalmú rekeszekre volt osztva, a 6.8.2.5.1 pont által előírt adatok között az űrtartalom adatát nem kell kiegészíteni az „S” jellel mindaddig, amíg a 6.8.2.4.2 pont szerinti, következő időszakos vizsgálatot el nem végzik.

**1.6.4.33** Azoknál a cseppfolyósított, ill. mélyhűtött, cseppfolyósított gázok szállítására szolgáló tankkonténereknél, amelyek megfelelnek az ADR gyártási követelményeinek, de amelyeket 2009. július 1-je előtt válaszfalakkal vagy hullámtörő lemezekkel 7500 liternél nagyobb űrtartalmú rekeszekre osztottak, a töltési fok – a 4.3.2.2.4 pont előírásától eltérően – a befogadóképesség 20%-ánál nagyobb és 80%-ánál kisebb is lehet.

**1.6.4.34** Az 1.8.6 és az 1.8.7 szakasz követelményeit, valamint a 6.8.4 szakasz TA4 és TT9 különleges előírását a Szerződő Feleknek 2011. július 1-je előtt nem szükséges alkalmazni.

## **1.6.5 Járművek**

**1.6.5.1 –  
1.6.5.3** (fenntartva)

**1.6.5.4** Az EX/II, EX/III, FL, OX és AT járművek szerkezetére a 9. rész 2008. december 31-ig érvényes előírásai 2010. március 31-ig alkalmazhatók.

**1.6.5.5** Azok az 2003. január 1-je előtt forgalomba helyezett (vagy használatba vett) járművek, amelyeknek az elektromos berendezései nem felelnek meg a 9.2.2, a 9.3.7 vagy a 9.7.8 szakasz követelményeinek, de megfelelnek a 2001. június 30-ig érvényes előírásoknak, továbbra is használhatók.

**1.6.5.6** (törölve)

- 1.6.5.7** Azok a kész (teljes) és befejezett járművek, amelyeket 2002. december 31-e előtt az ENSZ-EGB 105. sz. előírása<sup>3)</sup> 01. módosítása, ill. a 98/91/EK irányelv<sup>4)</sup> megfelelő előírásai szerint láttak el típusjóváhagyással, és nem felelnek meg a 9.2 fejezet előírásainak, de megfelelnek az alapjármű szerkezetére 2001. június 30-ig érvényes B.2 Függelék 220 100 – 220 540 szélzetszáma előírásainak, amennyiben 2003. július 1-je előtt helyezik először forgalomba, továbbra is jóváhagyhatók, ill. használhatók.
- 1.6.5.8** Azok az EX/II és EX/III járművek, amelyeket első alkalommal 2005. július 1-je előtt hagytak jóvá, és megfelelnek a 9. rész 2004. december 31-ig érvényes előírásainak, de nem felelnek meg a 2005. január 1-jétől érvényes követelményeknek, továbbra is használhatók.
- 1.6.5.9** Azok a 2004. július 1-je előtt először forgalomba helyezett (vagy használatba vett, ahol a forgalomba helyezés nem kötelező), veszélyes áruk folyékony vagy olvasztott állapotban történő szállítására szolgáló, 3 m<sup>3</sup>-nél nagyobb befogadóképességű, rögzített tartányt hordozó járművek (tartányjárművek), amelyeknél a tartány próbanyomása 4 bar-nál kisebb, és nem felelnek meg a 9.7.5.2 bekezdés előírásainak, továbbra is használhatók.
- 1.6.5.10** A 9.1.3.5 bekezdés 2006. december 31-ig érvényes előírásainak, valamint a 2007. január 1-től 2008. december 31-ig érvényes előírásainak megfelelő formájú jóváhagyási igazolások továbbra is használhatók.
- 1.6.5.11** Azok a 2009. július 1-je előtt, a nemzeti előírások szerint gyártott és jóváhagyott MEMU-k, amelyek nem felelnek meg a gyártásra és a jóváhagyásra vonatkozó, 2009. január 1-től érvényes követelményeknek, tovább használhatók azon ország(ok)ban, amely(ek)nek illetékes hatósága(i) engedélyezi(k).

**1.6.6 7 osztály**

**1.6.6.1 *Küldeménydarabok, amelyekhez a Nemzetközi Atomenergia Ügynökség 6. sz. Biztonsági sorozat 1985. évi és 1985. évi (1990-ben) módosított kiadása szerint nem szükséges a küldeménydarab-minta illetékes hatóság általi engedélyezése***

Azok az engedélyes küldeménydarabok, IP-1, IP-2 és IP-3 típusú ipari küldeménydarabok és A típusú küldeménydarabok, amelyekhez nem volt szükséges a küldeménydarab-minta illetékes hatóság általi engedélyezése és kielégítik a Nemzetközi Atomenergia Ügynökség „Előírások a radioaktív anyagok biztonságos szállítására” (NAÜ 6. sz. Biztonsági sorozat) 1985. évi vagy 1985. évi (1990-ben) módosított kiadásának követelményeit, továbbra is használhatók, azzal a kikötéssel, hogy az 1.7.3 szakasz szerinti kötelező minőségbiztosítási programra, ill. a 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6 pontban, a 3.3 fejezet 336 különleges előírásában és a 4.1.9.3 bekezdésben az aktivitási határértékekre és anyagkorlátozásra vonatkozó előírásokat be kell tartani.

A 2003. december 31-e után gyártott vagy átalakított csomagolóeszközöknek (kivéve hogyha az átalakítás a biztonságot növeli) meg kell felelniük az érvényben lévő ADR előírásoknak. A Nemzetközi Atomenergia Ügynökség „Előírások a radioaktív anyagok biztonságos szállítására” (NAÜ 6. sz. Biztonsági sorozat) 1985. évi vagy 1985. évi (1990-ben) módosított kiadása szerint legkésőbb 2003. december 31-ig szállításra előkészített küldeménydarabok továbbra is szállíthatók. Az ezen időpont után szállításra előkészített küldeménydaraboknak meg kell felelniük az érvényben lévő ADR előírásoknak.

3) ENSZ-EGB 105. sz. előírás (Egységes feltételek a veszélyes áruk szállítására szánt járművek jóváhagyására a különleges szerkezeti jellemzők szempontjából).

4) Az Európai Parlament és a Tanács 1998. december 14-i 98/91/EK irányelve a veszélyes áruk közúti szállítására szánt gépjárművekről és pótkocsijaikról, valamint a gépjárművek és pótkocsijaik típusjóváhagyására vonatkozó 70/156/EGK irányelv módosításáról (lásd az EK Hivatalos Lapja L011 sz., 1999.01.16., 25-36 o.).

**1.6.6.2** *Küldeménydarabok, amelyeket a Nemzetközi Atomenergia Ügynökség 6. sz. Biztonsági sorozat 1973. évi, 1973. évi módosított, 1985. évi és 1985. évi (1990-ben) módosított kiadásának előírásai szerint engedélyeztek*

**1.6.6.2.1** A Nemzetközi Atomenergia Ügynökség 6. sz. Biztonsági sorozat 1973. évi vagy 1973. évi módosított kiadásának előírásai szerint az illetékes hatóság által engedélyezett küldeménydarab mintának megfelelően gyártott csomagolóeszközök továbbra is használhatóak azzal a kikötéssel, hogy a küldeménydarab minta többoldalú engedélyezése szükséges, valamint az 1.7.3 szakaszban a kötelező minőségbiztosítási programra, ill. a 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6 pontban, a 3.3 fejezet 337 különleges előírásában és a 4.1.9.3 bekezdésben az aktivitási határértékekre és anyagkorlátozásra vonatkozó előírásokat be kell tartani. Új gyártás beindítása nem engedélyezhető. A csomagolóeszköz minta vagy az engedélyezett radioaktív tartalom fajtájának vagy mennyiségének olyan változtatása, amely az illetékes hatóság szerint a biztonságot lényegesen befolyásolná, meg kell feleljen az érvényben lévő ADR előírásainak. Minden egyes csomagolóeszközhöz az 5.2.1.7.5 pont szerinti sorozatszámot hozzá kell rendelni és a csomagolóeszköz külsején fel kell tüntetni.

**1.6.6.2.2** A Nemzetközi Atomenergia Ügynökség 6. sz. Biztonsági sorozat 1985. évi vagy 1985. évi (1990-ben) módosított kiadásának előírásai szerint az illetékes hatóság által engedélyezett küldeménydarab-mintának megfelelően gyártott csomagolóeszközök tovább használhatóak, azzal a kikötéssel, hogy a küldeménydarab-minta többoldalú engedélyezése szükséges, valamint az 1.7.3 szakaszban a kötelező minőségbiztosítási programra, ill. a 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6 pontban, a 3.3 fejezet 337 különleges előírásában és a 4.1.9.3 bekezdésben az aktivitási határértékekre és anyag korlátozásra vonatkozó előírásokat be kell tartani. A csomagolóeszköz minta vagy az engedélyezett radioaktív tartalom fajtájának vagy mennyiségének olyan változtatása, amely az illetékes hatóság szerint a biztonságot lényegesen befolyásolná, meg kell feleljen az érvényben lévő ADR előírásainak. Minden csomagolóeszköznek, amelynek gyártása 2006. december 31-e után kezdődik, meg kell felelnie az érvényben lévő ADR előírásoknak.

**1.6.6.3** *Különleges formájú radioaktív anyagok, amelyeket a Nemzetközi Atomenergia Ügynökség 6. sz. Biztonsági sorozat 1973. évi, 1973. évi módosított, 1985. évi vagy 1985. évi (1990-ben) módosított kiadásának előírásai szerint engedélyeztek*

Az olyan minta szerint gyártott különleges formájú radioaktív anyag, amelyre az illetékes hatóság a Nemzetközi Atomenergia Ügynökség 6. sz. Biztonsági sorozat 1973. évi, 1973. évi módosított, 1985. évi vagy 1985. évi (1990-ben) módosított kiadásának előírásai szerint adott ki egyoldalú engedélyt, tovább használható, ha az megfelel az 1.7.3 szakasz vonatkozó előírásai szerinti kötelező minőségbiztosítási programnak. Minden különleges formájú radioaktív anyagnak, amelyet 2003. december 31-e után gyártanak, meg kell felelnie az érvényben lévő ADR előírásoknak.



## 1.7 FEJEZET

### ÁLTALÁNOS ELŐÍRÁSOK A 7 OSZTÁLYRA

#### 1.7.1 Hatály és alkalmazási terület

- Megjegyzés:** 1. A radioaktív anyagok szállítása során bekövetkező baleset vagy rendkívüli esemény esetén az emberek, az anyagi javak és a környezet védelme érdekében az illetékes nemzeti, ill. nemzetközi hatóságok által megállapított veszélyhelyzeti előírásokat kell betartani. Az ilyen előírásokhoz útmutatás található a „Planning and Preparing for Emergency Response to Transport Accidents Involving Radioactive Material”, Safety Standard Series No. TS-G-1.2 (ST-3), IAEA, Vienna (2002) kiadványban.
2. A veszélyhelyzeti beavatkozásnál figyelembe kell venni, hogy a baleset során a küldemény tartalma és a környezet között bekövetkező reakció folytán egyéb veszélyes anyagok is képződhetnek.

**1.7.1.1** Az ADR olyan szabályokat állapít meg, amelyek által a radioaktív anyagok szállításával kapcsolatos sugárzásból, kritikusságból vagy hőhatásból eredően a személyeket, javakat vagy környezetet érő veszélyek megfelelően kezelhetők. Ezek a szabályok az Nemzetközi Atomenergia Ügynökség „Előírások a radioaktív anyagok biztonságos szállítására”, 2005. évi kiadás, Biztonsági Szabványok Sorozat, TS-R-1 kiadványon alapulnak (Bécs, 2005.). A TS-R-1 1996-os kiadásához magyarázatok találhatók az IAEA „Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Materials”, Safety Standard Series No. TS-G-1.1 (ST-2), IAEA Vienna, (2002) kiadványban.

**1.7.1.2** Az ADR célja a személyek, a javak és a környezet védelme a sugárzás hatásaival szemben a radioaktív anyagok szállítása során. Ez a védelem azáltal érhető el, hogy követelményeket támaszt:

- a) a radioaktív tartalom megtartására;
- b) a külső sugárzási szint korlátozására;
- c) a kritikusság megelőzésére; és
- d) a hőhatás okozta károk megelőzésére.

Ezek a követelmények elsősorban azáltal teljesülnek, hogy a járművek és a küldeménydarabok tartalmának határértékei, ill. a küldeménydarab minták minőségi követelményei a radioaktív tartalom veszélyességének függvényében különböző fokozatokra vannak meghatározva. Másodsorban a küldeménydarabokra, kezelésükre, a csomagolóeszköz karbantartására vonatkozó, a radioaktív tartalom fajtáját figyelembe vevő követelmények meghatározásával és végül az adminisztratív ellenőrzések előírásával, – vagy ahol szükséges – az illetékes hatóság általi jóváhagyás megkövetelésével.

**1.7.1.3** Az ADR előírásait a radioaktív anyagok közúti szállítására kell alkalmazni, beleértve a radioaktív anyagok használatával együtt járó szállításokat is. A „szállítás” magában foglal a radioaktív anyag mozgatásával kapcsolatos minden tevékenységet, a csomagolóeszköz tervezését, gyártását, karbantartását és javítását, a radioaktív rakomány előkészítését, feladását, berakását, szállítását (beleértve a közbeni tárolását), kirakását és átvételét a rendeltetési helyen. Az ADR által a minőségi követelmények meghatározásánál alkalmazott különböző fokozatok három súlyossági szinttel jellemezhetők:

- a) szokásos szállítási körülmények (rendkívüli esemény nélkül);
- b) kisebb balesetek fellépése során fennálló szállítási körülmények;
- c) a szállítás során bekövetkező baleseti körülmények.

**1.7.1.4** Az ADR előírásait nem kell alkalmazni, ha a szállított anyagok (tárgyak) a következők:

- a) a szállítóeszköz szerves részét képező radioaktív anyagok;
- b) valamely létesítményen belül mozgatott radioaktív anyagok, amelyek a létesítményben

érvényben levő, megfelelő biztonsági előírások hatálya alá esnek, és ez a mozgatás nem vesz igénybe közutat vagy vasutat;

- c) a személyekbe vagy élő állatokba diagnosztikai vagy kezelési célra bevitt vagy beültetett radioaktív anyagok;
- d) a fogyasztási cikkekben levő, hatóságilag engedélyezett radioaktív anyagok, azok végső felhasználónak történt eladását követően;
- e) a természetben előforduló radionuklidokat tartalmazó természetes anyagok és ércek, amelyek vagy természetes állapotukban vannak, vagy a radionuklidok kinyerésén kívüli egyéb célból vannak feldolgozva, és amelyeket nem szándékoznak feldolgozni a radionuklidok felhasználása céljából, amennyiben az anyag aktivitás koncentrációja nem nagyobb, mint a 2.2.7.2.2.1 b) pontban meghatározott vagy a 2.2.7.2.2.2 – 2.2.7.2.2.6 pont szerint számított érték 10-szerese;
- f) nem radioaktív szilárd tárgyak, amelyek felületükön sehol nem tartalmaznak a 2.2.7.1.2 pontban a „szennyezettség” meghatározásánál megadott határoknál nagyobb mennyiségben radioaktív anyagokat.

#### **1.7.1.5 Az engedményes küldeménydarabok szállítására vonatkozó különleges előírások**

A 2.2.7.2.4.1 pont szerinti engedményes küldeménydarabokra az 5 – 7. részek előírásai közül csak a következőket kell betartani:

- a) az 5.1.2 szakaszban, az 5.1.3.2 bekezdésben, az 5.1.4 szakaszban, az 5.2.1.2 bekezdésben, az 5.2.1.7.1 – 5.2.1.7.3 pontokban, az 5.2.1.9 bekezdésben, az 5.4.1.1.1 pont a), g) és h) alpontjában és a 7.5.11 szakasz CV33 előírás 5.2) pontjában meghatározott követelményeket;
- b) a 6.4.4 szakaszban az engedményes küldeménydarabokra meghatározott követelményeket;
- c) ha az engedményes küldeménydarab hasadóanyagot tartalmaz, akkor a 2.2.7.2.3.5 pontban szereplő, hasadóanyag mentesítési feltételek egyikének meg kell felelnie és a 6.4.7.2 bekezdés előírásait be kell tartani.

Az ADR összes többi részének vonatkozó előírását az engedményes küldeménydarabokra be kell tartani.

#### **1.7.2 Sugárvédelmi program**

**1.7.2.1** A radioaktív anyagok szállításához sugárvédelmi program szükséges, amely a sugárvédelmi követelmények kellő figyelembevételét célzó intézkedéseket tartalmaz.

**1.7.2.2** A személyek sugárterhelése nem haladhatja meg az erre meghatározott dóziskorlátokat. A védelmet és biztonságot optimalni kell annak érdekében, hogy az egyéni dózisok nagysága, a sugárzásnak kitett személyek száma és a sugárterhelés valószínűsége az ésszerűen elérhető legalacsonyabb szinten maradjon. Az optimaláskor tekintettel kell lenni a gazdasági és társadalmi tényezőkre, azzal, hogy az egyéni dózisok megállapításánál figyelembe kell venni a dózismegszorításokat. Rendszerszemléletű megközelítést kell alkalmazni, amely figyelembe veszi a szállítás és az egyéb tevékenységek kapcsolatát.

**1.7.2.3** A programban alkalmazott intézkedések jellegét és mértékét a sugárterhelés nagyságához és valószínűségéhez kell igazítani. A programnak tartalmaznia kell az 1.7.2.2, az 1.7.2.4 és az 1.7.2.5 bekezdés követelményeit. A program dokumentumait ellenőrzés céljából, kérésre az illetékes hatóság rendelkezésére kell bocsátani.

**1.7.2.4** Amennyiben a szállítási tevékenység során a foglalkozási sugárterhelésből eredő effektív dózis:

- a) valószínűleg évi 1 és 6 mSv között van, akkor a munkahely sugárellenőrzésén vagy az egyéni sugárterhelés ellenőrzésén alapuló dózis értékelési programot kell működtetni;

- b) valószínűleg meghaladja az évi 6 mSv-et, akkor egyéni sugárterhelési ellenőrzést kell végezni.

Az egyéni sugárterhelési ellenőrzések, ill. a munkahely sugárellenőrzésének adatairól megfelelő nyilvántartást kell vezetni.

**Megjegyzés:** Amennyiben a szállítási tevékenység során a foglalkozási sugárterhelésből eredő effektív dózis nagy valószínűséggel nem haladja meg az évi 1 mSv-et, akkor nincs szükség sem különleges munkarendre, sem részletes megfigyelésre, sem dózisértékelési programra, ill. egyéni nyilvántartás vezetésére.

#### 1.7.2.5

A dolgozókat (lásd a 7.5.11 szakasz CV33 előírása 3. megjegyzését) megfelelő sugárvédelmi képzésben kell részesíteni, amely kiterjed az őket érő foglalkozási sugárterhelés, ill. a tevékenységük folytán esetleg másokat érő sugárterhelés korlátozása érdekében betartandó óvintézkedésekre.

#### 1.7.3

##### Minőségbiztosítás

Az ADR előírásainak való megfeleléség biztosítása érdekében a különleges formájú radioaktív anyagok, a kis mértékben diszpergálódó radioaktív anyagok és a küldeménydarabok tervezésére, gyártására, vizsgálatára, dokumentációjára, használatára, karbantartására, felügyeletére, valamint a szállításra és a szállítás közbeni átmeneti tárolásra az illetékes hatóság által elfogadott, nemzetközi, nemzeti vagy egyéb szabványokon alapuló minőségbiztosítási programot kell kialakítani és működtetni. Annak a tanúsítványnak, hogy a gyártási mintára vonatkozó követelményeket teljes mértékben teljesítették, az illetékes hatóság rendelkezésére kell állnia. A gyártónak, a feladónak és a felhasználónak – kérésre – az illetékes hatóság számára rendelkezésre kell bocsátania a gyártás vagy a használat ellenőrzéséhez szükséges berendezéseket és minden illetékes hatóság számára bizonyítani kell, hogy

- a) az alkalmazott gyártási eljárások és a felhasznált anyagok összhangban vannak az engedélyezett mintadarab specifikációival; és
- b) minden csomagolóeszközt rendszeresen megvizsgálják és – szükség esetén – oly módon állítanak helyre és tartanak jó állapotban, hogy azok az ismételt felhasználás után is megfelelnek a vonatkozó előírásoknak és specifikációknak.

Amennyiben az illetékes hatóság engedélye szükséges, ezen engedély kiadása a minőségbiztosítási program alkalmasságának függvénye.

#### 1.7.4

##### Külön megegyezés

##### 1.7.4.1

A külön megegyezés az illetékes hatóság által jóváhagyott előírásokat jelenti, amelyek betartásával az ADR radioaktív anyagokra vonatkozó követelményeinek nem mindenben megfelelő küldemény szállítható.

**Megjegyzés:** A külön megegyezés nem tekinthető az 1.5.1 szakasz szerinti ideiglenes eltérésnek.

##### 1.7.4.2

Azok a küldemények, amelyeknél a 7 osztályra vonatkozó valamely előírást nem lehet betartani, csak külön megegyezés alapján szállíthatók. Az illetékes hatóság akkor engedélyezheti egy küldemény vagy egy előre tervezett küldemény sorozat külön megegyezés alapján történő szállítását, ha megbizonyosodott arról, hogy az ADR előírásait valóban nem lehet betartani és az ADR által megkövetelt biztonsági szintet más eszközökkel el lehet érni. A teljes szállítási biztonság legalább olyan szintűnek kell lennie, mintha minden vonatkozó előírást betartottak volna. Az ilyen típusú nemzetközi küldeményekhez többoldalú engedélyre van szükség.

#### 1.7.5

##### Egyéb veszélyes tulajdonságokkal bíró radioaktív anyag

A radioaktív és hasadó tulajdonságokon kívül a küldeménydarab tartalmának minden járulékos veszélyét, így a robbanásveszélyt, gyúlékonyságot, piroforosságot, vegyi



mérgezőképességet és maró hatást ugyancsak figyelembe kell venni az okmányokban, a csomagolásnál, a bárcázásnál, a feliratozásnál, a nagybárcák elhelyezésnél, az átmeneti tárolásnál, az elkülönítésnél és a szállításnál, hogy az ADR veszélyes árukra vonatkozó minden előírása teljesüljön.

## **1.7.6           Hiányosságok**

### **1.7.6.1       Az ADR-ben előírt, a sugárzási szintre, ill. a szennyezettségre vonatkozó határértékek túllépése esetén:**

- a)   erről a hiányosságról értesítenie kell a feladót
  - i)   a szállítónak, ha ezt a szállítás alatt észleli; ill.
  - ii)  a címzettnek, ha átvételkor észleli;
- b)   a szállítónak, a feladónak, ill. a címzettnek:
  - i)   azonnal intézkednie kell az ebből eredő következmények elhárítására;
  - ii)  ki kell vizsgálnia az okokat, körülményeket és következményeket;
  - iii) megfelelő intézkedéseket kell tennie azoknak az okoknak és körülményeknek a kiküszöbölésére, amelyek ehhez a hiányossághoz vezettek, és meg kell akadályoznia a hasonló körülmények ismételt előfordulását; és
  - iv)  az illetékes hatóság(ka)t tájékoztatnia kell a hiányosság okairól és a végrehajtott vagy végrehajtandó elhárító, ill. megelőző tevékenységről; és
- c)   a hiányosságról a feladót, ill. az illetékes hatóság(ka)t lehetőleg minél hamarabb kell tájékoztatni, de ha besugárzás szempontjából veszélyhelyzet alakult ki vagy van kialakulóban, azonnal tájékoztatni kell őket.

## **1.8 FEJEZET**

### **BIZTONSÁGI KÖVETELMÉNYEK BETARTÁSÁT BIZTOSÍTÓ ELLENŐRZÉSEK, ILL. A BIZTONSÁGOT ELŐSEGÍTŐ EGYÉB INTÉZKEDÉSEK**

#### **1.8.1 A veszélyes áruk hatósági ellenőrzése**

- 1.8.1.1** A Szerződő Felek illetékes hatóságai illetékességi területükön bármikor ellenőrizhetik, hogy a veszélyes áru szállítással kapcsolatos előírásokat, beleértve a közbiztonsági intézkedésekre vonatkozókat is az 1.10.1.5 bekezdés szerint, betartják-e.

Az ellenőrzést azonban úgy kell végezni, hogy az ne veszélyeztessen sem személyeket, sem javakat, sem a környezetet, ill. ne zavarja jelentősen a közúti közlekedést.

- 1.8.1.2** A veszélyes áruk szállításában résztvevőknek (lásd 1.4 fejezet) az ellenőrzéshez szükséges minden, saját feladataikra vonatkozó információt haladéktalanul az illetékes hatóság vagy képviselője rendelkezésére kell bocsátaniuk.

- 1.8.1.3** A veszélyes áruk szállításában résztvevő vállalkozások (lásd 1.4 fejezet) telephelyén történő ellenőrzés céljából az illetékes hatóságok helyszíni vizsgálatot is tarthatnak, megnézhetik a szükséges okmányokat, a veszélyes áruból, ill. a csomagolóeszközből vizsgálat céljából mintát vehetnek, feltéve, hogy mindezzel nem veszélyeztetik a biztonságot. A veszélyes áruk szállításában résztvevőknek (lásd 1.4 fejezet) ellenőrzés céljára a járműveket, a jármű alkatrészeket, a felszereléseket és a berendezéseket is hozzáférhetővé kell tenni, amennyiben az lehetséges, ill. ésszerű. Amennyiben a hatóság szükségesnek ítéli, kijelölhet valakit a vállalkozástól, hogy elkísérje az illetékes hatóság képviselőjét.

- 1.8.1.4** Amennyiben az illetékes hatóságok azt tapasztalják, hogy az ADR előírásait nem tartották be, megtilthatják a küldemény feladását vagy megszakíthatják a szállítást, amíg a tapasztalt hiányosságokat ki nem küszöbölik, ill. más, megfelelő intézkedést is hozhatnak. A jármű feltartóztatása történhet a helyszínen vagy – biztonsági okokból – a hatóságok által kiválasztott más helyen. Ezek az intézkedések azonban nem zavarhatják jelentősen a közúti közlekedést.

#### **1.8.2 Hivatali együttműködés**

- 1.8.2.1** A Szerződő Felek hivatalainak együtt kell működniük az ADR végrehajtásában.

- 1.8.2.2** Ha egy Szerződő Fél megállapítja, hogy területén a veszélyes áruk szállításának biztonságát egy olyan vállalkozás nagyon súlyos vagy ismételt szabálytalansága veszélyezteti, amelynek székhelye egy másik Szerződő Fél területén van, az ilyen szabálytalanságról értesítenie kell a másik Szerződő Fél illetékes hatóságát. Azon Szerződő Fél illetékes hatóságai, amelynek területén a súlyos vagy ismételt szabálytalanságot megállapították, felkérhetik azon Szerződő Fél illetékes hatóságait, amelyben a vállalkozás székhelye van, hogy hozzanak megfelelő intézkedéseket a szabálytalanság elkövetője vagy elkövetői ellen. A személyekre vonatkozó adatok nem adhatók át, kivéve, ha a súlyos vagy ismételt szabálytalanság miatti büntetőeljáráshoz van rá szükség.

- 1.8.2.3** Az értesített illetékes hatóságoknak a vállalkozással szemben hozott intézkedéseikről – ha ilyenre szükség volt – értesíteniük kell azon Szerződő Fél illetékes hatóságait, amelyben a szabálytalanságot megállapították.

#### **1.8.3 Biztonsági tanácsadó**

- 1.8.3.1** Minden vállalkozásnak, amely veszélyes árut közúton szállít, fuvaroz vagy ahhoz kapcsolódó csomagolást, berakást, töltést vagy kirakást végez, egy vagy több veszélyes áru szállítási biztonsági tanácsadót kell kineveznie, aki azért felelős, hogy segítse megelőzni, hogy e tevékenységek veszélyeztessék az embereket, az anyagi javakat vagy a környezetet.

**1.8.3.2** A Szerződő Felek illetékes hatóságai rendelkezhetnek úgy, hogy ezeket a követelményeket nem kell alkalmazni azon vállalkozások esetében:

- a) amelyek tevékenysége olyan mennyiségekre terjed ki, melyek szállítóegységenként nem haladják meg az 1.1.3.6 és az 1.7.1.4 bekezdésben, valamint a 3.3, 3.4 és 3.5 fejezetben meghatározott értékeket; vagy
- b) amelyek fő vagy kiegészítő tevékenységi körébe nem tartozik a veszélyes áru szállítás, ill. az ezzel kapcsolatos be- és kirakás, de esetenként részt vesznek olyan veszélyes áruk belföldi szállításában vagy az ehhez kapcsolódó be- és kirakásában, amelyek csak kisebb veszélyt vagy környezeti kockázatot jelentenek.

**1.8.3.3** A tanácsadó fő feladata, hogy a vállalkozás vezetőjének felelőssége mellett minden lehetséges módon és ténykedéssel elősegítse, hogy a vállalkozás az érintett tevékenységét a hatályos szabályoknak megfelelően és a lehető legbiztonságosabb módon végezze.

A tanácsadónak a vállalkozás tevékenységére vonatkozóan a következők a feladatai:

- annak figyelemmel kísérése, hogy betartják-e a veszélyes áruk szállítását szabályozó előírásokat;
- tanácsadás a vállalkozás számára a veszélyes áruk szállítását illetően;
- éves jelentés készítése a vállalkozás vezetősége, vagy adott esetben a helyi hatóság számára a vállalkozás veszélyes áruk szállításával kapcsolatos tevékenységéről. Az éves jelentéseket öt évig meg kell őrizni, és a hatóság kérésére be kell mutatni.

A tanácsadónak ezen kívül kötelessége figyelemmel kísérni a vállalkozás érintett tevékenységére vonatkozóan a következők gyakorlati végrehajtását és az ezzel kapcsolatos eljárásokat:

- a szállítandó veszélyes áruk azonosítására vonatkozó szabályok betartását;
- azt, hogy a vállalkozás figyelembe veszi-e a szállítójárművek vásárlásánál a szállítandó veszélyes áruval kapcsolatos különleges követelményeket;
- a veszélyes áruk szállítására, be- és kirakására használt felszerelések ellenőrzésére szolgáló eljárásokat;
- a vállalkozás alkalmazottainak megfelelő képzését, és a képzésről szóló jelentések, okmányok őrzését, nyilvántartását;
- a szállítás vagy a be- és kirakás biztonságát veszélyeztető baleset vagy rendkívüli esemény esetén a megfelelő veszély-elhárítási eljárások alkalmazását;
- a szállítás vagy a be- és kirakás alatt észlelt súlyos balesetek, rendkívüli események vagy súlyos szabálytalanságok okának felderítését, vagy amennyiben szükséges, jelentés készítését;
- a balesetek, rendkívüli események vagy súlyos szabálytalanságok ismétlődésének megakadályozását célzó megfelelő eljárások alkalmazását;
- az alvállalkozók vagy harmadik felek kiválasztásakor és igénybevételekor a veszélyes áruk szállításával kapcsolatos jogi előírások és különleges követelmények figyelembevételét;
- annak ellenőrzését, hogy a veszélyes áruk szállításában, be- és kirakásában résztvevő alkalmazottak részletes technológiai utasítást és oktatást kapnak;
- a veszélyes áruk szállításakor, be- és kirakásakor fennálló veszélyek tudatosítását szolgáló intézkedések meghozatalát;
- olyan ellenőrzési eljárások foganatosítását, melyek azt hivatottak biztosítani, hogy a járműveken a kötelező okmányok és biztonsági felszerelések a szabályoknak megfelelő formában megtalálhatók;
- olyan ellenőrzési eljárások foganatosítását, melyek a be- és kirakással kapcsolatos szabályok betartását biztosítják;
- az 1.10.3.2 bekezdésben meghatározott közbiztonsági terv meglétét.

**1.8.3.4** A tanácsadó lehet a vállalkozás vezetője is, a vállalkozásban más feladatkört is ellátó személy vagy a vállalkozás közvetlen alkalmazásában nem álló személy, amennyiben alkalmas a tanácsadó feladatainak ellátására.

**1.8.3.5** Minden érintett vállalkozásnak az illetékes hatóság vagy az egyes Szerződő Felek által e

célra kijelölt testület kérésére közölnie kell, hogy ki a tanácsadója.

- 1.8.3.6** Ha egy szállítás, ill. az áruk be- vagy kirakása közben bekövetkezett baleset személyeket, anyagi javakat vagy a környezetet érinti, vagy bennük kárt okoz, az érintett vállalkozás tanácsadójának a lényeges információk összegyűjtése után baleseti jelentést kell készítenie a vállalkozás vezetősége vagy adott esetben a helyi hatóság részére. Ez a jelentés azonban nem helyettesíti a vállalkozás vezetésének jelentését, amely bármilyen más nemzetközi vagy belföldi szabályozás alapján szükséges.
- 1.8.3.7** A tanácsadónak a közúti szállításra érvényes bizonyítvánnyal kell rendelkeznie. A bizonyítványt az illetékes hatóságnak vagy az egyes Szerződő Felek által e célra kijelölt testületnek kell kiadnia.
- 1.8.3.8** A bizonyítvány megszerzéséhez a jelöltnek képzésben kell részt vennie, és a Szerződő Fél illetékes hatósága által jóváhagyott vizsgát kell tennie.
- 1.8.3.9** A képzés fő célja, hogy a jelölt megfelelő tudást szerezzen a veszélyes áruk szállításában rejlő veszélyekről, az adott szállítási módra vonatkozó jogszabályokról, rendeletekről és hatósági előírásokról, valamint az 1.8.3.3 bekezdés szerinti feladatokról.
- 1.8.3.10** A vizsgát az illetékes hatóságnak vagy az általa kinevezett vizsgáztató szervezetnek kell megszerveznie. Képzőszerv nem lehet vizsgáztató szervezet.
- A vizsgáztató szervezetet írásban kell kinevezni. A kinevezést, amely korlátozott időtartamú is lehet, a következő kritériumok alapján kell kiadni:
- a vizsgáztató szervezet szakmai alkalmassága;
  - a vizsgáztató szervezet által javasolt vizsgáztatási forma részletes leírása;
  - a vizsgáztatás pártatlanságának biztosítására vonatkozó intézkedések;
  - a szervezet függetlensége bármely, biztonsági tanácsadót alkalmazó természetes vagy jogi személytől.
- 1.8.3.11** A vizsga célja meggyőződni arról, hogy a jelölt az 1.8.3.7 bekezdésben előírt bizonyítvány megszerzéséhez elegendő szintű tudással rendelkezik-e a tanácsadóra háruló, az 1.8.3.3 bekezdésben felsorolt feladatok ellátásához. A vizsgának a következő témákra kell kiterjednie:
- a) A veszélyes árukkal kapcsolatos balesetek lehetséges következményeinek és a balesetek fő okainak ismerete;
  - b) A belföldi jog, a nemzetközi megállapodások és egyezmények előírásai, különös tekintettel az alábbiakra:
    - a veszélyes áruk besorolása (az oldatok és keverékek besorolási eljárása, az anyagfelsorolás felépítése, a veszélyes áru osztályok és az osztályba sorolás elvei, a szállított veszélyes áruk jellemzői, fizikai, kémiai és toxikológiai (mérgező) tulajdonságai);
    - általános csomagolási előírások, a tartányokra és tankkonténerekre vonatkozó előírások (típusok, kódolás, jelölés, szerkezeti felépítés, első alkalommal végzett és időszakos vizsgálatok);
    - feliratok és jelölések, veszélyességi bárcával és narancssárga táblával való jelölés (a küldeménydarabok jelölése és bárcázása, a nagybárcák és a narancssárga táblák elhelyezése és eltávolítása);
    - bejegyzések a fuvarokmányokba (szükséges információk);
    - a szállítás lebonyolítása és a feladási korlátozások (teljes rakomány, ömlesztett szállítás, szállítás IBC-kben, szállítás konténerekben, szállítás rögzített és leszerelhető tartányokban);
    - utasok szállítása;
    - együvé rakási tilalmak és elővigyázatossági intézkedések az együvé rakáskor;
    - az áruk elkülönítése;
    - a szállított mennyiség korlátozása és a mentesített mennyiségek;
    - árukezelés és elhelyezés (be- és kirakás, töltési fok, átmeneti tárolás és

- elkülönítés);
- berakás előtti és kirakás utáni tisztítás, ill. gáztalanítás;
- személyzet, szakképzés;
- jármű okmányok (fuvarokmány, írásbeli utasítás, jármű jóváhagyási igazolás, a járművezető oktatási bizonyítványa, az eltérésekről szóló megállapodások okmányai, egyéb okmányok);
- írásbeli utasítás (az utasítás végrehajtása és a jármű személyzet egyéni védőfelszerelése);
- a járművek felügyeletére vonatkozó előírások (várakozás);
- forgalmi szabályok és korlátozások;
- környezetszennyező anyagok működés közbeni kibocsátása vagy véletlen kifolyása;
- a szállítóeszközökre vonatkozó követelmények.

### 1.8.3.12      *A vizsga*

1.8.3.12.1      A vizsgának írásbelinek kell lennie, ami kiegészíthető szóbeli vizsgával is.

1.8.3.12.2      A nemzetközi és a belföldi szabályzatokon kívül egyéb segédanyagot az írásbeli vizsgán nem szabad használni.

1.8.3.12.3      Elektronikus eszközöket csak akkor szabad használni, ha a vizsgáztató szervezet bocsátja rendelkezésre. Az elektronikus eszköz csak olyan lehet, amelybe a vizsgázó nem tud további adatokat bevinni, csak a feltett kérdésre tud válaszolni.

1.8.3.12.4      Az írásbeli vizsgának két részből kell állnia:

- a)      A jelöltnek egy kérdőívet kell kapnia. A kérdőívnek legalább 20 kiegészítendő kérdést kell tartalmaznia, amelyek legalább az 1.8.3.11 bekezdésben felsorolt témákra terjednek ki. Felelet-választós kérdéseket is lehet alkalmazni, ez esetben két felelet-választós kérdés egyenértékű egy kiegészítendő kérdéssel.

A témák között különös figyelmet kell szentelni a következőknek:

- általános megelőző és biztonsági intézkedések;
- a veszélyes áruk besorolása;
- általános csomagolási előírások, beleértve a tartányokra, a tankkonténerekre és a tartányjárművekre vonatkozó előírásokat;
- a veszély jelölése és a veszélyességi bárcák;
- a fuvarokmányban levő bejegyzések;
- árukezelés és rakodás;
- a személyzet szakképzése;
- a jármű okmányai és bizonyítványok;
- írásbeli utasítás;
- a szállítóeszközökre és felszerelésükre vonatkozó előírások.

- b)      A jelöltnek egy esettanulmányt is ki kell dolgoznia a tanácsadó 1.8.3.3 bekezdésben felsorolt feladataira vonatkozóan, amivel bizonyítja, hogy képes a tanácsadó feladatainak ellátására.

1.8.3.13      A Szerződő Felek rendelkezhetnek úgy, hogy azok a jelöltek, akik olyan vállalkozásnál kívánnak dolgozni, amely bizonyos veszélyes áruk szállítására szakosodott, csak az e tevékenységgel kapcsolatos témákból vizsgázzanak. Ezek a veszélyes árucsoportok a következők lehetnek:

- 1 osztály;
- 2 osztály;
- 7 osztály;
- 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 8 és 9 osztály;
- az UN 1202, 1203, 1223, 3475 számú anyagok, és az UN 1268 és 1863 alá tartozó repülőgép tüzelőanyagok.

Az 1.8.3.7 bekezdésben előírt bizonyítványból egyértelműen ki kell tűnnie, hogy csak

azokra, az e bekezdésben foglalt árucsoport(ok)ra érvényes, amelyekből a jelölt az 1.8.3.12 bekezdés szerinti követelményeknek megfelelően vizsgát tett.

Azok a veszélyes áru szállítási biztonsági tanácsadói bizonyítványok, amelyeket 2009. január 1-je előtt bocsátottak ki és az UN 1202, 1203 és 1223 számú anyagokra érvényesek, az UN 3475 számú anyagra, valamint az UN 1268 és 1863 alá tartozó repülőgép tüzelőanyagokra is érvényesek.

- 1.8.3.14** Az illetékes hatóságnak vagy a vizsgáztató szervezetnek a vizsgakérdésekből gyűjteményt kell készítenie.
- 1.8.3.15** Az 1.8.3.7 bekezdésben előírt bizonyítványt az 1.8.3.18 bekezdés szerinti formában kell kiállítani. A bizonyítványt minden Szerződő Fél köteles elismerni.
- 1.8.3.16** *A bizonyítvány érvényessége és megújítása*
- 1.8.3.16.1** A bizonyítvány öt évig érvényes. A bizonyítvány érvényességi idejét meg kell hosszabbítani, esetenként az érvényességének lejártától számított öt évvel, ha tulajdonosa a bizonyítvány érvényességének lejárt előtti egy éven belül sikeres vizsgát tett. A vizsgáztatást az illetékes hatóságnak jóvá kell hagynia.
- 1.8.3.16.2** A vizsga célja meggyőződni arról, hogy a bizonyítvány tulajdonosa rendelkezik-e az 1.8.3.3 bekezdésben felsorolt feladatok ellátásához szükséges ismeretekkel. A szükséges ismeretek az 1.8.3.11 b) pontban vannak felsorolva, amely ismereteknek ki kell terjedniük a bizonyítvány kiadása (legutóbbi meghosszabbítása) óta eltelt időben az előírásokban bekövetkezett változásokra is. A vizsgát az 1.8.3.10 és 1.8.3.12 – 1.8.3.14 bekezdésben előírtak szerint kell szervezni és felügyelni. A bizonyítvány tulajdonosának azonban nem kell az 1.8.3.12.4 b) pontban említett esettanulmányt kidolgoznia.
- 1.8.3.17** Az 1.8.3.1 – 1.8.3.16 bekezdés követelményei teljesítettnek tekinthetők, ha a veszélyes áruk közúti, vasúti és belvízi szállításánál alkalmazandó biztonsági tanácsadó kinevezéséről és szakmai képezéséről szóló, a Tanács 1996. június 3-i 96/35/EK Irányelvének<sup>5)</sup>, ill. a veszélyes áruk közúti, vasúti és belvízi szállítási biztonsági tanácsadó minimum vizsgakövetelményeiről szóló, az Európai Parlament és a Tanács 2000. április 17-i 2000/18/EK Irányelvének<sup>6)</sup> előírásait alkalmazzák.

5) Az EK Hivatalos Lapja, L 145. szám, 1996.06.19., 10. o.

6) Az EK Hivatalos Lapja, L 118. szám, 2000.05.19., 41. o.

**1.8.3.18 A bizonyítvány formája**

*A veszélyes áru szállítási biztonsági tanácsadó képzésének bizonyítványa*

A bizonyítvány száma: .....

A bizonyítványt kiállító állam megkülönböztető jele: .....

Vezetéknév: .....

Keresztnév (-nevek): .....

Születési idő és hely: .....

Állampolgárság: .....

A tulajdonos aláírása: .....

Érvényes: . ....-ig

veszélyes árut

☐ közúton

☐ vasúton

☐ belvízi úton

szállító, fuvarozó, ill. az ehhez kapcsolódó be- és kirakást végző vállalkozások esetében.

Kiállította: .....

Dátum: ..... Aláírás: .....

Meghosszabbítva: .....-ig .....által

Dátum: ..... Aláírás: .....

**1.8.4 Az illetékes hatóságok és az általuk kijelölt szervezetek jegyzéke**

A Szerződő Feleknek közölniük kell az ENSZ Európai Gazdasági Bizottság Titkárságával azoknak a hatóságoknak, ill. az általuk kijelölt szervezeteknek a címét, amelyek az ADR végrehajtására vonatkozó belföldi jogszabályaik szerint illetékesek. Minden esetben meg kell adni az ADR azon előírásait, amelyekre vonatkozóan illetékesek, ill. azt a címet, amelyre a kérelmeket be lehet nyújtani.

Az ENSZ EGB Titkárságának a kapott információk alapján jegyzéket kell összeállítania és azt napra kész állapotban kell tartania. A jegyzéket és módosításait meg kell küldenie a Szerződő Feleknek.

**1.8.5 A veszélyes árukkal kapcsolatos eseményekről szóló jelentés**

**1.8.5.1** Amennyiben a veszélyes áru szállítása, berakása, töltése vagy kirakása során valamely Szerződő Fél területén jelentős baleset vagy káresemény következett be, a szállítónak, a fuvarozónak, a berakónak, a töltőnek, ill. a címzettnek meg kell győződnie arról, hogy az érintett Szerződő Fél illetékes hatósága számára az 1.8.5.4 bekezdésben szereplő minta szerinti jelentés készül.

**1.8.5.2** A Szerződő Félnek ezután szükség esetén jelentést kell készítenie az ENSZ Európai Gazdasági Bizottság Titkársága számára a többi Szerződő Fél informálása céljából.

**1.8.5.3** Az 1.8.5.1 bekezdés szerinti jelentést akkor kell elkészíteni, ha a következő események közül egy vagy több bekövetkezett: a veszélyes áru kiszabadult vagy kiszabadulásának közvetlen veszélye állt fenn, személyi sérülés, anyagi kár vagy a környezet károsodása következett be, vagy a hatóságok beavatkoztak. Ennek megítélésénél a következő kritériumokat kell alkalmazni:

A „személyi sérülés” olyan esemény, amelyben a szállított veszélyes áruval közvetlenül kapcsolatba hozható sérülés vagy haláleset következik be, és a sérülés:



- a) intenzív orvosi kezelést igényel,
- b) legalább egy napos kórházi tartózkodást igényel, vagy
- c) legalább három, egymást követő napig munkaképtelenséget okoz.

A „veszélyes áru kiszabadulás”

- a) a 0 vagy az 1 szállítási kategóriába tartozó veszélyes árunak legalább 50 kg vagy 50 l mennyiségben,
- b) a 2 szállítási kategóriába tartozó veszélyes árunak legalább 333 kg vagy 333 l mennyiségben, vagy
- c) a 3 vagy a 4 szállítási kategóriába tartozó veszélyes árunak legalább 1000 kg vagy 1000 l mennyiségben

történő szabaddá válása.

A „veszélyes áru kiszabadulás” kritériuma akkor is teljesül, ha a veszélyes áru kiszabadulásának közvetlen veszélye állt fenn az előzőekben említett mennyiségekben. Ezt rendszerint akkor kell feltételezni, ha a szerkezeti sérülés következtében a csomagolóeszköz nem alkalmas a további szállításra, vagy ha bármilyen más okból a megfelelő biztonsági szint már nem áll fenn (pl. a tartányok vagy konténerek deformálódása, a tartány felborulása vagy a közvetlen közelben levő tűz miatt).

A 6.2 osztály veszélyes áruai esetén a jelentési kötelezettség a mennyiségtől függetlenül fennáll.

Ha az eset a 7 osztály anyagával történik, a „veszélyes áru kiszabadulás” kritériumai a következők:

- a) radioaktív anyag bármilyen kiszabadulása a küldeménydarabból;
- b) olyan sugárterhelés bekövetkezése, amely meghaladja a dolgozók és a lakosság ionizáló sugárzással szembeni védelmét szabályozó előírások határértékeit (NAÜ 115. sz. Biztonsági Sorozat, II. Rész – „Nemzetközi alapvető biztonsági szabványok az ionizáló sugárzással szembeni védelemre és a sugárforrások biztonságára”); vagy
- c) ha okkal feltételezhető, hogy a küldeménydarab valamelyik biztonsági funkciójának (megtartás, árnyékolás, hővédelem vagy kritikusság) jelentős csökkenése következett be, ami a küldeménydarabot alkalmatlanná teszi a további szállításra kiegészítő biztonsági intézkedések nélkül.

**Megjegyzés:** Azon küldeményekre, amelyek nem szolgáltatathatók ki, lásd a 7.5.11 szakasz CV33 előírás 6) bekezdését.

Az „anyagi kár” vagy a „környezet károsodása” a veszélyes áru kiszabadulását jelenti, függetlenül annak mennyiségétől, ha a kár becsült értéke meghaladja az 50 000 eurót. A veszélyes árut tartalmazó szállítóeszközben és a közlekedési infrastruktúrában keletkezett kárt ebből a szempontból figyelmen kívül kell hagyni.

A „hatósági beavatkozás” a hatóságok vagy kárelhárító szolgálatok közvetlen beavatkozása a veszélyes áruval kapcsolatos eseménybe, és személyek legalább három órára történő evakuálása vagy közforgalmú közlekedési útvonalak (utak, vasútvonalak) legalább három órára történő lezárása a veszélyes áru által okozott veszélyhelyzet miatt.

Szükség esetén az illetékes hatóság további, érdemi információt kérhet.

#### 1.8.5.4

*A veszélyes áruk szállítása során bekövetkezett eseményekről készítendő jelentés mintája*



**A veszélyes áruk szállítása során bekövetkezett eseményekről készítendő jelentés a  
RID/ADR 1.8.5 szakasza szerint**

|  |
|--|
| A szállító/a fuvarozó/a vasúti infrastruktúra üzemeltetője ..... |
| .....  |
| .....  |
| Cím: .....   |
| .....  |
| A kapcsolattartó neve:.....Telefon: .....Fax: .....              |

*(Ezt a fedlapot az illetékes hatóságnak a jelentés továbbítása előtt el kell távolítania.)*

|   |   |
|---|---|
| 1. Közlekedési alágazat   |   |
| Vasút<br>Kocsiszám (nem kötelező megadni)<br>.....  | Közút<br>Jármű rendszám (nem kötelező megadni)<br>.....   |
| 2. Az esemény ideje és helye  |   |
| Év: ..... Hónap: .....<br>Vasút<br>Állomás<br>Rendezőpályaudvar<br>Berakóhely/kirakóhely/átrakóhely<br>Helység/ország: .....<br>vagy<br>Nyílt pálya<br>A vonal megnevezése:.....<br>Kilométerszelvény: .....                  | Nap: ..... Időpont: .....<br>Közút<br>Lakott területen<br>Berakóhely/kirakóhely/átrakóhely<br>Lakott területen kívül<br>Helység/ország: ..... |
| 3. Topográfia   |   |
| Emelkedő/lejtő<br>Alagút<br>Híd/aluljáró<br>Kereszteződés   |   |
| 4. Különleges időjárási körülmények   |   |
| Eső<br>Hó<br>Jég<br>Köd<br>Felhőszakadás<br>Vihar<br>Hőmérséklet: ..... °C  |   |
| 5. Az esemény leírása   |   |
| Kisiklás/az útpálya elhagyása<br>Összeütközés<br>Eldőlés/felborulás<br>Tűz<br>Robbanás<br>Szivárgás<br>Műszaki hiba<br>Az esemény kiegészítő leírása:<br>.....<br>.....<br>.....<br>.....<br>.....<br>.....<br>.....<br>..... |   |

| 6. Az érintett veszélyes áruk  |              |                          |  |  |                                      |   |
|--|--------------|--------------------------|--|--|--------------------------------------|---|
| UN szám <sup>1)</sup>  | Osz-<br>tály | Csomago-<br>lási csoport | A szabadba jutott<br>termék becsült meny-<br>nyisége (kg vagy l) <sup>2)</sup> | Az árut<br>befogadó<br>eszköz <sup>3)</sup>  | Az árut<br>befogadó<br>eszköz anyaga | Az árut befogadó<br>eszköz meghibá-<br>sodásának típusa <sup>4)</sup> |
|  |              |                          |  |  |                                      |   |
|  |              |                          |  |  |                                      |   |
|  |              |                          |  |  |                                      |   |
| 1) Gyűjtőmegnevezések alá tartozó veszélyes áruk esetén, amelyekre a 274 különleges előírás vonatkozik, a műszaki megnevezést is meg kell adni.  |              |                          |  | 2) A 7 osztálynál az értéket az 1.8.5.3 bekezdés kritériumai szerint kell megadni.                 |                                      |   |
| 3) A megfelelő számot kell feltüntetni:<br>1 Csomagolóeszköz<br>2 IBC<br>3 Nagycsomagolás<br>4 Kiskonténer<br>5 Vasúti kocsi<br>6 Jármű<br>7 Tartálykocsi<br>8 Tartányjármű<br>9 Battériás kocsi<br>10 Battériás jármű<br>11 Vasúti kocsi leszerelhető tartánnyal<br>12 Leszerelhető tartány<br>13 Nagykonténer<br>14 Tankkonténer<br>15 MEG-konténer<br>16 Mobil tartány  |              |                          |  | 4) A megfelelő számot kell feltüntetni:<br>1 Szivárgás<br>2 Tűz<br>3 Robbanás<br>4 Szerkezeti hiba |                                      |   |
| 7. Az esemény oka (ha egyértelműen ismert)   |              |                          |  |  |                                      |   |
| Műszaki hiba<br>Hibás rakomány rögzítés<br>Üzemi ok (vasútüzem)<br>Egyéb:<br>.....   |              |                          |  |  |                                      |   |
| 8. Az esemény következménye  |              |                          |  |  |                                      |   |
| A veszélyes áruval kapcsolatba hozható személyi sérülés:<br>Halott(ak) (száma: .....)<br>Sérült(ek) (száma: .....)<br>A veszélyes áru kiszabadulása:<br>Igen<br>Nem<br>A veszélyes áru kiszabadulásának közvetlen veszélye<br>Áru/környezeti kár:<br>A kár becsült értéke ≤ 50 000 euró<br>A kár becsült értéke > 50 000 euró<br>Hatósági beavatkozás:<br>Történt                      Személyek evakuálására volt szükség legalább három órára a veszélyes áru miatt<br>A közforgalmi közlekedési útvonalak lezárására volt szükség legalább három órára a veszélyes áru miatt<br>Nem történt |              |                          |  |  |                                      |   |

Szükség esetén az illetékes hatóság további, érdemi információt kérhet.

**1.8.6 Az 1.8.7 szakaszban leírt megfelelés-értékelés, időszakos és soron kívüli vizsgálatok hatósági felügyelete**

**1.8.6.1** Az illetékes hatóság az 1.8.7 szakaszban meghatározott megfelelés értékelés, időszakos és soron kívüli vizsgálat, valamint az üzemi vizsgálóhely felügyelete céljából vizsgáló szervezeteket hagyhat jóvá.

**1.8.6.2** Az illetékes hatóságnak gondoskodnia kell a vizsgáló szervezet felügyeletéről, és ha azt állapítja meg, hogy a jóváhagyott szervezet nem felel meg a jóváhagyásban vagy az 1.8.6.4 bekezdésben foglaltaknak, vagy nem követi az ADR előírásaiban meghatározott eljárás(oka)t, a jóváhagyást vissza kell vonnia vagy korlátoznia kell az érvényességét.

**1.8.6.3** Ha egy jóváhagyást visszavontak vagy az érvényességét korlátozták, vagy a vizsgáló szervezet felhagyott a tevékenységgel, az illetékes hatóságnak meg kell tennie a szükséges lépéseket, hogy az iratokat vagy egy másik vizsgáló szervezet kezelje vagy biztosítani kell, hogy az iratok továbbra is hozzáférhetők legyenek.

**1.8.6.4** A vizsgáló szervezetnek:

- a) szervezetbe integrált, alkalmas, hozzáértő, szakképzett és gyakorlott személyzettel kell rendelkeznie, hogy műszaki feladatait megfelelő módon végezhesse;
- b) alkalmas és elegendő berendezésnek és felszerelésnek kell rendelkezésére állnia;
- c) részrehajlás nélkül kell működnie, és minden olyan hatástól mentesnek kell lennie, ami ebben akadályozhatná;
- d) a gyártók és más szervezetek kereskedelmi és tulajdonjogi védelmet élvező tevékenységeit üzleti titokként kell kezelnie;
- e) egyértelműen el kell különítenie a vizsgáló szervezeti funkcióit és az ezzel nem kapcsolatos tevékenységet;
- f) dokumentált minőségbiztosítási rendszerrel kell rendelkeznie;
- g) biztosítania kell, hogy a vonatkozó szabványokban és az ADR-ben szereplő vizsgálatokat elvégezzék; és
- h) az 1.8.7 szakaszban foglaltak szerinti célszerű és megfelelő jegyzőkönyvezési és okirat nyilvántartási rendszert kell működtetni.

A vizsgáló szervezetet az EN ISO/IEC 17020:2004 szabvány szerint akkreditálni is kell, a 6.2.3.6 bekezdés és a 6.8.4 szakasz TA4 és TT9 különleges előírásának megfelelően.

Az új tevékenységet kezdő vizsgáló szervezetet ideiglenesen is jóvá lehet hagyni. Az ideiglenes kijelölés előtt az illetékes hatóságnak meg kell győződnie arról, hogy a vizsgáló szervezet megfelel az EN ISO/IEC 17020:2004 szabvány követelményeinek. Annak érdekében, hogy a vizsgáló szervezet tovább folytathassa ezt az új tevékenységet, a tevékenység első évében akkreditálni kell.

**1.8.7 A megfelelés-értékelésre és az időszakos vizsgálatokra vonatkozó előírások**

*Megjegyzés: E szakasz alkalmazásában az „illetékes szervezet” az a szervezet, amelyet az UN nyomástartó tartályok tanúsítására a 6.2.2.9 bekezdés, a nem UN nyomástartó tartályok jóváhagyására a 6.2.3.6 bekezdés, valamint a 6.8.4 szakasz TA4 és TT9 különleges előírása határoz meg.*

**1.8.7.1 Általános előírások**

**1.8.7.1.1** Az 1.8.7 szakasz szerinti eljárásokat a nem UN nyomástartó tartályok engedélyezése során a 6.2.3.6 bekezdés táblázata, a tartályok, a battériás járművek és a MEG-konténerek jóváhagyása során a 6.8.4 szakasz TA4 és TT9 különleges előírása szerint kell alkalmazni.

Az 1.8.7 szakasz szerinti eljárásokat az UN nyomástartó tartályok tanúsítása során a 6.2.2.9

bekezdés táblázata szerint lehet alkalmazni.

#### 1.8.7.1.2

A kérelmező

- a) az 1.8.7.2 bekezdés szerinti típusjóváhagyás;
  - b) az 1.8.7.3 bekezdés szerinti gyártás felügyelet és az 1.8.7.4 bekezdés szerinti üzembe helyezés előtti vizsgálat;
  - c) az 1.8.7.5 bekezdés szerinti időszakos és soron kívüli vizsgálat
- iránti kérelmét a saját választása szerinti, egyetlen illetékes hatósághoz, ill. megbízottjához vagy egyetlen jóváhagyott vizsgáló szervezethez nyújthatja be.

#### 1.8.7.1.3

A kérelemnek a következőket kell tartalmaznia:

- a) a kérelmező nevét és székhelyét;
- b) megfelelőség-értékelés esetén, ha a kérelmező nem azonos a gyártóval, akkor a gyártó nevét és székhelyét;
- c) írásos nyilatkozatot arról, hogy másik illetékes hatósághoz, ill. megbízottjához vagy más vizsgáló szervezethez nem nyújtottak be ugyanilyen kérelmet;
- d) az 1.8.7.7 bekezdésben leírt műszaki dokumentációt;
- e) nyilatkozatot arról, hogy az illetékes hatóságnak, ill. megbízottjának vagy a vizsgáló szervezetnek vizsgálati célból szabad belépést biztosít a gyártó-, vizsgáló- és tárolóhelyekre és rendelkezésére bocsát minden szükséges információt.

#### 1.8.7.1.4

Ha a kérelmező az illetékes hatóság, ill. az általa megbízott vizsgáló szervezet részére meggyőzően bizonyítani tudja, hogy megfelel az 1.8.7.6 bekezdésben foglaltaknak, akkor üzemi vizsgálóhelyet létesíthet azokra a vizsgálatokra (vagy azok egy részére), amelyekre a 6.2.2.9, ill. a 6.2.3.6 bekezdés megengedi.

### 1.8.7.2

#### *Típusjóváhagyás*

#### 1.8.7.2.1

A kérelmezőnek

- a) nyomástartó tartályok esetén: a gyártani tervezett nyomástartó tartály mintadarabját az illetékes szervezet rendelkezésére kell bocsátania. Az illetékes szervezet további mintadarabokat is kérhet, ha a vizsgálati program úgy kívánja;
- b) tartályok, battériás járművek és MEG-konténerek esetén: a prototípust hozzáférhetővé kell tennie a típusvizsgálat elvégzése céljából.

#### 1.8.7.2.2

Az illetékes szervezetnek

- a) meg kell vizsgálnia az 1.8.7.7.1 pont szerinti műszaki dokumentációt, hogy ellenőrizze, hogy a típus megfelel a vonatkozó ADR előírásoknak, a prototípust vagy prototípus sorozatot a műszaki dokumentáció szerint gyártották és reprezentálja a típust;
- b) el kell végeznie a vizsgálatokat, ill. az ADR-ben előírt próbák elvégzésénél jelen kell lennie, annak megállapítására, hogy az előírásokat alkalmazták és betartották, valamint a gyártó által alkalmazott eljárások megfelelnek a követelményeknek;
- c) felül kell vizsgálnia az (alap)anyag gyártó(k) által kiadott bizonylatokat az ADR vonatkozó előírásai alapján;
- d) jóvá kell hagynia a szerkezeti elemek állandó kötéseinek kialakítására szolgáló eljárásokat, ill. ellenőriznie kell, hogy már jóváhagyták-e, valamint azt, hogy a szerkezeti elemek állandó kötését és a roncsolásmentes vizsgálatokat arra jogosult (képzett, ill. minősített) alkalmazottak végzik-e;
- e) meg kell állapodnia a kérelmezővel abban, hogy hol és milyen vizsgáló berendezésekkel hajtják végre a vizsgálatokat és a szükséges próbákat.

Az illetékes szervezetnek a kérelmező számára típusvizsgálati jegyzőkönyvet kell kiállítania.

- 1.8.7.2.3** Az illetékes hatóságnak, ill. megbízottjának vagy a vizsgáló szervezetnek típusjóváadási bizonyítványt kell kiállítania, ha a típus megfelel az összes vonatkozó előírásnak.

A bizonyítványban fel kell tüntetni:

- a) a kiállító nevét és székhelyét;
- b) a gyártó nevét és székhelyét;
- c) arra való utalást, hogy a típusvizsgálat során az ADR melyik változatát és mely szabványokat alkalmazták;
- d) a vizsgálatokból származó követelményeket,
- e) a megfelelő szabványokban meghatározott, a típus, ill. a típusváltozat azonosításához szükséges adatokat; és
- f) a típusvizsgálati jegyzőkönyv(ek)re való hivatkozást.

A bizonyítványhoz mellékelni kell a műszaki dokumentáció vonatkozó részeinek felsorolását (lásd az 1.8.7.7.1 pontot)

**1.8.7.3** *A gyártás felügyelete*

- 1.8.7.3.1** Annak biztosítására, hogy a terméket a típusjóváadás előírásai szerint gyártják, az illetékes szervezetnek felügyelnie kell a gyártási folyamatot.

- 1.8.7.3.2** A kérelmezőnek minden szükséges intézkedést meg kell tennie annak biztosítására, hogy a gyártási folyamat megfelel a vonatkozó ADR előírásoknak, valamint a típusjóváadási bizonyítvány, ill. mellékletei előírásainak.

- 1.8.7.3.3** Az illetékes szervezetnek:

- a) ellenőriznie kell az 1.8.7.7.2 pontban leírt műszaki dokumentációnak való megfelelést;
- b) ellenőriznie kell, hogy a gyártási folyamatban olyan termékek készülnek, amelyek a rájuk vonatkozó követelményeknek és dokumentációnak megfelelnek;
- c) ellenőriznie kell az anyagok nyomonkövethetőségét, valamint a specifikációk alapján az (alap)anyag bizonylatokat;
- d) ellenőriznie kell, hogy a szerkezeti elemek állandó kötését és a roncsolásmentes vizsgálatokat arra jogosult (képzett, ill. minősített) alkalmazottak végzik-e;
- e) meg kell állapodnia a kérelmezővel a helyszínben, ahol a vizsgálatokat és a szükséges próbákat elvégzik; és
- f) az ellenőrzés eredményét jegyzőkönyvbe kell foglalnia.

**1.8.7.4** *Az üzembe helyezés előtti vizsgálat*

- 1.8.7.4.1** A kérelmezőnek

- a) az ADR-ben előírt jelölést fel kell vinnie; és
- b) az illetékes szervezet rendelkezésére kell bocsátania az 1.8.7.7 bekezdésben leírt műszaki dokumentációt.

- 1.8.7.4.2** Az illetékes szervezetnek:

- a) el kell végeznie a szükséges vizsgálatokat és méréseket, annak ellenőrzésére, hogy a terméket a típusjóváadásnak és a vonatkozó előírásoknak megfelelően gyártották;
- b) az üzemi szerelvények gyártói által rendelkezésre bocsátott tanúsítványok alapján ellenőriznie kell az üzemi szerelvényeket;
- c) az elvégzett vizsgálatokra, ellenőrzésekre, valamint az átvizsgált műszaki dokumentációra vonatkozóan az üzembe helyezés előtti vizsgálatról jegyzőkönyvet

kell kiállítania a kérelmező számára; és

- d) ha a gyártás megfelel az előírásoknak, akkor a gyártás megfelelőségére vonatkozó írásbeli tanúsítványt kell kiállítania, és el kell látnia az illetékes szervezet jelével.

A tanúsítvány és a jegyzőkönyv több, azonos típusú tételre is vonatkozhat (csoportos tanúsítvány vagy csoportos jegyzőkönyv).

**1.8.7.4.3** A bizonyítványban legalább a következőket kell feltüntetni:

- a) az illetékes szervezet nevét és székhelyét;
- b) a gyártó nevét és székhelyét, és ha nem a gyártó a kérelmező, akkor a kérelmező nevét és székhelyét is;
- c) arra való utalást, hogy az üzembe helyezés előtti vizsgálat során az ADR melyik változatát és mely szabványokat alkalmaztak;
- d) a vizsgálatok eredményét;
- e) a vizsgált termék(ek) azonosításához szükséges adatokat, de legalább a sorozatszámot, ill. nem újratölthető palackoknál a gyártási tétel számát, és
- f) a típusjóváhagyás számát.

**1.8.7.5** *Időszakos és soronkívüli vizsgálatok*

Az illetékes szervezetnek:

- a) el kell végeznie az azonosítást és ellenőriznie kell a dokumentációnak való megfelelőséget;
- b) végre kell hajtania a vizsgálatokat és jelen kell lennie a próbáknál, hogy ellenőrizze, hogy a követelményeket betartották;
- c) a vizsgálatokról és a próbákról jegyzőkönyvet kell kiállítania, a jegyzőkönyv több tételre is vonatkozhat; és
- d) biztosítania kell, hogy az előírt jelölést felvigyék.

**1.8.7.6** *A kérelmező üzemi vizsgálóhelyének felügyelete*

**1.8.7.6.1** A kérelmezőnek

- a) az üzemi vizsgálóhelyet az 1.8.7.7.5 pont szerint dokumentált, a vizsgálatokra vonatkozó minőségbiztosítási rendszer szerint kell kialakítania és felügyelnie;
- b) teljesítenie kell a jóváhagyott minőségbiztosítási rendszerből eredő kötelezettségeit, és biztosítania kell, hogy a minőségbiztosítási rendszer megfelelő és hatékony maradjon;
- c) az üzemi vizsgálatra képzett és hozzáértő személyzetet kell kijelölnie;
- d) ahol szükséges, el kell helyeznie a vizsgáló szervezet jelét.

**1.8.7.6.2** A vizsgáló szervezetnek kezdeti auditálást kell végeznie, és ha ez kielégítő, legfeljebb három évig tartó időszakra szóló engedélyt kell kiadnia. Ennek során a következő előírásokat kell betartani:

- a) az auditallal igazolni kell, hogy a termék vizsgálata az ADR követelményei szerint történik;
- b) a vizsgáló szervezet felhatalmazhatja a kérelmező üzemi vizsgálóhelyét, hogy a vizsgáló szervezet jelét elhelyezze minden ellenőrzött termékre;
- c) az engedély a lejárt előtti utolsó évben végzett, kielégítő eredménnyel járó audit után megújítható. Az új érvényességi időszak az előző engedély lejáratától számít;
- d) a vizsgáló szervezet auditorainak kellő szakértelemmel kell rendelkezniük ahhoz, hogy elvégezzék azon termékek megfelelőség-értékelését, amelyre a minőségbiztosítási

rendszer kiterjed.

**1.8.7.6.3** Az engedély érvényességi ideje alatt a vizsgáló szervezetnek időszakos felülvizsgálatokat kell tartania, hogy megbizonyosodjék, hogy a kérelmező továbbra is fenntartja és alkalmazza a minőségbiztosítási rendszert. Ennek során a következő előírásokat kell betartani:

- a) egy 12 hónapos időszakon belül legalább két felülvizsgálatot kell tartani;
- b) a vizsgáló szervezet további szemléket, képzést, műszaki változtatásokat, vagy a minőségbiztosítási rendszer módosítását írhatja elő, ill. a kérelmező által végezhető vizsgálatok körét korlátozhatja vagy megtilthatja.
- c) a vizsgáló szervezetnek a minőségbiztosítási rendszerben bekövetkezett minden változást értékelnie kell, és meg kell vizsgálnia, hogy a megváltozott minőségbiztosítási rendszer megfelel-e a kezdeti audit követelményeinek vagy teljes újraértékelés szükséges;
- d) a vizsgáló szervezet auditorainak kellő szakértelemmel kell rendelkezniük ahhoz, hogy elvégezzék azon termékek megfelelőség-értékelését, amelyre a minőségbiztosítási rendszer kiterjed; és
- e) a vizsgáló szervezetnek a szemléről, ill. felülvizsgálatról, és ha próbákat végeztek, azok eredményéről jegyzőkönyvet kell készítenie a kérelmező számára.

**1.8.7.6.4** A vizsgáló szervezetnek gondoskodnia kell arról, hogy amennyiben a vonatkozó követelményeknek nem felelnek meg, a kijavításhoz szükséges intézkedések megtörténjenek. Ha a kijavításhoz szükséges intézkedések mégsem történnek meg kellő időben, az üzemi vizsgálóhely tevékenységére vonatkozó engedélyt a vizsgáló szervezet visszavonhatja vagy felfüggesztheti. A visszavonásról, ill. felfüggesztésről értesíteni kell az illetékes hatóságot. A vizsgáló szervezet döntésének részletes indokait a kérelmező számára jegyzőkönyvbe kell foglalni.

#### **1.8.7.7** *Dokumentáció*

A műszaki dokumentációnak alkalmasnak kell lennie arra, hogy belőle a vonatkozó követelményeknek való megfelelőség megállapítható legyen.

##### **1.8.7.7.1** *A típusjóváhagyáshoz szükséges dokumentumok*

A kérelmezőnek – értelemszerűen – a következő dokumentumokat kell rendelkezésre bocsátania:

- a) a tervezésnél és a gyártásnál alkalmazott szabványok jegyzékét;
- b) a típus és a típusvariánsok leírását ;
- c) a 3.2 fejezet „A” táblázat vonatkozó oszlopában található utasításokat vagy a csak bizonyos anyagok szállítására szolgáló termékeknél az anyagok felsorolását ;
- d) az általános összeállítási rajzo(ka)t;
- e) a megfelelőség-értékeléséhez szükséges részletrajzokat, amelyeken fel vannak tüntetve a számításokhoz használt méretek, a szerkezeti és az üzemi szerelvények, a jelölések és/vagy bárcák;
- f) a számításokat, az eredményeket és következtetéseket;
- g) az üzemi szerelvények jegyzékét a műszaki adataikkal, a biztonsági szerkezetekre vonatkozó információt a lefúvási teljesítmény számításával;
- h) a szabványok által a szerkezeti elemek, azok részei, a bevonatok, burkolatok, a szerkezeti és az üzemi szerelvények gyártásához előírt anyagok jegyzékét, a megfelelő anyagspecifikációkat vagy az ADR-nek való megfelelést igazoló nyilatkozatot;
- i) az állandó kötések kialakítására szolgáló jóváhagyott eljárásokat;
- j) a hőkezelési eljárás(ok) leírását; és



- k) a típusjóváhagyásra és a gyártásra a szabványokban, ill. az ADR-ben felsorolt minden vonatkozó vizsgálat végrehajtásának módját, leírását és jegyzőkönyveit.

**1.8.7.7.2**

*A gyártás felügyeletéhez szükséges dokumentumok*

A kérelmezőnek – értelemszerűen – a következő dokumentumokat kell rendelkezésre bocsátania:

- a) az 1.8.7.7.1 pontban felsorolt dokumentumokat;
- b) a gyártási és a vizsgálati eljárások dokumentációját;
- c) a gyártási naplót;
- d) állandó kötéseket kivitelező alkalmazottak jogosultságát;
- e) a roncsolásmentes vizsgálatokat végző alkalmazottak jogosultságát;
- f) a roncsolásos és a roncsolásmentes vizsgálatok jegyzőkönyveit;
- g) a hőkezelési eljárások jegyzőkönyveit; és
- h) a hitelesítési jegyzőkönyveket.

**1.8.7.7.3**

*Az üzembe helyezés előtti vizsgálatokhoz szükséges dokumentumok*

A kérelmezőnek – értelemszerűen – a következők dokumentumokat kell rendelkezésre bocsátania:

- a) az 1.8.7.7.1 és az 1.8.7.7.2 pontban felsorolt dokumentumokat;
- b) a termék és alkatrészeinek anyagbizonylatait;
- c) az üzemi szerelvények anyagbizonylatait és a megfelelőségi nyilatkozatokat;
- d) megfelelőségi nyilatkozatot, beleértve a termék és a típusbizonyítványban szereplő típusvariánsok leírását.

**1.8.7.7.4**

*Az időszakos és a soron kívüli vizsgálatokhoz szükséges dokumentumok*

A kérelmezőnek – értelemszerűen – a következők dokumentumokat kell rendelkezésre bocsátania:

- a) nyomástartó tartályoknál, ha a gyártásra és az időszakos vizsgálatokra vonatkozó szabványok előírják, a különleges követelményekre vonatkozó dokumentációt;
- b) tartályoknál:
  - i) tartány-vizsgálati könyvet (gépkönyvet); és
  - ii) az 1.8.7.7.1 – 1.8.7.7.3 pontban említett, egy vagy több dokumentumot.

**1.8.7.7.5**

*Az üzemi vizsgálóhely értékeléséhez szükséges dokumentumok*

Az üzemi vizsgálóhely kérelmezőjének a – értelemszerűen – a minőségbiztosítási rendszer következő dokumentumait kell rendelkezésre bocsátania:

- a) a szervezeti felépítést és a felelőségek megoszlását;
- b) a vizsgálatokra, a minőségellenőrzésre, a minőségbiztosításra és a munkafolyamatokra vonatkozó, megfelelő utasításokat, és a rendszeresen végzendő tevékenységeket;
- c) a minőségügyi nyilvántartást, pl. a vizsgálati jegyzőkönyveket, a vizsgálati eredményeket és hitelesítési adatokat, ill. tanúsítványokat;
- d) a vezetői felülvizsgálatokat az 1.8.7.6 bekezdés szerinti auditálás alapján a minőségbiztosítási rendszer hatékony működésének biztosításához;
- e) a vevők igényeinek kielégítését és a jogszabályok követelményeinek betartását szolgáló eljárások leírását;
- f) a dokumentáció ellenőrzési és karbantartási eljárását,

- g) nem megfelelő termékekkel kapcsolatos eljárást;
- h) az érintett személyekre vonatkozó képzési programot és minősítési eljárást.

**1.8.7.8*****A szabvány szerint gyártott, jóváhagyott és vizsgált termékek***

Az 1.8.7.7 bekezdés követelményei a következő szabványok alkalmazása esetén teljesítettnek tekinthetők.

| <b>A vonatkozó bekezdés, ill.<br/>pont</b> | <b>Hivatkozás</b> | <b>A dokumentum címe</b>  |
|--|-------------------|---|
| 1.8.7.7.1 – 1.8.7.7.4                      | EN 12972:2007     | Veszélyes anyagok szállítótartályai.<br>A fém szállítótartályok vizsgálata,<br>ellenőrzése és megjelölése |

## 1.9 FEJEZET

### A SZÁLLÍTÁS KORLÁTOZÁSA AZ ILLETÉKES HATÓSÁGOK ÁLTAL

**1.9.1** Az ADR 4. Cikk 1. pontja szerint a Szerződő Felek a szállítás biztonságán kívüli egyéb okokból szabályozhatják vagy megtilthatják a veszélyes áruk területükre történő belépését. Ezeket a szabályokat vagy tilalmakat megfelelő módon nyilvánosságra kell hozni.

**1.9.2** Az 1.9.3 szakaszban meghatározottak szerint azokban a kérdésekben, amelyekről az ADR nem rendelkezik, a Szerződő Felek hozhatnak bizonyos kiegészítő előírásokat a területükön veszélyes áruk nemzetközi közúti szállítását végző járművekre, feltéve hogy ezek az előírások nem állnak ellentétben a Megállapodás 2. cikkének 2. pontjával, a belföldi jogrend részét képezik, és egyaránt érvényesek a Szerződő Fél területén veszélyes áruk belföldi közúti szállítását végző járművekre is.

**1.9.3** Az 1.9.2 szakasz hatálya alá eső kiegészítő előírások a következők:

- a) kiegészítő biztonsági követelmények vagy korlátozások olyan járművekre, amelyek bizonyos építményeket, pl. hidakat, ill. kombinált forgalmi módokat, kompot, vonatot, valamint kikötőt vagy egyéb közlekedési terminált használnak;
- b) a járművek előírt útvonalon való közlekedésének követelménye annak érdekében, hogy a kereskedelmi vagy lakott területeket, a környezetvédelmi szempontból érzékeny területeket, veszélyes berendezéseket tartalmazó ipari övezeteket, ill. a különleges fizikai veszélyt jelentő utakat elkerüljék;
- c) a veszélyes árut szállító járművek útvonalának vagy várakozásának kényszerhelyzetben történő korlátozása szélsőséges időjárási viszonyok, földrengés, baleset, sztrájk, állampolgári zavargások vagy háborús cselekmények esetén;
- d) a veszélyes áruk szállításának forgalmi korlátozása az év vagy a hét bizonyos napjain.

**1.9.4** Annak a Szerződő Félnek az illetékes hatósága, amely területén az előző 1.9.3 szakasz a) és d) pontja alá eső kiegészítő előírásokat alkalmaz, köteles erről az ENSZ Európai Gazdasági Bizottság Titkárságát értesíteni, amely azután tájékoztatja az összes Szerződő Felet.

#### **1.9.5 Alagút korlátozások**

***Megjegyzés:** A járművek közúti alagútban való közlekedésével kapcsolatos korlátozó előírásokat lásd a 8.6 fejezetben is.*

##### **1.9.5.1 Általános előírások**

A veszélyes árukat szállító járművek alagútban való közlekedésének korlátozásához az illetékes hatóságnak a közúti alagutat az 1.9.5.2.2 pontban meghatározott valamely alagút kategóriához kell rendelnie. A hozzárendelésnél figyelembe kell venni az alagút jellemzőit, az alkalmas, másik útvonal vagy szállítási mód lehetőségére is kiterjedő kockázatbecslés eredményét és a forgalomszervezési megfontolásokat. Egy alagút egynél több kategóriához is hozzárendelhető, pl.: napszaktól vagy a hét bizonyos napjaitól, stb. függően.

##### **1.9.5.2 Kategorizálás**

**1.9.5.2.1** A kategorizálásnak azon a feltételezésen kell alapulnia, hogy az alagútban három olyan fő veszély létezik, amely számos áldozatot követelő vagy az alagút építményének, szerkezetének súlyos károsodását előidéző balesetet okozhat:

- a) robbanás;
- b) mérgező gázok vagy illékony mérgező folyadékok kiszabadulása;
- c) tűz.

**1.9.5.2.2** Az öt alagút kategória a következő:**„A” alagút kategória**

Nincs korlátozás a veszélyes áruk szállítására.

**„B” alagút kategória**

Korlátozás azon veszélyes árukra, melyek hatalmas robbanást okozhatnak.

A következő veszélyes áruk tekinthetők ilyennek<sup>7)</sup>:

|  |   |
|--|---|
| 1 osztály:   | A és L összeférhetőségi csoport;  |
| 3 osztály:   | D osztályozási kód (UN 1204, 2059, 3064, 3343, 3357 és 3379);                             |
| 4.1 osztály:   | D és DT osztályozási kód; és<br>B típusú önreaktív anyagok (UN 3221, 3222, 3231 és 3232); |
| 5.2 osztály:   | B típusú szerves peroxidok (UN 3101, 3102, 3111 és 3112).                                 |
| Ha a szállítóegységben a nettó robbanóanyag összes tömege több mint 1000 kg: |   |
| 1 osztály:   | 1.1, 1.2 és 1.5 alosztály (kivéve az A és L összeférhetőségi csoportot).                  |
| Tartányos szállítás esetén:  |   |
| 2 osztály:   | F, TF és TFC csoportok;   |
| 4.2 osztály:   | I csomagolási csoport;  |
| 4.3 osztály:   | I csomagolási csoport;  |
| 5.1 osztály:   | I csomagolási csoport.  |

**„C” alagút kategória**

Korlátozás azon veszélyes árukra, melyek hatalmas vagy nagy robbanást okozhatnak vagy nagy mennyiségű mérgezőanyag kiszabadulásával járhatnak.

A következő veszélyes áruk tekinthetők ilyennek<sup>7)</sup>:

- a „B” kategóriájú alagútban korlátozott veszélyes áruk, és
- a következő veszélyes áruk:

|  |   |
|--|---|
| 1 osztály:   | 1.1, 1.2 és 1.5 alosztály (kivéve az A és L összeférhetőségi csoportot); és<br>1.3 alosztály (H és J összeférhetőségi csoport); |
| 7 osztály:   | UN 2977 és 2978.  |
| Ha a szállítóegységben a nettó robbanóanyag összes tömege több mint 5000 kg: |   |
| 1 osztály:   | 1.3 alosztály (C és G összeférhetőségi csoport).  |
| Tartányos szállítás esetén:  |   |
| 2 osztály:   | 2A, 2O, 3A és 3O osztályozási kód, és<br>csak T betűt vagy TC, TO, TOC betűcsoportot tartalmazó osztályozási kód;               |
| 3 osztály:   | FC, FT1, FT2 és FTC osztályozási kód: I csomagolási csoport;  |
| 6.1 osztály:   | I csomagolási csoport   |
| 8 osztály:   | CT1, CFT és COT osztályozási kód: I csomagolási csoport.  |

7) A hozzárendelés az anyagban rejlő veszélyes tulajdonságokon, a csomagolás típusán és a szállított mennyiségen alapul.

**„D” alagút kategória**

Korlátozás azon veszélyes árukra, melyek hatalmas vagy nagy robbanást okozhatnak, nagy mennyiségű mérgezőanyag kiszabadulásával járhatnak, ill. nagy tüzet okozhatnak.

A következő veszélyes áruk tekinthetők ilyennek<sup>7)</sup>:

- a „C” kategóriájú alagútban korlátozott veszélyes áruk, és
- a következő veszélyes áruk:

|   |  |
|---|--|
| 1 osztály:                                | 1.3 alosztály (C és G összeférhetőségi csoport);   |
| 2 osztály:                                | F, FC, T, TF, TC, TO, TFC és TOC csoportok;  |
| 4.1 osztály:                              | C, D, E és F típusú önreaktív anyagok; és<br>UN 2956, 3241, 3242 és 3251;  |
| 5.2 osztály:                              | C, D, E és F típusú szerves peroxidok;   |
| 6.1 osztály:                              | TF1 és TFC osztályozási kód: I csomagolási csoport; és<br>belélegezve mérgező anyagok (UN 3381 – 3390);            |
| 8 osztály:                                | CT1, CFT és COT osztályozási kód: I csomagolási csoport;   |
| 9 osztály:                                | M9 és M10 osztályozási kód.  |
| Tartányos és ömlesztett szállítás esetén: |  |
| 3 osztály:                                |  |
| 4.2 osztály:                              | II csomagolási csoport;  |
| 4.3 osztály:                              | II csomagolási csoport;  |
| 6.1 osztály:                              | II csomagolási csoport; és<br>TF2 osztályozási kód: III csomagolási csoport;                                       |
| 8 osztály:                                | CF1, CFT és CW1 osztályozási kód: I csomagolási csoport; és<br>CF1 és CFT osztályozási kód: II csomagolási csoport |
| 9 osztály:                                | M2 és M3 osztályozási kód.   |

**„E” alagút kategória**

Korlátozás minden veszélyes árura (kivéve: UN 2919, 3291, 3331, 3359 és 3373).

**Megjegyzés:** Az UN 2919 és 3331 tétel alá tartozó veszélyes árukra azonban az illetékes hatóság(ok) által jóváhagyott, az 1.7.4.2 bekezdés szerinti külön megegyezést tartalmazhat alagút korlátozást.

**1.9.5.3 A közúti jelzésekre és a korlátozások bejelentésére vonatkozó előírások**

**1.9.5.3.1** A Szerződő Feleknek jelzőtáblák és jelzések alkalmazásával fel kell tüntetni az alagút tilalmakat és az elkerülő utakat.

**1.9.5.3.2** E célból a Bécsi Közúti Jelzési Egyezmény\* (Bécs, 1968) valamint az Egyezményt kiegészítő Európai Megállapodás (Genf, 1971) és módosításai szerinti C,3<sup>h</sup> és D,10<sup>a</sup>, 10<sup>b</sup> és 10<sup>c</sup> jelzőtáblák, valamint jelzések használhatók, az ENSZ Gazdasági Bizottság Belső Szállítási Bizottság Közúti Közlekedési Munkacsoportjának a közúti jelzésekről szóló Közös Határozatok (R.E.2) értelmezése szerint.

**1.9.5.3.3** A jelzőtáblák nemzetközi érthetőségének megkönnyítése érdekében a Bécsi Egyezményben meghatározott jelzésrendszer az egyes jelzőtábla-osztályokra jellemző formákon és színeken, és ahol csak lehetséges, inkább jelképek mintsem feliratok alkalmazásán alapul. Amikor a Szerződő Felek szükségesnek vélik az előírt jelzőtáblák vagy jelképek módosítását, ezeknek a módosításoknak nem szabad a lényeges jellemzőkön változtatniuk. Ha a Szerződő Felek nem alkalmazzák a Bécsi Egyezményt, az előírt jelzőtáblák és jelképek módosíthatók,

\* Magyarországon lásd a 2004. évi XCI. törvényt.

feltéve, hogy a módosítások nem változtatják meg azok alapvető célját.

- 1.9.5.3.4** A veszélyes árut szállító járművek közötti alagútban való behajtásának megtiltására szolgáló közúti jelzéseket olyan helyen kell kihelyezni, ahol elkerülő út választása lehetséges.
- 1.9.5.3.5** Ahol az alagútba való behajtás korlátozott vagy elkerülő út van előírva, a jelzőtáblára kiegészítő táblát kell kihelyezni a következők szerint:
- nincs jelzőtábla: nincs korlátozás;
  - jelzőtábla, „B” betűt tartalmazó kiegészítő táblával: azokra a járművekre érvényes, amelyek a „B” kategóriás alagutakban nem engedélyezett veszélyes árut szállítanak;
  - jelzőtábla, „C” betűt tartalmazó kiegészítő táblával: azokra a járművekre érvényes, amelyek a „C” kategóriás alagutakban nem engedélyezett veszélyes árut szállítanak;
  - jelzőtábla, „D” betűt tartalmazó kiegészítő táblával: azokra a járművekre érvényes, amelyek a „D” kategóriás alagutakban nem engedélyezett veszélyes árut szállítanak;
  - jelzőtábla, „E” betűt tartalmazó kiegészítő táblával: azokra a járművekre érvényes, amelyek az „E” kategóriás alagutakban nem engedélyezett veszélyes árut szállítanak.
- 1.9.5.3.6** Az 1.1.3 szakasz szerinti veszélyes áru szállításoknál az alagút korlátozásokat nem kell alkalmazni.
- 1.9.5.3.7** A korlátozásokat hivatalos úton közzé kell tenni, és a nyilvánosság számára hozzáférhetővé kell tenni. A Szerződő Feleknek értesíteniük kell az UNECE Titkárságát az ilyen korlátozásokról, a Titkárság a kapott információt a honlapján nyilvánosan hozzáférhetővé teszi.
- 1.9.5.3.8** Ha a Szerződő Felek a kockázatok csökkentése céljából az alagutakban közlekedő bizonyos járművekre vagy minden járműre vonatkozóan különleges intézkedéseket alkalmaznak – mint például a behajtás előtti bejelentkezés vagy a konvojban való áthaladás kísérő járművel –, ezeket a különleges intézkedéseket hivatalos úton közzé kell tenni, és a nyilvánosság számára hozzáférhetővé kell tenni.

## 1.10 FEJEZET

### KÖZBIZTONSÁGI ELŐÍRÁSOK

**Megjegyzés:** E fejezet alkalmazásában a „közbiztonság” alatt értendők azok a rendszabályok és óvintézkedések, amelyek célja, hogy a lehető legkevesebbre csökkentsék a veszélyes áruk eltulajdonítását, ill. a velük való visszaéléseket, amelyek az embereket, az anyagi javakat vagy a környezetet veszélyeztethetik.

#### 1.10.1 Általános előírások

**1.10.1.1** Mindenkinnek, aki a veszélyes áru szállításával kapcsolatba kerül, felelősségéhez mérten figyelembe kell vennie az ebben a fejezetben meghatározott közbiztonsági követelményeket.

**1.10.1.2** Veszélyes áru szállításával csak megfelelően azonosított szállító, fuvarozó bízható meg.

**1.10.1.3** Az átmeneti tárolóhelyeken, ill. terminálokon, jármű telephelyeken, kikötőkön és rendezőpályaudvarokon belül a veszélyes áruk szállítása során átmeneti tárolásra használt területeket megfelelően biztosítani kell, jól meg kell világítani és ha lehetséges és indokolt, az illetéktelenek elől el kell zárni.

**1.10.1.4** Veszélyes áruk szállítása során a járműszemélyzet minden tagjának fényképes személyazonosító okmányt kell magánál tartania.

**1.10.1.5** Az 1.8.1 szakasz és a 7.5.1.1 bekezdés szerinti biztonsági ellenőrzéseknek ki kell terjedniük a megfelelő közbiztonsági intézkedésekre is.

**1.10.1.6** Az illetékes hatóság vagy az általa elismert szerv által kiállított, a 8.2.1 szakaszban meghatározott, érvényes járművezetői oktatási bizonyítványokról az illetékes hatóságnak naprakész nyilvántartást kell vezetnie.

#### 1.10.2 Közbiztonsági képzés

**1.10.2.1** Az 1.3 fejezetben meghatározott képzésnek és ismeretfelújító oktatásnak a közbiztonsági szempontok tudatosítására is ki kell terjedniük. A közbiztonsággal kapcsolatos ismeretfelújító oktatást nem kell feltétlenül a szabályozásban bekövetkezett változások oktatásával összekapcsolni.

**1.10.2.2** A közbiztonsági szempontok tudatosítása során foglalkozni kell a közbiztonsági kockázat jellegével, a közbiztonsági kockázat felismerésével, a kockázatkezelés és -csökkentés módszereivel és a közbiztonság megsértése esetén teendő intézkedésekkel. Ha közbiztonsági terv szükséges, foglalkozni kell annak tudatosításával is, a résztvevők felelősségének és feladatainak, ill. a közbiztonsági terv végrehajtásában való részvételüknek arányában.

#### 1.10.3 A nagy közbiztonsági kockázattal járó veszélyes árukra vonatkozó előírások

**1.10.3.1** „Nagy közbiztonsági kockázattal járó veszélyes áruk” azok, amelyekkel terrorista cselekmények során vissza lehet élni, ami súlyos következményekkel járhat, pl. tömeges balesetet vagy tömegpusztítást idézhet elő. A nagy közbiztonsági kockázattal járó veszélyes árukat az 1.10.5 táblázat sorolja fel.

#### 1.10.3.2 Közbiztonsági terv

**1.10.3.2.1** A nagy közbiztonsági kockázattal járó áruk (lásd az 1.10.5 táblázatot) szállításában részt vevő, az 1.4.2 és az 1.4.3 szakaszban meghatározott szállítóknak, fuvarozóknak, feladóknak és többi résztvevőnek olyan közbiztonsági tervet kell készíteniük, bevezetniük és annak megfelelően eljárniuk, amely legalább az 1.10.3.2.2 pontban meghatározott elemeket tartalmazza.



**1.10.3.2.2** A közbiztonsági tervnek legalább a következő elemekből kell állnia:

- a) a közbiztonsági rendszabályokért és óvintézkedésekért viselt felelősség részletes megosztása megfelelő hatáskörrel és képesítéssel rendelkező személyek között;
- b) az érintett veszélyes áruk, ill. veszélyes áru fajták nyilvántartása;
- c) a folyamatban levő tevékenységek felülvizsgálata és a közbiztonsági kockázat értékelése, beleértve a szállítási műveletek szükség szerinti megszakítását, a veszélyes áruk járművön, tartányban vagy konténerben tartását a szállítás előtt, alatt és után, ill. a veszélyes áruk átmeneti tárolását az intermodális szállítás vagy az egységek közötti átrakás során;
- d) a résztvevők felelősségével és feladatával arányban álló intézkedések egyértelmű meghatározása, amelyeket a közbiztonsági kockázat csökkentéséhez meg kell tenni, beleértve:
  - a képzést;
  - a közbiztonsági eljárásokat (pl. teendők súlyos fenyegetettség esetén; új, ill. áthelyezett alkalmazottak ellenőrzése stb.);
  - az üzemi eljárásokat [pl. útvonalak kiválasztása/használata, ahol ismeretes; hozzáférés a veszélyes árukhoz az átmeneti tárolóhelyeken (mint azt a c) pont meghatározza); érzékeny infrastruktúra közelsége stb.];
  - a közbiztonsági kockázat csökkentéséhez használandó eszközöket és forrásokat;
- e) hatékony, naprakész eljárások a közbiztonsági fenyegetettség, a közbiztonság megsértése, ill. a közbiztonságot érintő rendkívüli események kezelésére és jelentésére;
- f) a közbiztonsági terv értékelésére, ellenőrzésére, valamint a rendszeres felülvizsgálatára és korszerűsítésére vonatkozó eljárás;
- g) a közbiztonsági tervben szereplő szállítási információk fizikai védelmének biztosítására szolgáló intézkedések;
- h) intézkedések annak biztosítására, hogy a közbiztonsági tervben szereplő szállítási információkhoz csak az érdekeltek juthassanak hozzá. Ezek az intézkedések azonban nem akadályozhatják az ADR-ben máshol előírt információk megadását.

**Megjegyzés:** A szállítónak, fuvarozónak, a feladónak és a címzettnek együtt kell működniük egymással és az illetékes hatóságokkal\* a fenyegetésre vonatkozó információk kicserélésében, a megfelelő közbiztonsági intézkedések alkalmazásában és a közbiztonságot érintő rendkívüli események kezelésében.

**1.10.3.3** Olyan készüléket, berendezést kell alkalmazni, ill. olyan intézkedést kell foganatosítani, amely megakadályozza, hogy a nagy közbiztonsági kockázattal járó veszélyes árut (lásd az 1.10.5 táblázatot) szállító járművet, ill. rakományát eltulajdonítsák, és biztosítani kell, hogy ezek az eszközök mindig jól működjenek. Az óvintézkedések azonban nem akadályozhatják a vészhelyzet elhárítását.

**Megjegyzés:** A nagy közbiztonsági kockázattal járó veszélyes áruk (lásd az 1.10.5 táblázatot) mozgásának ellenőrzésére a közlekedési telemetriai vagy egyéb nyomkövető módszereket kell alkalmazni, amennyiben arra alkalmasak és a hozzá szükséges eszközök rendelkezésre állnak, ill. fel vannak szerelve.

**1.10.4** Az 1.1.3.6 bekezdés előírásainak értelmében nem kell betartani az 1.10.1, az 1.10.2, az 1.10.3 szakasz és a 8.1.2.1 d) pont követelményeit, ha a küldeménydarabokban szállított mennyiség egy szállítóegységben nem haladja meg az 1.1.3.6.3 pontban meghatározott mennyiséget, kivéve az UN 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 és 0500 számú tárgyakat (lásd az 1.1.3.6.2 pont első francia bekezdését). Ezen kívül az 1.10.1, az 1.10.2, az 1.10.3 szakasz és a 8.1.2.1 d) pont követelményeit akkor sem kell betartani, ha az előző mondatban említett szállítóegységenkénti mennyiséget tartányban vagy ömlesztve szállítják.

\* Magyarországon lásd a 62/2007. (XII. 23.) IRM rendeletet.



**1.10.5** A következő táblázatban felsorolt és a megadottnál nagyobb mennyiségben szállított áruk nagy közbiztonsági kockázattal járó árunak minősülnek.

**1.10.5 táblázat: A nagy közbiztonsági kockázattal járó veszélyes áruk felsorolása**

| Osz-<br>tály | Alosz-<br>tály | Anyag vagy tárgy   | Mennyiség   |                                 |                                |
|--------------|----------------|--|---|---------------------------------|--------------------------------|
|              |                |  | Tartányban<br>(l) <sup>c)</sup>   | Ömlesztve<br>(kg) <sup>d)</sup> | Küldemény-<br>darabban<br>(kg) |
| 1            | 1.1            | Robbanóanyagok és -tárgyak   | a)  | a)                              | 0                              |
|              | 1.2            | Robbanóanyagok és -tárgyak   | a)  | a)                              | 0                              |
|              | 1.3            | C összeférhetőségi csoportba tartozó robbanóanyagok és -tárgyak  | a)  | a)                              | 0                              |
|              | 1.4            | UN 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 és 0500 alá tartozó robbanótárgyak   | a)  | a)                              | 0                              |
|              | 1.5            | Robbanóanyagok   | 0   | a)                              | 0                              |
| 2            |                | Gyúlékony gázok (a csak F betűt tartalmazó osztályozási kódok)   | 3000  | a)                              | b)                             |
|              |                | Mérgező gázok (T, TF, TC, TO, TFC vagy TOC betű(ke)t tartalmazó osztályozási kódok), az aeroszolok kivételével | 0   | a)                              | 0                              |
| 3            |                | I és II csomagolási csoportba tartozó gyúlékony folyékony anyagok  | 3000  | a)                              | b)                             |
|              |                | Érzéketlenített robbanóanyagok   | 0   | a)                              | 0                              |
| 4.1          |                | Érzéketlenített robbanóanyagok   | a)  | a)                              | 0                              |
| 4.2          |                | I csomagolási csoportba tartozó anyagok  | 3000  | a)                              | b)                             |
| 4.3          |                | I csomagolási csoportba tartozó anyagok  | 3000  | a)                              | b)                             |
| 5.1          |                | I csomagolási csoportba tartozó, gyújtó hatású, folyékony anyagok  | 3000  | a)                              | b)                             |
|              |                | Perklorátok, ammónium-nitrát, ammónium-nitrát műtrágyák és ammónium-nitrát emulziók, szuszpenziók vagy gélek   | 3000  | 3000                            | b)                             |
| 6.1          |                | I csomagolási csoportba tartozó mérgező anyagok  | 0   | a)                              | 0                              |
| 6.2          |                | „A” kategóriába tartozó fertőző anyagok (UN 2814 és 2900)  | a)  | 0                               | 0                              |
| 7            |                | Radioaktív anyagok   | 3000A <sub>1</sub> (különleges formájú), ill. 3000A <sub>2</sub> aktivitás B(U), B(M) vagy C típusú küldeménydarabban |                                 |                                |
| 8            |                | I csomagolási csoportba tartozó maró anyagok   | 3000  | a)                              | b)                             |

a) Tárgytalan.

b) Az 1.10.3 szakasz előírásait nem kell alkalmazni, akármennyi is a szállított mennyiség.

c) Az ebben az oszlopban megadott értékeket csak akkor kell alkalmazni, ha a 3.2 fejezet „A” táblázat 10 vagy 12 oszlopa szerint a tartányban való szállítás megengedett. Azokra az anyagokra vonatkozóan, amelyek tartányban való szállítása nem megengedett, ezen oszlop utasítása tárgytalan.

d) Az ebben az oszlopban megadott értékeket csak akkor kell alkalmazni, ha a 3.2 fejezet „A” táblázat 10 vagy 17 oszlopa szerint az ömlesztett szállítás megengedett. Azokra az anyagokra vonatkozóan, amelyek ömlesztett szállítása nem megengedett, ezen oszlop utasítása tárgytalan.

**1.10.6**

Radioaktív anyagok esetén e fejezet előírásai teljesítettnek tekinthetők, ha betartják a Nukleáris anyagok fizikai védelméről szóló Egyezmény\* valamint az IAEA INFCIRC/225(Rev.4) kiadványának előírásait.

## **2. RÉSZ**

### **OSZTÁLYOZÁS**

## 2.1 FEJEZET

### ÁLTALÁNOS ELŐÍRÁSOK

#### 2.1.1 Bevezetés

##### 2.1.1.1 Az ADR szerint a veszélyes áruk osztályai a következők:

|             |   |
|-------------|---|
| 1 osztály   | Robbanóanyagok és -tárgyak  |
| 2 osztály   | Gázok   |
| 3 osztály   | Gyúlékony folyékony anyagok   |
| 4.1 osztály | Gyúlékony szilárd anyagok, önreaktív anyagok és érzéketlenített, szilárd robbanóanyagok |
| 4.2 osztály | Öngyulladásra hajlamos anyagok  |
| 4.3 osztály | Vízzel érintkezve gyúlékony gázokat fejlesztő anyagok                                   |
| 5.1 osztály | Gyújtó hatású (oxidáló) anyagok   |
| 5.2 osztály | Szerves peroxidok   |
| 6.1 osztály | Mérgező anyagok   |
| 6.2 osztály | Fertőző anyagok   |
| 7 osztály   | Radioaktív anyagok  |
| 8 osztály   | Maró anyagok  |
| 9 osztály   | Különféle veszélyes anyagok és tárgyak.   |

##### 2.1.1.2 Az osztályokban minden tételhez UN szám van hozzárendelve. A következő tétel típusok használatosak:

- A. Egyedi tételek: egy-egy pontosan meghatározott anyagra vagy tárgyra vonatkozó tételek, beleértve az olyan tételeket is, amelyek egy anyag izomerjeire vonatkoznak, pl.:
- UN 1090 ACETON  
UN 1104 AMIL-ACETÁTOK  
UN 1194 ETIL-NITRIT OLDAT
- B. Generikus tételek: anyagok vagy tárgyak pontosan meghatározott csoportjára vonatkozó tételek, amelyek azonban nem m.n.n. tételek, pl.:
- UN 1133 RAGASZTÓK  
UN 1266 PARFÜM KÉSZÍTMÉNYEK  
UN 2757 SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID  
UN 3101 B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID
- C. Speciális m.n.n. tételek: meghatározott kémiai vagy műszaki tulajdonságokkal bíró, „másként meg nem nevezett” anyagok vagy tárgyak csoportjára vonatkozó tételek, pl.:
- UN 1477 SZERVETLEN NITRÁTOK, M.N.N.  
UN 1987 ALKOHOLOK, M.N.N.
- D. Általános m.n.n. tételek: egy vagy több veszélyes tulajdonsággal bíró, „másként meg nem nevezett” anyagok vagy tárgyak csoportjára vonatkozó tételek, pl.:
- UN 1325 GYÚLÉKONY, SZERVES, SZILÁRD ANYAG, M.N.N.  
UN 1993 GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.

A B., a C. és a D. pontban meghatározott tételeket gyűjtőmegnevezésnek nevezzük.

- 2.1.1.3** Csomagolási szempontból az anyagok – az 1, a 2, az 5.2, a 6.2 és a 7 osztály anyagai, valamint a 4.1 osztály önreaktív anyagai kivételével – az általuk képviselt veszély mértéke szerint csomagolási csoportokhoz vannak hozzárendelve:

- I csomagolási csoport – nagyon veszélyes anyagok;  
II csomagolási csoport – közepesen veszélyes anyagok;  
III csomagolási csoport – kevésbé veszélyes anyagok.

A csomagolási csoporto(ka)t, amely(ek)hez egy anyag hozzá van rendelve, a 3.2 fejezet „A” táblázata tartalmazza.

## **2.1.2 Az osztályozás alapelvei**

- 2.1.2.1** Az egyes osztályok fogalmkörébe tartozó anyagok meghatározása az adott osztály 2.2.x.1 bekezdése szerinti tulajdonságaikon alapul. A veszélyes áruk hozzárendelése valamely osztályhoz és csomagolási csoporthoz az ugyanezen 2.2.x.1 bekezdésben szereplő kritériumok alapján történik. Egy vagy több járulékos veszély hozzárendelése a veszélyes anyagokhoz és tárgyakhoz az ezen veszélyeknek megfelelő osztály vagy osztályok 2.2.x.1 bekezdésében található kritériumai alapján történik.

- 2.1.2.2** Minden veszélyes áru tétel a 3.2 fejezet „A” táblázatában van felsorolva az UN számok sorrendjében. Ez a táblázat tartalmazza a felsorolt árukra vonatkozó, lényeges információkat, így a megnevezést, az osztályt, a csomagolási csoporto(ka)t, a szükséges veszélyességi bárcá(ka)t, a csomagolási és szállítási előírásokat.

***Megjegyzés:** A tételek betűrendes jegyzékét a 3.2 fejezet „B” táblázata tartalmazza, amely nem képezi az ADR hivatalos részét.*

- 2.1.2.3** Az egyes osztályok 2.2.x.2 bekezdésében felsorolt vagy meghatározott veszélyes áruk a szállításból ki vannak zárva.

- 2.1.2.4** A név szerint nem említett árukat, vagyis azokat, amelyek sem egyedi tételként nem szerepelnek a 3.2 fejezet „A” táblázatában, sem az előzőekben említett 2.2.x.2 bekezdésekben nincsenek felsorolva vagy meghatározva, a 2.1.3 szakaszban lévő eljárás szerint kell a megfelelő osztályba sorolni. Ezen kívül meg kell határozni az esetleges járulékos veszélyt, illetve a csomagolási csoportot. Az osztály és az esetleges járulékos veszély, illetve csomagolási csoport eldöntése után a megfelelő UN számot kell meghatározni. A megfelelő gyűjtőmegnevezés (UN szám) kiválasztásának paramétereit az osztályok végén, a 2.2.x.3 bekezdésekben levő döntési fák (gyűjtőmegnevezések felsorolása) jelzik. Az anyag vagy tárgy tulajdonságait lefedő gyűjtőmegnevezések közül minden esetben a legjellegzetesebbet kell választani a 2.1.1.2 bekezdés B., C. és D. pontja szerinti rangsor alapján. Akkor és csak akkor sorolható egy anyag vagy tárgy a 2.1.1.2 bekezdés szerinti valamely D. típusú tételhez, ha sem B., sem C. típusú tételhez nem sorolható.

- 2.1.2.5** A 2.3 fejezet vizsgálati eljárásai és az osztályok 2.2.x.1 bekezdésében meghatározott kritériumok alapján – amennyiben ezek között szerepel ez a lehetőség – az is megállapítható, hogy egyes osztályokban valamely anyag, keverék vagy oldat nem rendelkezik az adott osztály kritériumaival, annak ellenére, hogy a 3.2 fejezet „A” táblázatában név szerint szerepel. Ilyen esetben ez az anyag, keverék vagy oldat nem tekintendő az adott osztályhoz tartozónak.

- 2.1.2.6** A besorolás szempontjából a 101,3 kPa nyomáson 20 °C vagy ez alatti olvadáspontú vagy olvadás kezdőpontú anyagokat kell folyékonyak tekinteni. Azokat a viszkózus anyagokat, amelyeknél határozott olvadáspont nem állapítható meg, az ASTM D 4359-90 szabvány szerinti vizsgálati eljárásnak vagy a 2.3.4 szakaszban leírt folyékonyság meghatározási

vizsgálatnak (penetrométer eljárásnak) kell alávetni.

**2.1.3 A név szerint nem említett anyagok, oldatok és keverékek (készítmények és hulladékok) besorolása**

**2.1.3.1** A név szerint nem említett anyagokat, oldatokat és keverékeket az egyes osztályok 2.2.x.1 bekezdésében található kritériumok alapján, az általuk képviselt veszély mértéke szerint kell besorolni. Az anyag által képviselt veszély(eke)t annak fizikai, kémiai jellemzői és fiziológiai tulajdonságai alapján kell meghatározni. Ezeket a jellemzőket és tulajdonságokat kell akkor is figyelembe venni, ha a tapasztalatok szigorúbb hozzárendeléshez vezetnek.

**2.1.3.2** Azokat az anyagokat, amelyek nincsenek a 3.2 fejezet „A” táblázatában név szerint feltüntetve és csak egyetlen veszélyt képviselnek, a megfelelő osztályba, az adott osztály 2.2.x.3 bekezdésében felsorolt valamely gyűjtőmegnevezés alá kell besorolni.

**2.1.3.3** Azokat az oldatokat vagy keverékeket, amelyek valamely, a 3.2 fejezet „A” táblázatában név szerint felsorolt veszélyes anyagot egy vagy több nem veszélyes anyaggal együtt tartalmaznak, mint a név szerint felsorolt veszélyes anyagokat kell tekinteni, kivéve, ha:

- a) az oldat vagy keverék név szerint fel van sorolva a 3.2 fejezet „A” táblázatában; vagy
- b) a veszélyes anyagra vonatkozó tételből egyértelműen kitűnik, hogy az csak a tiszta, vagy a technikailag tiszta anyagra alkalmazható; vagy
- c) az oldat vagy keverék osztálya, fizikai állapota vagy csomagolási csoportja különbözik a veszélyes anyagtól.

Az előző b) vagy c) bekezdésben hivatkozott esetekben az oldatot vagy a keveréket, a megfelelő osztályban név szerint nem említett anyagként, az adott osztály 2.2.x.3 bekezdésében felsorolt valamely gyűjtőmegnevezés alá kell besorolni, figyelembe véve az oldat vagy keverék által esetleg képviselt járulékos veszély(eke)t. Ha azonban az oldat vagy a keverék egyik osztály kritériumaival sem rendelkezik, akkor nem tartozik az ADR hatálya alá.

**2.1.3.4** A 2.1.3.4.1 és a 2.1.3.4.2 pontban említett tételek bármelyikének anyagát tartalmazó oldatokat és keverékeket e pontok előírásai szerint kell besorolni.

**2.1.3.4.1** A következő, név szerint feltüntetett anyagok bármelyikét tartalmazó oldatokat és keverékeket ugyanazon tétel alá kell besorolni, mint ahová maga az anyag tartozik, kivéve, ha a 2.1.3.5.3 pontban említett tulajdonságokkal rendelkezik:

– 3 osztály

UN 1921 PROPILÉN-IMIN, STABILIZÁLT;

UN 2481 ETIL-IZOCIANÁT;

UN 3064 NITROGLICERIN ALKOHOLOS OLDATBAN, 1%-nál több, de legfeljebb 5% nitroglicerinnel tartalommal

– 6.1 osztály

UN 1051 HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal;

UN 1185 ETILÉN-IMIN, STABILIZÁLT;

UN 1259 NIKKEL-TETRAKARBONIL;

UN 1613 HIDROGÉN-CIANID VIZES OLDAT (CIÁN-HIDROGÉNSAV VIZES OLDAT) legfeljebb 20% hidrogén-cianid tartalommal;

UN 1614 HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal és

inert porózus anyagban abszorbeálva;

UN 1994 VAS-PENTAKARBONIL;

UN 2480 METIL-IZOCIANÁT;

UN 3294 HIDROGÉN-CIANID ALKOHOLOS OLDAT legfeljebb 45% hidrogén-cianid tartalommal

– 8 osztály

UN 1052 HIDROGÉN-FLUORID, VÍZMENTES;

UN 1744 BRÓM vagy UN 1744 BRÓM OLDAT;

UN 1790 FLUOR-HIDROGÉNSAV 85%-nál több hidrogén-fluorid tartalommal;

UN 2576 OLVASZTOTT FOSZFOR-OXI-BROMID

#### **2.1.3.4.2** A 9 osztályba tartozó

UN 2315 FOLYÉKONY POLIKLÓROZOTT BIFENILEK;

UN 3151 FOLYÉKONY POLIHALOGÉNEZETT BIFENILEK;

UN 3151 FOLYÉKONY POLIHALOGÉNEZETT TERFENILEK;

UN 3152 SZILÁRD POLIHALOGÉNEZETT BIFENILEK

UN 3152 SZILÁRD POLIHALOGÉNEZETT TERFENILEK; vagy

UN 3432 SZILÁRD POLIKLÓROZOTT BIFENILEK

tételek bármelyikének anyagát tartalmazó oldatokat és keverékeket mindig a 9 osztály ugyanazon tétele alá kell besorolni, amennyiben:

- a 3, a 4.1, a 4.2, a 4.3, az 5.1, a 6.1, ill. a 8 osztály III csomagolási csoportjaiba tartozó anyagokon kívül további veszélyes alkotórészt nem tartalmaznak; és
- nem rendelkeznek a 2.1.3.5.3 pontban említett veszélyes tulajdonságokkal.

**2.1.3.5** Azokat az anyagokat, amelyek a 3.2 fejezet „A” táblázatában nincsenek név szerint feltüntetve, de egynél több veszélyes tulajdonsággal rendelkeznek, valamint azokat az oldatokat és keverékeket, amelyekben többféle veszélyes anyag van, a veszélyes tulajdonságaik alapján a megfelelő osztályba, valamely gyűjtőmegnevezéshez (lásd a 2.1.2.4 bekezdést) és csomagolási csoporthoz kell sorolni. A veszélyes tulajdonságokon alapuló besorolást a következő módon kell végrehajtani:

**2.1.3.5.1** A fizikai, kémiai jellemzőket és a fiziológiai tulajdonságokat méréssel vagy számítással kell meghatározni, az anyagot, oldatot vagy keveréket az egyes osztályok 2.2.x.1 bekezdésében meghatározott kritériumok szerint kell besorolni.

**2.1.3.5.2** Amennyiben ez a meghatározás aránytalanul nagy költséggel és munkaráfordítással járna (pl. bizonyos hulladékoknál), akkor az oldatokat és keverékeket a döntő veszélyt képviselő összetevő osztályába kell besorolni.

**2.1.3.5.3** Ha egy anyag, oldat vagy keverék veszélyességi jellemzői a következőkben felsorolt osztályok vagy anyagcsoportok közül egynél többnek is megfelelnek, akkor ezt az anyagot, oldatot vagy keveréket a döntő veszélynek megfelelő osztályba vagy anyagcsoportba kell besorolni, a következő elsőbbségi sorrend alapján:

- a) a 7 osztály anyagai (kivéve a radioaktív anyagokat engedményes küldemény-darabokban, ahol az egyéb veszélyességi tulajdonságok elsőbbséget élveznek);
- b) az 1 osztály anyagai;
- c) a 2 osztály anyagai;

- d) a 3 osztály érzéketlenített, folyékony robbanóanyagai;
- e) a 4.1 osztály önreaktív anyagai és érzéketlenített, szilárd robbanóanyagai;
- f) a 4.2 osztály piroforos anyagai;
- g) az 5.2 osztály anyagai;
- h) a 6.1 vagy a 3 osztály anyagai, amelyek belélegzési mérgezőképességük alapján az I csomagolási csoportba vannak sorolva [A 8 osztályba sorolás kritériumait kielégítő anyagokat, amennyiben por és köd belélegzési mérgezőképességük (LC<sub>50</sub>) az I csomagolási csoport tartományába esik, de lenyelés vagy bőrön át való felszívódás esetén a mérgezőképességük csak a III csomagolási csoport tartományába esik vagy annál kevésbé mérgezőek, a 8 osztályba kell sorolni.];
- i) a 6.2 osztály fertőző anyagai.

**2.1.3.5.4** Ha egy anyag veszélyes tulajdonságai az előző 2.1.3.5.3 pontban fel nem sorolt több osztályhoz vagy anyagscsoporthoz tartoznak, az anyagot ugyanilyen eljárással kell besorolni, de a megfelelő osztályt a 2.1.3.10 bekezdésben levő, a veszélyességi rangsort tartalmazó táblázat alapján kell megválasztani.

**2.1.3.5.5** Ha a szállítandó anyag olyan hulladék, melynek pontos összetétele nem ismert, a 2.1.3.5.2 pont szerint az UN tételhez és csomagolási csoporthoz való hozzárendelését a feladó ismeretei alapján rendelkezésre álló adatok (beleértve a hatályos biztonsági és környezetvédelmi jogszabályok<sup>1)</sup> által megkövetelt biztonsági és műszaki adatokat) alapján is el lehet végezni.

Kétség esetén a legnagyobb veszélyességi szintet kell alkalmazni.

Amennyiben a hulladék összetételére vonatkozó ismeretek és az azonosított összetevők fizikai és kémiai tulajdonságai alapján bizonyítható, hogy a hulladék tulajdonságai nem felelnek meg az I csomagolási csoportba való soroláshoz szükséges tulajdonságoknak, a hulladékot további vizsgálat nélkül a II csomagolási csoportba lehet sorolni, a legalkalmasabb m.n.n. tételen belül.

Ez az eljárás nem alkalmazható azokra a hulladékokra, amelyek a 2.1.3.5.3 pont alatt említett anyagokat, vagy a 4.3 osztály anyagait, vagy a 2.1.3.7 bekezdésben említett esetben szereplő anyagokat, vagy olyan anyagokat tartalmaznak, amelyek a 2.2.x.2 bekezdések szerint a szállításból ki vannak zárva.

**2.1.3.6** Mindig a legjellegzetesebb, ráillő gyűjtőmegnevezést (lásd a 2.1.2.4 bekezdést) kell használni, azaz általános m.n.n. tétel csak akkor használható, ha generikus tétel vagy speciális m.n.n. tétel nem használható.

**2.1.3.7** A gyújtó hatású anyagok oldatai és keverékei, ill. a járulékos gyújtóhatással bíró anyagok robbanásveszélyesek is lehetnek. Ebben az esetben csak akkor szállíthatók, ha megfelelnek az 1 osztály feltételeinek.

**2.1.3.8** Az UN 3077 és az UN 3082 tétel alá soroltak kivételével azokat az 1 – 9 osztályba tartozó anyagokat, amelyek megfelelnek a 2.2.9.1.10 pont kritériumainak, az 1 – 9 osztályra

1) Ilyen jogszabályok például: a Bizottság 2000/532/EK határozata (2000. május 3.) a hulladékjegyzéknek a hulladékokról szóló 75/442/EGK tanácsi irányelv [felváltotta a 2006/12/EK parlamenti és tanácsi irányelv (az EK Hivatalos Lapja L 114 szám, 2006. 04. 27., 9. oldal)] 1. cikkének a) pontja értelmében történő meghatározásáról szóló 94/3/EK határozat, valamint a veszélyes hulladékok jegyzékének a veszélyes hulladékokról szóló 91/689/EGK tanácsi irányelv 1. cikkének (4) bekezdése értelmében történő meghatározásáról szóló 94/904/EK tanácsi határozat felváltásáról (az EK Hivatalos Lapja, L 226 szám, 2000. 09. 06., 3. o.). Magyarországon lásd még 2000. évi XLIII. tv-t a hulladékgazdálkodásról és a 16/2001. (VII. 18.) KöM rendeletet a hulladékok jegyzékéről.



jellemző veszélyeken túlmenően környezetre veszélyesnek is kell tekinteni. A többi olyan anyagot, amely megfelel a 2.2.9.1.10 pont kritériumainak, az UN 3077, ill. az UN 3082 tétel alá kell sorolni.

- 2.1.3.9**      A Veszélyes hulladékok országhatárokat átlépő szállításának ellenőrzéséről és ártalmatlanításáról szóló Bázeli Egyezmény\* hatálya alá tartozó azon hulladékok is szállíthatók az UN 3077, ill. az UN 3082 tétel alatt, amelyek nem felelnek meg az 1 – 9 osztályba sorolás kritériumainak.

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\*      Magyarországon kihirdette a 101/1996.(VII.12.) Korm. rendelet.

| 2.1.3.10 Veszélyességi rangsor táblázat |                          |                           |                          |                           |        |         |          |                            |                              |                                |                |              |                                |                                  |                            |                              |                                |          |
|---|--------------------------|---------------------------|--------------------------|---------------------------|--------|---------|----------|----------------------------|------------------------------|--------------------------------|----------------|--------------|--------------------------------|----------------------------------|----------------------------|------------------------------|--------------------------------|----------|
| Osztály és csomagolási csoport          | 4.1, II                  | 4.1, III                  | 4.2, II                  | 4.2, III                  | 4.3, I | 4.3, II | 4.3, III | 5.1, I                     | 5.1, II                      | 5.1, III                       | 6.1, I Dermal. | 6.1, I Oral. | 6.1, II                        | 6.1, III                         | 8, I                       | 8, II                        | 8, III                         | 9        |
| 3, I                                    | Szil.:4.1<br>Foly.:3, I  | Szil.:4.1<br>Foly.:3, I   | Szil.:4.2<br>Foly.:3, I  | Szil.:4.2<br>Foly.:3, I   | 4.3, I | 4.3, I  | 4.3, I   | Szil.:5.1, I<br>Foly.:3, I | Szil.:5.1, I<br>Foly.:3, I   | Szil.:5.1, I<br>Foly.:3, I     | 3, I           | 3, I         | 3, I                           | 3, I                             | 3, I                       | 3, I                         | 3, I                           | 3, I     |
| 3, II                                   | Szil.:4.1<br>Foly.:3, II | Szil.:4.1<br>Foly.:3, II  | Szil.:4.2<br>Foly.:3, II | Szil.:4.2<br>Foly.:3, II  | 4.3, I | 4.3, II | 4.3, II  | Szil.:5.1, I<br>Foly.:3, I | Szil.:5.1, II<br>Foly.:3, II | Szil.:5.1, II<br>Foly.:3, II   | 3, I           | 3, I         | 3, II                          | 3, II                            | 8, I                       | 3, II                        | 3, II                          | 3, II    |
| 3, III                                  | Szil.:4.1<br>Foly.:3, II | Szil.:4.1<br>Foly.:3, III | Szil.:4.2<br>Foly.:3, II | Szil.:4.2<br>Foly.:3, III | 4.3, I | 4.3, II | 4.3, III | Szil.:5.1, I<br>Foly.:3, I | Szil.:5.1, II<br>Foly.:3, II | Szil.:5.1, III<br>Foly.:3, III | 6.1, I         | 6.1, I       | 6.1, II                        | 3, III *)                        | 8, I                       | 8, II                        | 3, III                         | 3, III   |
| 4.1, II                                 |                          |                           | 4.2, II                  | 4.2, II                   | 4.3, I | 4.3, II | 4.3, II  | 5.1, I                     | 4.1, II                      | 4.1, II                        | 6.1, I         | 6.1, I       | Szil.:4.1, II<br>Foly.:6.1, II | Szil.:4.1, II<br>Foly.:6.1, II   | 8, I                       | Szil.:4.1, II<br>Foly.:8, II | Szil.:4.1, II<br>Foly.:8, II   | 4.1, II  |
| 4.1, III                                |                          |                           | 4.2, II                  | 4.2, III                  | 4.3, I | 4.3, II | 4.3, III | 5.1, I                     | 4.1, II                      | 4.1, III                       | 6.1, I         | 6.1, I       | 6.1, II                        | Szil.:4.1, III<br>Foly.:6.1, III | 8, I                       | 8, II                        | Szil.:4.1, III<br>Foly.:8, III | 4.1, III |
| 4.2, II                                 |                          |                           |                          |                           | 4.3, I | 4.3, II | 4.3, II  | 5.1, I                     | 4.2, II                      | 4.2, II                        | 6.1, I         | 6.1, I       | 4.2, II                        | 4.2, II                          | 8, I                       | 4.2, II                      | 4.2, II                        | 4.2, II  |
| 4.2, III                                |                          |                           |                          |                           | 4.3, I | 4.3, II | 4.3, III | 5.1, I                     | 5.1, II                      | 4.2, III                       | 6.1, I         | 6.1, I       | 6.1, II                        | 4.2, III                         | 8, I                       | 8, II                        | 4.2, III                       | 4.2, III |
| 4.3, I                                  |                          |                           |                          |                           |        |         |          | 5.1, I                     | 4.3, I                       | 4.3, I                         | 6.1, I         | 4.3, I       | 4.3, I                         | 4.3, I                           | 4.3, I                     | 4.3, I                       | 4.3, I                         | 4.3, I   |
| 4.3, II                                 |                          |                           |                          |                           |        |         |          | 5.1, I                     | 4.3, II                      | 4.3, II                        | 6.1, I         | 4.3, I       | 4.3, II                        | 4.3, II                          | 8, I                       | 4.3, II                      | 4.3, II                        | 4.3, II  |
| 4.3, III                                |                          |                           |                          |                           |        |         |          | 5.1, I                     | 5.1, II                      | 4.3, III                       | 6.1, I         | 6.1, I       | 6.1, II                        | 4.3, III                         | 8, I                       | 8, II                        | 4.3, III                       | 4.3, III |
| 5.1, I                                  |                          |                           |                          |                           |        |         |          |                            |                              |                                | 5.1, I         | 5.1, I       | 5.1, I                         | 5.1, I                           | 5.1, I                     | 5.1, I                       | 5.1, I                         | 5.1, I   |
| 5.1, II                                 |                          |                           |                          |                           |        |         |          |                            |                              |                                | 6.1, I         | 5.1, I       | 5.1, II                        | 5.1, II                          | 8, I                       | 5.1, II                      | 5.1, II                        | 5.1, II  |
| 5.1, III                                |                          |                           |                          |                           |        |         |          |                            |                              |                                | 6.1, I         | 6.1, I       | 6.1, II                        | 5.1, III                         | 8, I                       | 8, II                        | 5.1, III                       | 5.1, III |
| 6.1, I Dermal.                          |                          |                           |                          |                           |        |         |          |                            |                              |                                |                |              |                                |                                  | Szil.:6.1, I<br>Foly.:8, I | 6.1, I                       | 6.1, I                         | 6.1, I   |
| 6.1, I Oral.                            |                          |                           |                          |                           |        |         |          |                            |                              |                                |                |              |                                |                                  | Szil.:6.1, I<br>Foly.:8, I | 6.1, I                       | 6.1, I                         | 6.1, I   |
| 6.1, II Inhal.                          |                          |                           |                          |                           |        |         |          |                            |                              |                                |                |              |                                |                                  | Szil.:6.1, I<br>Foly.:8, I | 6.1, II                      | 6.1, II                        | 6.1, II  |
| 6.1, II Dermal.                         |                          |                           |                          |                           |        |         |          |                            |                              |                                |                |              |                                |                                  | Szil.:6.1, I<br>Foly.:8, I | Szil.:6.1, II<br>Foly.:8, II | 6.1, II                        | 6.1, II  |
| 6.1, II Oral.                           |                          |                           |                          |                           |        |         |          |                            |                              |                                |                |              |                                |                                  | 8, I                       | Szil.:6.1, II<br>Foly.:8, II | 6.1, II                        | 6.1, II  |
| 6.1, III                                |                          |                           |                          |                           |        |         |          |                            |                              |                                |                |              |                                |                                  | 8, I                       | 8, II                        | 8, III                         | 6.1, III |
| 8, I                                    |                          |                           |                          |                           |        |         |          |                            |                              |                                |                |              |                                |                                  |                            |                              |                                | 8, I     |
| 8, II                                   |                          |                           |                          |                           |        |         |          |                            |                              |                                |                |              |                                |                                  |                            |                              |                                | 8, II    |
| 8, III                                  |                          |                           |                          |                           |        |         |          |                            |                              |                                |                |              |                                |                                  |                            |                              |                                | 8, III   |

Szil. = szilárd anyagok és keverékek  
 Foly. = folyékony anyagok, oldatok és keverékek  
 Dermal. = mérgezőképesség bőrön át való felszívódás esetén  
 Oral. = mérgezőképesség lenyelés esetén  
 Inhal. = mérgezőképesség belélegzés esetén  
 \*/ Peszticideknél 6.1 osztály

**Megjegyzés: 1. Példa a táblázat használatára:**

*Egyedi anyag besorolása*

*A besorolandó anyag leírása:*

*A 3 osztály II csomagolási csoportjának, valamint a 8 osztály I csomagolási csoportjának kritériumait kielégítő, név szerint nem említett amin.*

*Eljárás:*

*A 3, II sornak a 8, I oszloppal való keresztezésénél 8, I található. Ezért ezt az amint a 8 osztályba a következők alá kell besorolni:*

*UN 2734 FOLYÉKONY, MARÓ, GYÚLÉKONY AMINOK, M.N.N. vagy UN 2734 FOLYÉKONY, MARÓ, GYÚLÉKONY POLIAMINOK, M.N.N., I csomagolási csoport.*

*Keverék besorolása*

*A besorolandó keverék leírása:*

*A 3 osztály III csomagolási csoportjába tartozó gyúlékony folyékony anyagból, a 6.1 osztály II csomagolási csoportjába tartozó mérgező anyagból és a 8 osztály I csomagolási csoportjába tartozó maró anyagból álló keverék.*

*Eljárás:*

*A 3, III sornak a 6.1, II oszloppal való keresztezésénél 6.1, II található. A 6.1, II sornak a 8, I oszloppal való keresztezésénél folyadékra 8, I található.*

*Ezt a közelebből nem meghatározott keveréket tehát a 8 osztályba, a következő tétel alá kell besorolni: UN 2922 MÉRGEZŐ, MARÓ FOLYÉKONY ANYAG, M.N.N., I csomagolási csoport.*

**2. Példák a keverékek és oldatok osztályba és csomagolási csoportba történő besorolására:**

*A 6.1 osztály II csomagolási csoportjába tartozó fenolt a 3 osztály II csomagolási csoportjába tartozó benzolban oldva a 3 osztály II csomagolási csoportjába kell besorolni; ezt az oldatot a fenol mérgező volta miatt a 3 osztály II csomagolási csoportjába, az UN 1992 GYÚLÉKONY, MÉRGEZŐ, FOLYÉKONY ANYAG, M.N.N. tétel alá kell besorolni.*

*A 6.1 osztály II csomagolási csoportjába tartozó nátrium-arzenát és a 8 osztály II csomagolási csoportjába tartozó nátrium-hidroxid szilárd keverékét a 6.1 osztály II csomagolási csoportjába, az UN 3290 MARÓ, SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N. tétel alá kell besorolni.*

*A 4.1 osztály III csomagolási csoportjába tartozó nyers vagy finomított naftalint a 3 osztály II csomagolási csoportjába tartozó benzinben oldva a 3 osztály II csomagolási csoportjába, az UN 3295 FOLYÉKONY SZÉNHIDROGÉNEK, M.N.N. tétel alá kell besorolni.*

*A 3 osztály III csomagolási csoportjába tartozó szénhidrogének és a 9 osztály II csomagolási csoportjába tartozó poliklórozott bifenilek (PCB-k) keverékeit a 9 osztály II csomagolási csoportjába, az UN 2315 FOLYÉKONY POLIKLÓROZOTT BIFENILEK vagy az UN 3432 SZILÁRD POLIKLÓROZOTT BIFENILEK tétel alá kell besorolni.*

*A 3 osztályba tartozó propilén-imin és a 9 osztály II csomagolási csoportjába tartozó poliklórozott bifenilek (PCB-k) keverékét a 3 osztályba, az UN 1921 PROPILÉN-IMIN, STABILIZÁLT tétel alá kell besorolni.*

**2.1.4            Minták besorolása**

**2.1.4.1**            Amennyiben egy anyag osztálya bizonytalan, ezért további vizsgálat céljából szállítják, akkor ideiglenes osztályt, helyes szállítási megnevezést és UN számot kell hozzárendelni a feladónak az anyagra vonatkozó ismeretei és

- a)    a 2.2 fejezet osztályozási kritériumai; és
- b)    e fejezet előírásai alapján.

A választott helyes szállítási megnevezéshez tartozó legszigorúbb csomagolási csoportot kell alkalmazni.

Ha ezt az előírást használjuk, a helyes szállítási megnevezést ki kell egészíteni a „minta” szóval (pl. UN 1993 gyúlékony folyékony anyag, m.n.n., minta). Abban az esetben, ha egy bizonyos besorolási kritériumoknak megfelelő anyagmintára létezik speciális helyes szállítási megnevezés (pl. UN 3167 túlnyomás nélküli, gyúlékony gázminta, m.n.n.), akkor ezt kell használni. Ha a minta szállításához m.n.n. tételt használnak, a helyes szállítási megnevezést nem kell kiegészíteni a műszaki megnevezéssel, amint azt a 3.3 fejezet 274 különleges előírása megköveteli.

**2.1.4.2**            Az anyag mintákat az ideiglenesen hozzárendelt helyes szállítási megnevezéshez tartozó előírások szerint kell szállítani, amennyiben:

- a)    az anyag nem tekinthető a 2.2 fejezet 2.2.x.2 bekezdései vagy a 3.2 fejezet alapján a szállításból kizárt anyagnak;
- b)    az anyag nem tekinthető az 1 osztály kritériumait kielégítő anyagnak, ill. fertőző vagy radioaktív anyagnak;
- c)    ha az anyag önreaktív anyag, illetve szerves peroxid, akkor megfelel a 2.2.41.1.15 pont, ill. a 2.2.52.1.9 pont előírásainak;
- d)    az anyagot kombinált csomagolásban szállítják, és a nettó tömege nem haladja meg a 2,5 kg-ot küldeménydarabonként;
- e)    a minta nincs más áruval egybecsomagolva.

**2.2 FEJEZET****AZ EGYES OSZTÁLYOKRA VONATKOZÓ ELŐÍRÁSOK****2.2.1 1 osztály Robbanóanyagok és -tárgyak****2.2.1.1 Kritériumok****2.2.1.1.1** Az 1 osztály fogalomkörébe tartozó anyagok:

- a) *Robbanóanyagok:* szilárd vagy folyékony halmazállapotú anyagok vagy keverékeik, amelyek kémiai reakció révén képesek arra, hogy olyan sebességgel fejlesszenek gázt, ami elegendő hőmérsékletű és akkora nyomáshullámot hoz létre, hogy a környezetében károsodást idéz elő.

*Pirotechnikai anyagok:* anyagok vagy keverékeik, amelyeknek az a rendeltetése, hogy robbanás nélküli, önfenntartó exoterm kémiai reakció révén hőt fejlesszenek, fényt keltsenek, hanghatást váltsanak ki, gázt vagy füstöt fejlesszenek, vagy e hatások valamilyen kombinációját fejtsék ki.

**Megjegyzés:** 1. Azok az anyagok, amelyek önmagukban véve nem robbanóanyagok, de amelyek robbanásveszélyes gáz-, gőz- vagy porkeverékeket képezhetnek, nem tartoznak az 1 osztály anyagai közé.

2. Szintén nem tartoznak az 1 osztályba azok a víz- és alkoholtartalmú robbanóanyagok, amelyek víz-, ill. alkoholtartalma a megadott határértékeket meghaladja és azok, amelyek plasztifikáló anyagot tartalmaznak – ezek a robbanóanyagok a 3 vagy a 4.1 osztályba vannak besorolva –, valamint azok a robbanóanyagok, amelyek a bennük rejlő alapvető veszély miatt az 5.2 osztályba vannak besorolva.

- b) *Robbanótárgyak:* olyan tárgyak, amelyek egy vagy több robbanóanyagot vagy pirotechnikai anyagokat tartalmaznak.

**Megjegyzés:** Nem tartoznak az 1 osztály előírásainak hatálya alá azok a szerkezetek, amelyek olyan jellegű vagy olyan kis mennyiségű robbanó vagy pirotechnikai anyagokat tartalmaznak, amelyek szállítás közbeni véletlenszerű vagy gondatlanság miatt bekövetkező meggyulladás vagy beindulása csak olyan reakciót idéz elő, amely nem jár kívülről észlelhető repeszhatással, tűzzel, köd-, füst- vagy hőfejlődéssel vagy erős hanghatással.

- c) Azok az előzőekben nem említett anyagok és tárgyak, amelyek arra a célra készültek, hogy gyakorlati hatásukat robbanás vagy pirotechnikai jelenség formájában fejtsék ki.

**2.2.1.1.2** Minden anyagot vagy tárgyat, amelynek robbanó tulajdonsága van vagy robbanó tulajdonsága lehet, az 1 osztályba való besorolás szempontjából meg kell vizsgálni a „Vizsgálatok és kritériumok kézikönyv” I. Részében meghatározott vizsgálatok, próbák és kritériumok szerint.

Az 1 osztályba sorolt valamely anyag vagy tárgy csak akkor szállítható, ha a 3.2 fejezet „A” táblázatában található valamely megnevezéshez vagy m.n.n. tételhez hozzá lett rendelve, és a „Vizsgálatok és kritériumok kézikönyv” feltételeinek megfelel.

**2.2.1.1.3** Az 1 osztály anyagait és tárgyait a 3.2 fejezet „A” táblázata szerint valamely UN szám és megnevezés vagy m.n.n. tétel alá kell besorolni. A 3.2 fejezet „A” táblázatában található megnevezésének értelmezése a 2.2.1.1.8 pontban található szójegyzéken alapul.

Az új vagy már régebben létező robbanóanyagok vagy robbanótárgyak mintái – az indító

robbanóanyagok kivételével –, amelyeket többek között kísérleti, besorolási, kutatási és fejlesztési vagy minőségellenőrzési célból, vagy mint kereskedelmi mintát szállítanak, az „UN 0190 ROBBANÓANYAG MINTA” tételhez is besorolhatók.

A 3.2 fejezet „A” táblázatában név szerint nem említett robbanóanyagoknak és -tárgyaknak az 1 osztály valamely m.n.n. tételéhez vagy az „UN 0190 ROBBANÓANYAG MINTA” tételéhez való hozzárendelését, valamint bizonyos meghatározott anyagok besorolását, amelyek szállítása a 3.2 fejezet „A” táblázat 6 oszlopában szereplő különleges előírás alapján az illetékes hatóság külön engedélyéhez van kötve, a származási ország illetékes hatóságának kell elvégeznie. Ezen anyagok és tárgyak szállítási feltételeit szintén írásban kell az illetékes hatóságnak engedélyeznie. Ha a származási ország nem ADR Szerződő Fél, akkor a besorolást és a szállítási feltételeket a küldemény által érintett első ADR Szerződő Fél illetékes hatóságának kell elismernie.

**2.2.1.1.4** Az 1 osztály anyagait és tárgyait a 2.2.1.1.5 pont szerinti valamelyik alosztályhoz és a 2.2.1.1.6 pont szerinti valamelyik összeférhetőségi csoporthoz kell hozzárendelni. Az alosztályt a 2.3.0 és 2.3.1 szakaszban leírt vizsgálatok eredményei alapján kell meghatározni, felhasználva a 2.2.1.1.5 pont definícióit. Az összeférhetőségi csoportot a 2.2.1.1.6 pont definíciói alapján kell meghatározni. Az alosztály sorszáma és az összeférhetőségi csoport betűjele együtt alkotják az osztályozási kódot.

**2.2.1.1.5** *Az alosztályok meghatározása*

- 1.1 alosztály Olyan anyagok és tárgyak, amelyeknél fennáll a teljes tömeg felrobbanásának veszélye. (A teljes tömeg felrobbanása olyan robbanás, ami gyakorlatilag egyidejűleg csaknem az egész rakománytömeget érinti.)
- 1.2 alosztály Olyan anyagok és tárgyak, amelyek a kivetés veszélyével járnak, de az egész tömeg felrobbanásának veszélyével nem.
- 1.3 alosztály Olyan anyagok és tárgyak, amelyek tűzveszélyesek és robbanás vagy kivetés vagy ezek együttes fellépésének csekély veszélyével járnak, de az egész mennyiség felrobbanásának veszélye nélkül,
  - a) így azok az anyagok, amelyek égése jelentős sugárzó hőt eredményez; vagy
  - b) amelyek egymásután úgy égnek el, hogy csak kismértékű robbanással vagy kivetéssel, vagy ezek egyidejű fellépésével járnak.
- 1.4 alosztály Olyan anyagok és tárgyak, amelyek csak csekély robbanásveszélyt jelentenek szállítás közbeni meggyulladásuk vagy beindulásuk esetén. A hatások lényegében a küldeménydarabra korlátozódnak, és általában nem következik be jelentősebb méretű repeszdarabok keletkezése vagy a repeszdarabok nagyobb távolságra való szétröpülése. Kívülről ható tűz nem vonja maga után a küldeménydarab teljes tartalmának gyakorlatilag azonnali felrobbanását.
- 1.5 alosztály Rendkívül kis mértékben érzékeny, tömegrobbanás veszélyét magukba rejtő anyagok, amelyek érzéketlensége olyan, hogy normális szállítási körülmények között beindulásuk vagy égésük robbanásba való átmenetének valószínűsége rendkívül csekély. Minimális követelmény ezen anyagokra nézve, hogy a külső tűz hatásának vizsgálata során nem szabad felrobbanniuk.
- 1.6 alosztály Rendkívül érzéketlen tárgyak, amelyeknél nem áll fenn a teljes tömeg felrobbanásának veszélye. Az ilyen tárgyak csak rendkívül érzéketlen robbanóanyagokat tartalmaznak, és bizonyítottan elhanyagolható a véletlen iniciálásuk vagy beindulásuk valószínűsége.

**Megjegyzés:** Az 1.6 alosztály tárgyaitól kiinduló veszély egyetlen tárgy felrobbanására korlátozódik.

**2.2.1.1.6**

*Az anyagok és tárgyak összeférhetőségi csoportjainak meghatározása*

- A Primer robbanóanyag.
- B Primer robbanóanyaggal töltött tárgy kettőnél kevesebb hatékony biztonsági szerkezettel. Egyes tárgyak, így a detonátorok robbantáshoz, detonátor-szerkezetek robbantáshoz és gyutacsszelencék ide tartoznak, bár ezek nem tartalmaznak primer robbanóanyagot.
- C Tolóhatású robbanóanyag vagy egyéb másodlagos deflagráló robbanóanyag vagy ilyen robbanóanyaggal töltött tárgy.
- D Szekunder detonáló robbanóanyag vagy feketelőpor vagy szekunder detonáló robbanóanyagot tartalmazó tárgy, minden esetben gyújtóeszköz és hajtótöltet nélkül, vagy primer robbanóanyagot tartalmazó tárgy legalább két hatékony biztonsági szerkezettel.
- E Szekunder detonáló robbanóanyagot tartalmazó tárgy indítószerkezet nélkül, de hajtótöltettel (gyúlékony folyadékot, gélt vagy hipergolokat tartalmazó töltetek kivételével).
- F Szekunder detonáló robbanóanyagot tartalmazó tárgy saját indítószerkezettel, hajtótöltettel (gyúlékony folyadékot, gélt vagy hipergolokat tartalmazó töltetek kivételével) vagy hajtótöltet nélkül.
- G Pirotechnikai anyag vagy pirotechnikai anyagot tartalmazó tárgy vagy olyan tárgy, amely egyben robbanóanyagot és gyújtó-, világító-, könnyfakasztó- vagy ködképző-anyagot is tartalmaz (a vízzel aktiválható tárgyak, valamint a fehérfoszfort, foszfidokat, piroforos anyagot, gyúlékony folyadékot, gélt vagy hipergolokat tartalmazó tárgyak kivételével).
- H Robbanóanyagot és fehérfoszfort együtt tartalmazó tárgy.
- J Robbanóanyagot és gyúlékony folyadékot vagy gélt együtt tartalmazó tárgy.
- K Robbanóanyagot és mérgező vegyianyagot együtt tartalmazó tárgy.
- L Olyan robbanóanyag vagy robbanóanyagot tartalmazó tárgy, amely különleges kockázattal jár (pl. víz hatására történő aktiválódás miatt vagy hipergolok, foszfidok vagy piroforos anyag jelenléte miatt) és így minden egyes típus elkülönítése szükséges.
- N Csak rendkívül érzéketlen robbanóanyagokat tartalmazó tárgyak.
- S Olyan anyag vagy tárgy, amely úgy van csomagolva vagy kialakítva, hogy a nem szándékos reakció révén bekövetkező minden hatás a küldeménydarab belsejére korlátozódik, kivéve, ha tűz esetén maga a küldeménydarab károsodik. Ebben az esetben a robbanási és kivetési hatásoknak olyan mértékűre kell korlátozódniuk, hogy ne akadályozzák a tűz leküzdését vagy más rendkívüli intézkedések végrehajtását a küldeménydarab közvetlen közelében.

**Megjegyzés:** 1. Valamely anyag vagy tárgy meghatározott csomagolásban csak egyetlen összeférhetőségi csoportba sorolható. Mivel az S összeférhetőségi csoport feltételei tapasztalati jellegűek, az ezen csoportba való sorolás szükségszerűen valamely osztályozási kód hozzárendelésére szolgáló próbához kötött.

- 2. A D és az E összeférhetőségi csoportok tárgyait el lehet látni, vagy egybe lehet csomagolni saját gyújtószerkezetükkel azzal a feltétellel, hogy ezeknek az eszközöknek legalább két olyan hatásos biztonsági szerkezetük van, amelyek megakadályozzák a robbanás bekövetkeztét a gyújtószerkezet nem szándékos aktiválódása esetén. Az ilyen küldeménydarabok a D vagy az E össze férhetőségi csoportba tartoznak.
- 3. A D és az E összeférhetőségi csoportok tárgyait egybe lehet csomagolni olyan saját indítószerkezetükkel, amelyeknek nincs két hatásos biztonsági szerkezetük (azaz olyan indítószerkezetek, amelyek a B összeférhetőségi



csoportba tartoznak), feltéve, hogy a 4.1.10 szakasz MP21 egybe-csomagolási előírásainak megfelelnek. Az ilyen küldeménydarabok a D vagy az E összeférhetőségi csoportba tartoznak.

4. A tárgyakat el lehet látni vagy egybe lehet csomagolni saját gyújtószerkezetükkel, feltéve, hogy a gyújtószerkezetek normális szállítási körülmények között nem tudnak működésbe lépni.
5. A C, a D és az E összeférhetőségi csoportba tartozó tárgyakat egybe lehet csomagolni. Az ilyen küldeménydarabokat az E összeférhetőségi csoporthoz kell hozzárendelni.

#### 2.2.1.1.7 A tűzijáték testek alosztályba sorolása

**2.2.1.1.7.1** A tűzijáték testeket rendes körülmények között a „Vizsgálatok és kritériumok kézikönyv” I. Rész 16. fejezet 6. vizsgálati sorozat próbái során nyert adatok alapján kell az 1.1, az 1.2, az 1.3 vagy az 1.4 alosztályba sorolni. Mivel azonban ezeknek a termékeknek a választéka rendkívül nagy, viszont a vizsgáló berendezések korlátozottan állnak rendelkezésre, az alosztályt a 2.2.1.1.7.2 pontban ismertetett eljárással is meg lehet határozni.

**2.2.1.1.7.2** A tűzijáték testeket az UN 0333, az UN 0334, az UN 0335 és az UN 0336 tételek alá a 6 vizsgálati sorozat próbáinak elvégzése nélkül, hasonlóság alapján is be lehet sorolni, a 2.2.1.1.7.5 pontban található, „tűzijáték testek vizsgálat hiányában történő besorolásának táblázata” szerint, az illetékes hatóság egyetértése esetén. A táblázatban nem szereplő tételeket a 6 vizsgálati sorozat próbái során nyert adatok alapján kell besorolni.

**Megjegyzés:** 1. A 2.2.1.1.7.5 pont táblázatának első oszlopát csak akkor lehet más típusú tűzijáték testtel kiegészíteni, ha a teljes vizsgálat eredményeit már benyújtották az ENSZ Veszélyes áru szállítási szakértő albizottságnak (UN Sub-Committee of Experts on the Transport of Dangerous Goods).

2. Ha a 2.2.1.1.7.5 pont táblázatának negyedik oszlopában meghatározott tűzijáték testekre vonatkozóan valamely illetékes hatóságtól származó vizsgálati eredmények megerősítik a 2.2.1.1.7.5 pont táblázatának ötödik oszlopában szereplő besorolást vagy annak ellentmondanak, erről az ENSZ Veszélyes áru szállítási szakértő albizottságát (UN Sub-Committee of Experts on the Transport of Dangerous Goods) értesíteni kell.

**2.2.1.1.7.3** Ha különböző alosztályokba tartozó tűzijáték testeket csomagolnak egy küldeménydarabba, azt a küldeménydarabban levő legveszélyesebb alosztály alapján kell besorolni, kivéve, ha a 6 vizsgálati sorozat próbái más eredményre vezetnek.

**2.2.1.1.7.4** A 2.2.1.1.7.5 pont táblázatában lévő besorolás csak olyan tárgyakra érvényes, amelyek (4G kódjelű) papírlemez ládában vannak.

**2.2.1.1.7.5** Tűzijáték testek vizsgálat hiányában történő besorolásának táblázata<sup>2)</sup>

**Megjegyzés:** 1. Ellentétes meghatározás hiányában a táblázatban a százalékra történő hivatkozás az összes pirotechnikai elegy tömegére vonatkozik (pl. rakéta motorok, lökö töltet, bontó töltet és effekt anyag).

2. A „villanó elegy” a táblázatban olyan pirotechnikai elegyre utal, amely a tűzijáték testben por formában vagy töltetegységként van jelen, és amelyet levegőben durranó effekt keltéséhez, bontó töltethez vagy lököttöltethez használnak, kivéve, ha a „Vizsgálatok és kritériumok kézikönyv” 2 vizsgálati sorozat 2 c) i) „Idő/nyomás” próbája során a nyomásnövekedéshez szükséges idő 0,5 g pirotechnikai elegy esetén 8 ms-nál több.

3. A mm-ben kifejezett méretek a következőket jelentik:

2) A táblázat azokat a tűzijáték test besorolásokat tartalmazza, amelyeket a 6 vizsgálati sorozat hiányában is lehet alkalmazni (lásd a 2.2.1.1.7.2 pontot).



- gömb és etázs bombáknál a bomba gömbjének átmérője;
- hengeres bombánál a bombának a hossza;
- csőben lévő bombánál, római gyertyánál, egylövéses római gyertyánál, vagy mozsárnál a tűzijáték testet tartalmazó cső belső átmérője;
- hengeres mozsárnál a mozsárhoz használni kívánt cső belső átmérője.

| Típus                                   | Tartalom/szinonima  | Meghatározás   | Részletes leírás  | Besorolás |
|---|---|--|---|-----------|
| Gömb és hengeres alakú tűzijáték bombák | <i>Gömb-bombák:</i><br>csillagos bombák, nappali bombák, több effektus bombák, vízre ugró bombák, ejtőernyős bombák, füst bombák;<br><i>durranós/villanós bombák:</i> jelző-, durranó-, fűtőülő-, villanóbombák | Csőből való kilövésre tervezett eszköz lökőtöltettel vagy anélkül, késleltetővel és bontó töltettel, pirotechnikai töltetegységekkel vagy laza pirotechnikai eleggyel  | Mindenféle durranós bomba   | 1.1G      |
|   |   |  | Csillagos bomba: $\geq 180$ mm  | 1.1G      |
|   |   |  | Csillagos bombák: $< 180$ mm, $> 25\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel  | 1.1G      |
|   |   |  | Csillagos bombák: $< 180$ mm, $\leq 25\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel   | 1.3G      |
|   |   |  | Csillagos bombák: $\leq 50$ mm vagy $\leq 60$ g pirotechnikai eleggyel, $\leq 2\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel  | 1.4G      |
|   | Etázs bombák  | Két vagy több gömb-bombából egybe rögzített, azonos lökőtöltettel, de elválasztott külső késleltetővel rendelkező eszköz   | A besorolást a legveszélyesebb gömb-bomba határozza meg.  |           |
|   | Előre töltött csövek, csőben lévő bombák  | Kilövésre tervezett, a csőbe előre telepített gömb- vagy hengeres bomba  | Mindenféle durranós bomba   | 1.1G      |
|   |   |  | Csillagos bombák: $\geq 180$ mm   | 1.1G      |
|   |   |  | Csillagos bombák: $> 25\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel  | 1.1G      |
|   |   |  | Csillagos bombák: $> 50$ mm és $< 180$ mm   | 1.2G      |
|   |   |  | Csillagos bombák: $\leq 50$ mm vagy $\leq 60$ g pirotechnikai eleggyel, $\leq 25\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel | 1.3G      |
|   | Bombák a bombában (gömb)<br>(a „bombák a bombában” esetén a százalékra történő hivatkozás a tűzijáték test teljes tömegére vonatkozik)  | Csőből való kilövésre tervezett eszköz lökőtöltet nélkül, késleltetővel és bontó töltettel, amely durranós bombákat és inert anyagokat tartalmaz   | $> 120$ mm  | 1.1G      |
|   |   | Csőből való kilövésre tervezett eszköz lökőtöltet nélkül, késleltetővel és bontó töltettel, amely töltetegységenként $\leq 25$ g villanó elegyet tartalmazó durranós bombákat tartalmaz, valamint $\leq 33\%$ villanó elegyet és $\geq 60\%$ inert anyagot | $\leq 120$ mm   | 1.3G      |
|   |   | Csőből való kilövésre tervezett eszköz lökőtöltet nélkül, késleltetővel és bontó töltettel, amely csillagos bombákat és/vagy pirotechnikai töltetegységeket tartalmaz  | $> 300$ mm  | 1.1G      |

| Típus                     | Tartalom/szinonima                                   | Meghatározás  | Részletes leírás  | Besorolás |
|---------------------------|--|---|---|-----------|
|                           |  | Csőből való kilövésre tervezett eszköz lökőtöltet nélkül, késleltetővel és bontó töltettel, amely $\leq 70$ mm csillagos bombákat és/vagy pirotechnikai töltetegységeket tartalmaz, valamint $\leq 25\%$ villanó elegyet és $\leq 60\%$ pirotechnikai elegyet | $> 200$ mm és $\leq 300$ mm   | 1.3G      |
|                           |  | Csőből való kilövésre tervezett eszköz lökőtöltettel, késleltetővel és bontó töltettel, amely $\leq 70$ mm csillagos bombákat és/vagy pirotechnikai töltetegységeket tartalmaz, valamint $\leq 25\%$ villanó elegyet és $\leq 60\%$ pirotechnikai elegyet     | $\leq 200$ mm   | 1.3G      |
| Telepek/<br>Kombinációk   | Telepek, finálé telepek, bombetta telepek            | Több, megszerelt elem, amely egyforma vagy különböző, de az ebben a táblázatban felsorolt valamely tűzijáték testnek megfelelő típusú tűzijáték testet tartalmaz, egy vagy két indítási ponttal   | A besorolást a legveszélyesebb tűzijáték test típus határozza meg.  |           |
| Római gyertyák            | Római gyertyák                                       | Olyan pirotechnikai töltetegységek sorozatát tartalmazó cső, amelyek változó pirotechnikai effekteket, lökőtölteteket és késleltetőket tartalmaznak   | $\geq 50$ mm belső átmérővel, villanó eleggyel, vagy $< 50$ mm belső átmérővel és $> 25\%$ villanó eleggyel   | 1.1G      |
|                           |  |   | $\geq 50$ mm belső átmérővel, villanó elegy nélkül  | 1.2G      |
|                           |  |   | $< 50$ mm belső átmérővel és $\leq 25\%$ villanó eleggyel   | 1.3G      |
|                           |  |   | $\leq 30$ mm belső átmérővel, minden pirotechnikai töltetegység $\leq 25$ g és $\leq 5\%$ villanó eleggyel  | 1.4G      |
| Egylövéses római gyertyák | Egylövéses római gyertyák, kis, előre töltött csövek | Olyan pirotechnikai töltetegységet tartalmazó cső, amely pirotechnikai effektet, lökőtöltetet tartalmaz, késleltetővel vagy anélkül   | $\leq 30$ mm belső átmérővel és $> 25$ g pirotechnikai töltetegységgel vagy $> 5\%$ és $\leq 25\%$ villanó eleggyel                                     | 1.3G      |
|                           |  |   | $\leq 30$ mm belső átmérővel, $\leq 25$ g pirotechnikai töltetegységgel és $\leq 5\%$ villanó eleggyel  | 1.4G      |
| Rakéták                   | Jelző rakéták, fűtőlő rakéták, nem pálcás rakéták    | Levegőben való repülésre tervezett, pirotechnikai elegyet és/vagy pirotechnikai töltetegységet tartalmazó cső, vezető pálcával/pálcákkal vagy más, repülés stabilizáló eszközzel felszerelve  | Csak villanó elegy tartalommal  | 1.1G      |
|                           |  |   | A pirotechnikai elegy tartalomtól a villanó elegy tartalom $> 25\%$   | 1.1G      |
|                           |  |   | $> 20$ g pirotechnikai elegy tartalommal és $\leq 25\%$ villanó elegy tartalommal   | 1.3G      |
|                           |  |   | $\leq 20$ g pirotechnikai elegy tartalommal, fekete lőpor bontó töltettel és durranó betétenként $\leq 0,13$ g, de összesen $\leq 1$ g villanó eleggyel | 1.4G      |

| Típus  | Tartalom/szinonima   | Meghatározás  | Részletes leírás   | Besorolás |
|--|--|---|--|-----------|
| Tűzijáték mozsár                                 | Tűzijáték mozsár, cső nélküli mozsár   | Földre való állításra vagy földbe való rögzítésre tervezett, lökőtöltetet és pirotechnikai töltetegységet tartalmazó cső. A fő effekt az összes pirotechnikai töltetegység egy kifújásban való kilövése által a levegőben nagymértékben szétterjedő vizuális és/vagy hang effekt létrehozása; vagy: Vetőcsőben való elhelyezésre és mozsárként való működésre tervezett, szövet vagy papír zacskó, ill. szövet vagy papír henger, ami lökőtöltetet és pirotechnikai töltetegységeket tartalmaz. | > 25% laza por formájú villanó eleggyel és/vagy durranó effekttel  | 1.1G      |
|  |  |   | $\geq 180$ mm, $\leq 25\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel   | 1.1G      |
|  |  |   | $< 180$ mm, $\leq 25\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel  | 1.3G      |
|  |  |   | $\leq 150$ g pirotechnikai elegy<br>$\leq 5\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel.<br>Minden töltetegység $\leq 25$ g, minden durranó effekt $< 2$ g; minden fűtőülő, ha van $\leq 3$ g   | 1.4G      |
| Szikraszökőkút                                   | Vulkánok, szikraszóró petárdák, vízesés, bengálégők, bengáli tüzek, hengeres szikraszökőkutak, világító/színes fáklyák                             | Nem fém burkolatú, préselt vagy szilárd, szikrát vagy lángot produkáló pirotechnikai elegyet tartalmazó eszköz  | $\geq 1$ kg pirotechnikai eleggyel   | 1.3G      |
|  |  |   | $< 1$ kg pirotechnikai eleggyel  | 1.4G      |
| Csillagszóró                                     | Kézi csillagszóró, nem kézi csillagszóró   | Merev drót részlegesen (az egyik végén) bevonva lassan égő pirotechnikai eleggyel, gyújtó véggel vagy anélkül   | Perklorát alapú csillagszóró: darabonként $> 5$ g vagy csomagonként $> 10$ darab   | 1.3G      |
|  |  |   | Perklorát alapú csillagszóró: darabonként $\leq 5$ g és csomagonként $\leq 10$ darab; Nitrát alapú csillagszóró: darabonként $\leq 30$ g   | 1.4G      |
| Bengálglyufa                                     | Bengálfáklya, vihargyufa   | Kézben való tartásra tervezett, nem fém rúd részlegesen (az egyik végén) bevonva lassan égő pirotechnikai eleggyel  | Perklorát alapú eszköz: darabonként $> 5$ g vagy csomagonként $> 10$ darab   | 1.3G      |
|  |  |   | Perklorát alapú eszköz: darabonként $\leq 5$ g és csomagonként $\leq 10$ darab; Nitrát alapú eszköz: darabonként $\leq 30$ g   | 1.4G      |
| Kis veszélyességű tűzijáték testek és újdonságok | Asztali bombák, recsegő szemcsék, füstök, ködök, pirotechnikai szerpentinek (angolul: party poppers), durranó egérkék (angolul: throwdowns, snaps) | Nagyon korlátozott látvány és hang kibocsátásra tervezett eszközök, amelyek kis mennyiségben tartalmaznak pirotechnikai elegyet és/vagy robbanó összetevőt  | A „throwdowns” és a „snaps” tartalmazhat legfeljebb 1,6 mg ezüst fulminátot; A „snaps” és a „party poppers” tartalmazhat legfeljebb 16 mg kálium-klorát és vörös foszfor keveréket; A többi eszköz tartalmazhat legfeljebb 5 g pirotechnikai elegyet, de villanóelegyet nem. | 1.4G      |

| Típus         | Tartalom/szinonima                | Meghatározás   | Részletes leírás   | Besorolás |
|---------------|-----------------------------------|--|--|-----------|
| Forgók        | Légi forgók, lepkék, földi forgók | Szikrát vagy gázt termelő pirotechnikai elegyet tartalmazó nem fém cső vagy csövek zajkeltő (fütyülő) eleggyel vagy a nélkül, szárnyakkal vagy szárnyak nélkül | Eszközönként > 20 g pirotechnikai eleggyel, amely ≤ 3% villanó elegyet, mint durranó effektet tartalmaz, vagy ≤ 5 g fütyülő elegyet tartalmaz  | 1.3G      |
|               |                                   |  | Eszközönként ≤ 20 g pirotechnikai eleggyel, amely ≤ 3% villanó elegyet, mint durranó effektet tartalmaz, vagy ≤ 5 g fütyülő elegyet tartalmaz  | 1.4G      |
| Forgók        | Katalin-kerék, szász-kerék        | Pirotechnikai elegyet tartalmazó, megszerelt hajtóművek csatlakozó eszközzel úgy felszerelve, hogy el tudjon forogni   | ≥ 1 kg összes pirotechnikai eleggyel, durranó effekt nélkül, minden fütyülő (ha van) ≤ 25 g és a fütyülő elegy kerekenként ≤ 50 g  | 1.3G      |
|               |                                   |  | < 1 kg összes pirotechnikai eleggyel, durranó effekt nélkül, minden fütyülő (ha van) ≤ 5 g és a fütyülő elegy kerekenként ≤ 10 g   | 1.4G      |
| Légi forgók   | Repülő szász-kerék, UFO-k, korona | Hajtótöltetet és szikrát, lángot termelő és/vagy zajkeltő pirotechnikai elegyeket tartalmazó csövek. A csövek tartó-gyűrűre vannak rögzítve.                   | Az összes pirotechnikai elegy > 200 g vagy a pirotechnikai elegy hajtóművenként > 60 g, ≤ 3% villanó elegyet, mint durranó effektet tartalmaz, minden fütyülő (ha van) ≤ 25 g és a fütyülő elegy forgónként ≤ 50 g | 1.3G      |
|               |                                   |  | Az összes pirotechnikai elegy ≤ 200 g és a pirotechnikai elegy hajtóművenként ≤ 60 g, ≤ 3% villanó elegyet, mint durranó effektet tartalmaz minden fütyülő (ha van) ≤ 5 g és a fütyülő elegy forgónként ≤ 10 g     | 1.4G      |
| Vegyes csomag | Vegyes tűzijátékok                | Az ebben a táblázatban felsorolt tűzijáték testeknek megfelelő típusú, többféle tűzijáték testek egy csomagban   | A besorolást a legveszélyesebb tűzijáték test típus határozza meg.   |           |
| Petárda füzér | Petárda füzér                     | Megszerelt (papírból vagy kartonpapírból készült) csövek gyújtószállal összekötve, minden cső hangeffekt keltésére szolgál                                     | Minden cső ≤ 140 mg villanó eleggyel vagy ≤ 1 g fekete löporral  | 1.4G      |
| Petárda       | Petárda                           | Nem fém csőben elhelyezett villanó elegy, amely hangeffekt keltésére szolgál   | eszközönként > 2 g villanó eleggyel  | 1.1G      |
|               |                                   |  | eszközönként ≤ 2 g és belső csomagolásonként ≤ 10 g villanó eleggyel   | 1.3G      |
|               |                                   |  | eszközönként ≤ 1 g és belső csomagolásonként ≤ 10 g villanó eleggyel, vagy eszközönként ≤ 10 g fekete löporral   | 1.4G      |

**2.2.1.1.8***A megnevezések szójegyzéke*

**Megjegyzés:** 1. A szójegyzékben található meghatározások nem helyettesíthetik sem a vizsgálati eljárásokat, sem az 1 osztályba tartozó valamely anyag vagy tárgy veszélyesség szempontjából való osztályozását. A termékeknek a megfelelő alosztályhoz való hozzárendelését és annak eldöntését, hogy az S összeférhetőségi csoporthoz kell-e sorolni, a „Vizsgálatok és kritériumok kézikönyv” I. Része szerint végzett vizsgálat, vagy már megvizsgált és a „Vizsgálatok és kritériumok kézikönyv” eljárása alapján besorolt, hasonló termékek analógiája alapján kell elvégezni.

2. A nevek után álló számok a megfelelő UN számra utalnak (3.2 fejezet „A” táblázat 1 oszlop). Az osztályozási kódra lásd a 2.2.1.1.4 pontot.

**AKNÁK** robbanótöltettel: UN 0136, 0294

Ezek a tárgyak detonáló robbanóanyaggal töltött fém vagy kombinált anyagú tartályból állnak olyan gyújtószerkezettel, amely nincs ellátva két vagy több hatékony biztonsági szerkezettel. A tárgyak arra szolgálnak, hogy hajók, járművek vagy emberek elhaladásakor lépjenek működésbe. Ide tartoznak un. „Bangalori torpedók” is.

**AKNÁK** robbanótöltettel: UN 0137, 0138

Ezek a tárgyak detonáló robbanóanyaggal töltött fém vagy kombinált anyagú tartályból állnak, gyújtószerkezet nélkül vagy olyan gyújtószerkezettel, amely legalább két hatékony biztonsági szerkezettel van ellátva. A tárgyak arra szolgálnak, hogy hajók, járművek vagy emberek elhaladásakor lépjenek működésbe. Ide tartoznak un. „Bangalori torpedók” is.

**A TÍPUSÚ ROBBANTÓANYAG:** UN 0081

Ezek az anyagok folyékony szerves nitrátokat, pl. nitroglicerint vagy ilyen anyagokból álló olyan keveréket tartalmaznak, melyekben a következő alkotórészek közül egy vagy több található: nitrocellulóz; ammónium-nitrát vagy más szervetlen nitrátok; aromás nitrovegyületek vagy éghető anyagok, pl. faliszt vagy alumíniumpor. Ezenkívül tartalmazhatnak inert alkotórészeket, pl. kovaföldet vagy kis mennyiségű adalékanyagokat, pl. színezékeket vagy stabilizátorokat is. A robbantóanyagok porszerű, zselatinszerű vagy elastikus konzisztenciájúak legyenek. Ide tartoznak a dinamitok, a robbanó zselatinok és a plasztikus dinamitok.

**BOMBÁK GYÚLÉKONY FOLYADÉK TARTALOMMAL,** robbanótöltettel: UN 0399, 0400

Ezek olyan tárgyak, amelyeket légi járművekről dobnak le, és gyúlékony folyadékot tartalmazó tartályból és robbanóanyag-töltetből állnak.

**BOMBÁK** robbanótöltettel: UN 0033, 0291

Robbanóanyagot tartalmazó tárgyak, amelyeket légi járművekről dobnak le. Olyan gyújtószerkezetet tartalmaznak, amely nincs ellátva két vagy több hatékony biztonsági szerkezettel.

**BOMBÁK** robbanótöltettel: UN 0034; 0035

Ezek olyan robbanóanyagot tartalmazó tárgyak, amelyeket légi járművekről dobnak le. Vagy nem tartalmaznak gyújtószerkezetet vagy olyan gyújtószerkezetük van, amely legalább két hatékony biztonsági szerkezettel van ellátva.

**BOMBÁK VILLANÓFÉNY TÖLTETTEL:** UN 0037

Ezek olyan, robbanóanyagot tartalmazó tárgyak, amelyeket légi járművekről dobnak le, hogy rövid ideig ható, intenzív fényforrássul szolgáljanak fényképészeti célokra. Detonáló

robbanóanyag-töltetet tartalmaznak olyan gyújtószerkezettel, amely nincs ellátva két vagy több hatékony biztonsági szerkezettel.

**BOMBÁK VILLANÓFÉNY TÖLTETTEL: UN 0038**

Ezek olyan, robbanóanyagot tartalmazó tárgyak, amelyeket légi járművekről dobnak le, hogy rövid ideig ható, intenzív fényforrással szolgáljanak fényképészeti célokra. Detonáló robbanóanyag-töltetet tartalmaznak gyújtószerkezet nélkül, vagy gyújtószerkezettel, amely legalább két hatékony biztonsági szerkezettel van ellátva.

**BOMBÁK VILLANÓFÉNY TÖLTETTEL: UN 0039, 0299**

Ezek olyan robbanóanyagot tartalmazó tárgyak, amelyeket légi járművekről dobnak le, hogy rövid ideig ható, intenzív fényforrással szolgáljanak fényképészeti célokra. Villanóanyag-töltetet tartalmaznak.

**B TÍPUSÚ ROBBANTÓANYAG: UN 0082, 0331**

Ezek az anyagok, amelyek vagy

- a) ammónium-nitrát vagy más szervesetlen nitrát robbanóanyagokkal, pl. trinitro-toluollal (TNT-vel), alkotott keverékből állnak, amelyek más anyagokat is, pl. falisztet és alumíniumport is tartalmazhatnak; vagy
- b) ammónium-nitrátból vagy más szervesetlen nitrátból és más éghető, nem robbanó anyagok keverékből állnak.

Mindkét esetben a robbantóanyagok tartalmazhatnak inert alkotórészeket, pl. kovaföldet és kis mennyiségű adalékanyagokat, pl. színezékeket vagy stabilizátorokat. Ezek a robbantóanyagok nem tartalmazhatnak sem nitroglicerint vagy hasonló folyékony szerves nitrátokat, sem pedig klorátokat.

**C TÍPUSÚ ROBBANTÓANYAG: UN 0083**

Ezek az anyagok kálium- vagy nátrium-klorát vagy kálium-, nátrium- vagy ammónium-perklorát és szerves nitrovegyületek vagy éghető anyagok, pl. faliszt, alumíniumpor vagy szénhidrogén keverékből állnak. Ezenkívül inert alkotórészeket, pl. kovaföldet és kis mennyiségű adalékanyagokat, pl. színezékeket vagy stabilizátorokat, is tartalmazhatnak. Ezek a robbantóanyagok nem tartalmazhatnak nitroglicerint vagy hasonló folyékony szerves nitrátokat.

**DETONÁTORSZERKEZETEK, NEMVILLAMOSAK, robbantáshoz: UN 0360, 0361, 0500**

Nemvillamos indítók, amelyek gyújtózsínórral, ütőgyújtóval, robbanózsínórral vagy gyújtócsővel vannak összekötve, és amelyeket ezekkel hoznak működésbe, késleltetővel ellátva, vagy anélkül. Ide értendők a relével szerelt robbanózsínók is.

**D TÍPUSÚ ROBBANTÓANYAG: UN 0084**

Ezek az anyagok szerves nitrovegyületek és éghető anyagok, pl. faliszt, szénhidrogének és -alumíniumpor keverékből állnak. Ezenkívül inert alkotórészeket, pl. kovaföldet és kis mennyiségű adalékanyagokat, pl. színezékeket vagy stabilizátorokat is tartalmazhatnak. Ezek a robbantóanyagok nem tartalmazhatnak sem nitroglicerint vagy hasonló folyékony szerves nitrátokat, sem klorátokat, sem pedig ammónium-nitrátot. Ide tartoznak általában a plasztik robbantóanyagok.

**E TÍPUSÚ ROBBANTÓANYAG: UN 0241, 0332**

Ezek az anyagok vízből mint fő alkotórészből és nagy mennyiségű olyan ammónium-nitrátból vagy más oxidálószerből állnak, amelyek teljes egészében vagy részben oldott állapotban vannak. A további alkotórészek lehetnek nitrovegyületek, pl. trinitro-toluol, szénhidrogének vagy alumíniumpor. Ezenkívül inert alkotórészeket, pl. kovaföldet és kis mennyiségű adalékanyagokat, pl. színezékeket vagy stabilizátorokat is tartalmazhatnak. Ide

tartoznak az emulziós robbantóanyagok, a robbantósuszpenziók és a „vízgél”.

**FEKETE LŐPOR (PUSKAPOR)**, szemcsés vagy por alakú: UN 0027

Ez az anyag faszénből vagy más szénfajtából és kálium-nitrátból vagy nátrium-nitrátból, kénnel vagy anélkül alkotott belsőseges keverék.

**FEKETE LŐPOR (PUSKAPOR), SAJTOLT** vagy  
**FEKETE LŐPOR (PUSKAPOR), PELLET**: UN 0028

Ez a termék formázott fekete lőporból áll.

**FORMÁZOTT TÖLTETEK** detonátor nélkül: UN 0059, 0439, 0440, 0441

Ezek a tárgyak gyújtószer nélküli detonáló robbanóanyagból álló töltetet tartalmaznak. A robbanóanyag-töltet üreges kialakítású, ami szilárd anyaggal van kitöltve. A tárgyak arra szolgálnak, hogy erős romboló hatást fejtsenek ki.

**FÜSTJELZŐK**: UN 0196, 0197, 0313, 0487, 0507

Ezek a tárgyak pirotechnikai anyagot tartalmaznak, amely füstöt fejleszt. Ezenkívül tartalmazhatnak hallható hang keltésére szolgáló szerkezetet is.

**FÜSTKÉPZŐ LŐSZER, FEHÉRFOSZFOR TARTALMÚ**, robbanó-, kidobó- vagy hajtótöltettel: UN 0245, 0246

Olyan lőszer, amelyek füstképző anyagként fehérfoszfort tartalmaznak. A következő alkotórészekből is tartalmaznak egyet vagy többet: hajtótöltet gyutaccsal és indítótöltettel; gyújtók robbanó- vagy kidobótöltettel. E fogalom ködgránátokat is tartalmaz.

**FÜSTKÉPZŐ LŐSZER**, robbanó-, kidobó- vagy hajtótöltettel vagy anélkül: UN 0015, 0016, 0303

Olyan lőszer, amelyek füstképző anyagokat, pl. klór-szulfonsav keveréket vagy titán-tetrakloridot, vagy hexaklór-etán vagy vörösfoszfor alapú füstképző pirotechnikai keveréket tartalmaznak. Amennyiben a füstképző anyag maga nem robbanóanyag, akkor a lőszer a következő alkotórészekből is tartalmaz egyet vagy többet: hajtótöltet gyutaccsal és gyújtótöltettel; gyújtók robbanó- vagy kidobótöltettel. E fogalom ködgránátokat is tartalmaz.

*Megjegyzés: A FÜSTJELZŐK nem tartoznak ide. Ezek a jelen szójegyzékben külön vannak feltüntetve.*

**FÜST NÉLKÜLI LŐPOR**: UN 0160, 0161

Nitrocellulóz alapon felépített anyag, amelyet lőporként használnak. A fogalom alá tartozik az egybázisú, füst nélküli lőpor [nitrocellulóz (NC) önállóan], a kétbázisú, füst nélküli lőpor [pl. az NC nitroglicerinnel (NG-vel)] és a hárombázisú, füst nélküli lőpor (pl. az NC/NG/nitroguanidin).

*Megjegyzés: Az öntött, sajtolt és töltetzacskóban levő, füst nélküli lőpor a HAJTÓTÖLTETEK vagy a KIDOBÓTÖLTETEK LÖVEGEKHEZ címszó alá tartozik.*

**GOLYÓS PERFORÁTOR TÖLTÉNY OLAJKUTAK FÚRÁSÁHOZ**: UN 0277, 0278

Ezek a tárgyak vékony papírlémezből, fémből vagy más anyagból készített házból állnak és füst nélküli lőport tartalmaznak. Arra valók, hogy edzett lövedéket löjjenek ki és ezzel az olaj-fúrólyuk bélésűsövé átlyukasszák.

*Megjegyzés: A FORMÁZOTT TÖLTETEK nem tartoznak ide. Ezek a jelen szójegyzékben külön szerepelnek.*

**GRÁNÁTOK**, kézi-, vagy fegyvergránátok robbantótöltettel: UN 0284, 0285

Ezek a tárgyak kézből történő hajításra vagy fegyverből való kilövésre szolgálnak. Vagy



nem tartalmaznak gyújtószerkezetet, vagy olyan gyújtószerkezetet tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva.

**GRÁNÁTOK**, kézi-, vagy fegyvergránátok robbanótöltettel: UN 0292, 0293

Ezek a tárgyak kézből történő hajításra vagy fegyverből való kilövésre szolgálnak. Olyan gyújtószerkezetet tartalmaznak, amely nincs ellátva két vagy több hatékony biztonsági szerkezettel.

**GYAKORLÓGRÁNÁTOK**, kézi- vagy fegyvergránátok: UN 0110, 0318, 0372, 0452

Ezek a tárgyak nem tartalmaznak fő robbanótöltetet. Kézből történő hajításra vagy fegyverből való kilövésre szolgálnak. Tartalmaznak gyújtószerkezetet és tartalmazhatnak jelzőtöltetet.

**GYAKORLÓLŐSZER**: UN 0362, 0488

Olyan lőszer, amely nem tartalmaz fő robbanótöltetet, de tartalmaz szétvető- vagy kidobótöltetet. A lőszer rendszerint gyutacsot és hajtótöltetet is tartalmaz.

*Megjegyzés: A GYAKORLÓGRÁNÁTOK nem tartoznak ezen fogalom alá. Ezek a jelen szójegyzékben önállóan szerepelnek.*

**GYÚJTÁSERŐSÍTŐK DETONÁTORRAL**: UN 0225, 0268

A tárgyak detonáló robbanóanyagot és gyújtószert tartalmaznak, és a detonátor vagy robbanózsínór gyújtóimpulzusának erősítésére szolgálnak.

**GYÚJTÁSERŐSÍTŐK** detonátor nélkül: UN 0042, 0283

Ezek a tárgyak gyújtószer nélküli detonáló robbanóanyagot tartalmaznak és a detonátor vagy robbanózsínór gyújtóimpulzusának erősítésére szolgálnak.

**GYÚJTÓK**: UN 0121, 0314, 0315, 0325, 0454

Ezek a tárgyak egy vagy több robbanóanyagot tartalmaznak. Rendeltetésük a robbantó- vagy gyújtóláncban a deflagráció kiváltása. A tárgyak vegyi, villamos vagy mechanikus úton hozhatók működésbe.

*Megjegyzés: A következő tárgyak nem tartoznak e fogalom alá: GYÚJTÓZSÍNÓR; GYÚJTÓZSÍNÓR-GYÚJTÓK; GYUTACS-CSÖVEK, GYUTACSSZELENCÉK; GYUTACSKAPSZULÁK; INDÍTÓGYÚJTÓK; PILLANATGYÚJTÓ, NEM ROBBANÓ; ROBBANÓZSÍNÓR. Ezek a jelen szójegyzékben külön szerepelnek.*

**GYÚJTÓZSÍNÓR**: UN 0066

Ez a tárgy vagy fekete löporral vagy más, gyorsan égő pirotechnikai keverékkel bevont textilszálakból készül, amely szálak hajlékony tömlőben vannak, vagy fekete löpor bélből áll, amely hajlékony szövött textilburkolattal van körülvéve. A gyújtózsínór teljes hosszúsága mentén előrehaladó nyílt lánggal ég, és a gyújtás átvitelére használatos valamely gyújtókészülektől töltetre vagy gyújtószerkezetre.

**GYÚJTÓZSÍNÓR, BIZTONSÁGI**: UN 0105

Ez a tárgy finom szemcsés fekete löpor belet tartalmaz, amely hajlékony textilszövetből álló egy- vagy többretegű külső burkolattal van ellátva. A zsinór meggyújtás után mindenféle robbanó hatás nélkül meghatározott sebességgel végigég.

**GYÚJTÓZSÍNÓR-GYÚJTÓK**, cső formájú fémköppennyel: UN 0103

Ez a tárgy deflagráló robbanóanyag-béllel ellátott fémcső.

**GYÚJTÓZSÍNÓR-GYÚJTÓK**: UN 0131

Különböző felépítésű tárgyak, amelyek a biztonsági gyújtózsínór begyújtására szolgálnak.

Dörzsöléssel, ütéssel vagy villamos úton lépnek működésbe.

**GYUTACSCSÖVEK, GYUTACSSZELENCÉK:** UN 0319, 0320, 0376

Primer robbanóanyagból és deflagráló robbanóanyagból, pl. fekete lőporból, álló kiegészítő töltetet tartalmazó tárgyak. A lövegekhez való lövedék hüvelyében levő töltet indításához használják.

**GYUTACSKAPSZULÁK:** UN 0044, 0377, 0378

Ütésre könnyen robbanó, kis mennyiségű primer robbanóanyag keveréket tartalmazó fém- vagy műanyag gyutacskapszula. Ezek a tárgyak kézfegyver töltényekben indítóelemként és lövegeknél ütőgyutacsként használatosak.

**GYUTACSKOK LŐSZEREKHEZ:** UN 0073, 0364, 0365, 0366

Ezek a tárgyak kis fém- vagy műanyagcsőből állnak, és robbanóanyagot, pl. ólom-azidot, PETN-t vagy robbanóanyagok kombinációját tartalmazzák. A gyújtólánc indítására valók.

**GYUTACSKOK, NEMVILLAMOSAK,** robbantáshoz: UN 0029, 0267, 0455

Ezek a tárgyak az ipari robbantóanyagok indítására valók késleltető szerkezettel vagy anélkül. A nemvillamos gyutacsokat ütőgyújtóval, gyújtócsővel, gyújtózsínórral, egyéb robbantóeszközzel, vagy hajlékony robbantózsínórral hozzák működésbe. Ide tartoznak a robbantózsínór nélküli kapcsolók is.

**GYUTACSKOK, VILLAMOSAK,** robbantáshoz: UN 0030, 0255, 0456

Ezek a tárgyak az ipari robbantóanyagok indítására szolgálnak, késleltető szerkezettel vagy anélkül. A villamos gyutacsokat villamos árammal hozzák működésbe.

**HAJTÓANYAG, FOLYÉKONY:** UN 0495, 0497

Deflagráló, folyékony robbanóanyag tárgyak mozgására.

**HAJTÓANYAG, SZILÁRD:** UN 0498, 0499, 0501

Deflagráló, szilárd robbanóanyag tárgyak mozgására.

**HAJTÓTÖLTETEK:** UN 0271, 0272, 0415, 0491

Ezek a tárgyak tetszőleges fizikai formájú hajtótöltetből állnak burkolattal vagy anélkül és mint rakétamotorok alkotórészeként vagy a lövedék lassulásának csökkentésére szolgálnak.

**HEXOTONAL:** UN 0393

Ez az anyag ciklotrimetilén-trinitramin (RDX), trinitro-toluol (TNT) és alumínium belső-séges keverékéből áll.

**HEXOLIT (HEXOTOL),** száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített: UN 0118

Ez az anyag ciklotrimetilén-trinitramin (RDX) és trinitro-toluol (TNT) belső-séges keverékéből áll. Ide tartozik a „Composition B” is.

**INDÍTÓGYÚJTÓK:** UN 0316, 0317, 0368

Ezek a tárgyak primer robbanóanyagot tartalmaznak, és lőszerekben a deflagráció kiváltására valók. A deflagráció kiváltására mechanikai, villamos, kémiai vagy hidrosztatikus úton aktiválható szerkezetet tartalmaznak. Rendszerint biztonsági szerkezettel rendelkeznek.

**JELZÓPATRONOK:** UN 0054, 0312, 0405

Ezek a tárgyak arra valók, hogy színes fényjeleket vagy más jeleket adjanak jelzőpisztolyból vagy egyéb eszközökből kilőve.

**JELZŐTESTEK, KÉZI:** UN 0191, 0373

Ezek hordozható tárgyak, amelyek pirotechnikai anyagot tartalmaznak, és látható jelző vagy figyelmeztető hatást keltenek. Ide tartoznak a kisméretű földi világítótestek, pl. autópálya fáklyák, vasúti fáklyák vagy kis vízi fáklyák.

**KÁBELVÁGÓ SZERKEZET ROBBANÓANYAGGAL:** UN 0070

Ez a tárgy egy késszerű szerkezetből áll, amelyet deflagráló robbanóanyagból álló kis töltet egy ellendarabhoz sajtol.

**KÉZIFEGYVER TÖLTÉNYEK:** UN 0012, 0339, 0417

Olyan lőszer, amelyek központi vagy peremgyújtású töltényhüvelyből állnak, valamint kidobótöltetet és szilárd lövedéket tartalmaznak. Legfeljebb 19,1 mm kaliberű fegyverekhez valók. Ide tartoznak a tetszőleges kaliberű sörétpatronok.

*Megjegyzés: Nem tartoznak ide a VAKTÖLTÉNYEK KÉZI-FEGYVEREKHEZ, amelyek külön vannak feltüntetve, és egyes katonai kézifegyvertöltények, amelyek a TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL fogalomba tartoznak.*

**KIDOBÓTÖLTETEK LÖVEGEKHEZ:** UN 0242, 0279, 0414

Lövegűszerekhez külön betöltendő kidobótöltetek bármilyen fizikai formában.

**KIOLDÓSZERKEZETEK, ROBBANÓANYAG TARTALMÚAK:** UN 0173

Ezek a tárgyak kis robbanótöltetből, gyújtószerkezetből és rudazatból vagy összekötő darabból állnak. Arra valók, hogy a rudazat vagy összekötő darab átszakításával a szerkezeteket gyorsan szétkapcsolják.

**KÖTÉLVETŐ RAKÉTÁK:** UN 0238, 0240, 0453

Ezek a tárgyak rakétahajtóműből állnak, és arra valók, hogy kötelet húzzanak magukkal.

**KÖZETREPESZTŐ TORPEDÓK**, detonátor nélkül, olajkutak fúrásához: UN 0099

Ezek a tárgyak gyújtószer nélküli detonáló robbanóanyagot tartalmazó házból állnak. A fúrólyuk környezetében a közet repesztésére használják, hogy a kőolaj kilépését a közetből megkönnyítsék.

**LÉGZSÁK GÁZGENERÁTOR** vagy **LÉGZSÁK MODUL** vagy **BIZTONSÁGI ÖV ELŐFESZÍTŐ:** UN 0503

Pirotechnikai anyagot tartalmazó tárgyak, amelyeket gépjárműben életmentő légzsákként vagy biztonsági övként használnak.

**LÓPORBRIKETT (LÓPORPASZTA)**, legalább 17 tömeg% alkohollal **NEDVESÍTETT:** UN 0433**LÓPORBRIKETT (LÓPORPASZTA)**, legalább 25 tömeg% vízzel **NEDVESÍTETT:** UN 0159

Nitrocellulózsból álló anyag, amely legfeljebb 60 tömeg% nitroglicerinnel, más folyékony szerves nitráttal vagy ezek keverékével van impregnálva.

**LŐSZER, GYÚJTÓ HATÁSÚ**, gyúlékony folyadék vagy gél tartalommal, robbanó-, kidobó- vagy hajtótöltettel: UN 0247

Olyan lőszer, amelyek folyékony vagy gélyszerű gyújtóanyagot tartalmaznak. Amennyiben a gyújtóanyag maga nem robbanóanyag, akkor a lőszer a következő alkotórészekből is tartalmaz egyet vagy többet: hajtótöltet gyutaccsal és indítótöltettel; gyújtók robbanó- vagy kidobótöltettel.

**LŐSZER, GYÚJTÓ HATÁSÚ**, robbanó-, kidobó- vagy hajtótöltettel vagy anélkül: UN 0009, 0010, 0300

Olyan lőszer, amelyek gyújtó hatású anyagot tartalmaznak. Amennyiben a gyújtóanyag maga nem robbanóanyag, akkor a lőszer a következő alkotórészekből is tartalmaz egyet vagy többet: hajtótöltet gyutaccsal és indítótöltettel; gyújtók robbanó- vagy kidobótöltettel.

**LŐSZER, GYÚJTÓ HATÁSÚ, FEHÉRFOSZFOR TARTALMÚ**, robbanó-, kidobó- vagy hajtótöltettel: UN 0243, 0244

Olyan lőszer, amelyek gyújtóanyagként fehérfoszfort tartalmaznak. A következő alkotórészekből is tartalmaznak egyet vagy többet: hajtótöltet gyutaccsal és indítótöltettel; gyújtók robbanó- vagy kidobótöltettel.

**LŐSZER, KÖNNYEZTETŐ HATÁSÚ**, robbanó-, kidobó- vagy hajtótöltettel: UN 0018, 0019, 0301

Olyan lőszer, amelyek könnyeztető anyagot tartalmaznak. A következő alkotórészekből is tartalmaznak egyet vagy többet: pirotechnikai anyag; hajtótöltet gyutaccsal és indítótöltettel; gyújtók robbanó- vagy kidobótöltettel.

**LŐSZER, VILÁGÍTÓ HATÁSÚ**, robbanó-, kidobó- vagy hajtótöltettel vagy anélkül: UN 0171, 0254, 0297

Olyan lőszer, amelyek intenzív fényforrásként szolgálhatnak valamely terület megvilágítására. A fogalom tartalmazza a világítógránátokat és világítólövedékeket, valamint a világítóbombákat és a célmegjelölő bombákat is.

*Megjegyzés: A következő tárgyak nem tartoznak e fogalomkörbe: JELZÓPATRONOK; JELZŐTESTEK, KÉZI; VÉSZJELZŐK, tengeri; VILÁGÍTÓTESTEK, FÖLDI; VILÁGÍTÓTESTEK, LÉGI. Ezek a jelen szójegyzékben külön vannak feltüntetve.*

**LÖVEDÉKEK**, inert, nyomjelzőszerrel: UN 0345, 0424, 0425

Olyan tárgyak, mint pl. a gránátok vagy golyók, amelyeket ágyúból vagy más lövegből, puskákból vagy más kézfegyverből lőnek ki.

**LÖVEDÉKEK** robbanó- vagy kidobótöltettel: UN 0346, 0347

Olyan tárgyak, mint pl. a gránátok vagy golyók, amelyeket ágyúból vagy más lövegből lőnek ki. Ezek a tárgyak vagy nem tartalmaznak gyújtószer vagy olyan gyújtószer tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva. Színjelzésre vagy más inert anyag szétszórására valók.

**LÖVEDÉKEK** robbanó- vagy kidobótöltettel: UN 0426, 0427

Olyan tárgyak, mint pl. a gránátok vagy golyók, amelyeket ágyúból vagy más lövegből lőnek ki. Ezek a tárgyak olyan gyújtószer tartalmaznak, amely nincs ellátva legalább két hatékony biztonsági szerkezettel. Színjelzésre vagy más inert anyag szétszórására valók.

**LÖVEDÉKEK** robbanó- vagy kidobótöltettel: UN 0434, 0435

Olyan tárgyak, mint pl. a gránátok vagy golyók, amelyeket ágyúból vagy más lövegből, puskákból vagy más kézfegyverből lőnek ki. Színjelzésre vagy más inert anyag szétszórására valók.

**LÖVEDÉKEK** robbanótöltettel: UN 0167, 0324

Olyan tárgyak, mint pl. a gránátok vagy golyók, amelyeket ágyúból vagy más lövegből lőnek ki. Ezek a tárgyak olyan gyújtószer tartalmaznak, amely nincs ellátva legalább két hatékony biztonsági szerkezettel.

**LÖVEDÉKEK** robbanótöltettel: UN 0168, 0169, 0344

Olyan tárgyak, mint pl. a gránátok vagy golyók, amelyeket ágyúból vagy más lövegből lőnek ki. Ezek a tárgyak vagy nem tartalmaznak gyújtószertert vagy olyan gyújtószertert tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva.

**MUNKAVÉGZŐ TÖLTETEK:** UN 0275, 0276, 0323, 0381

Ezek a tárgyak arra valók, hogy mechanikai hatásokat váltsanak ki. Deflagráló robbanóanyagból álló töltetet és gyújtót tartalmazó házból állnak. A deflagrációs termékek robbanási gázai tárgyakat fújnak fel, egyenes vonalú vagy forgó mozgást hoznak létre, vagy megszakítókat, szelepeket vagy kapcsolókat működtetnek, rögzítőelemeket löknek ki, vagy oltószerkezeteket aktiválnak.

**NAGYON ÉRZÉKETLEN ROBBANÓANYAGOK (EVI ANYAGOK), M.N.N.:** UN 0482

Olyan anyagok, amelyek tömegrobbanási veszélyt képviselnek ugyan, de annyira érzéketlenek, hogy igen csekély az iniciálás vagy az égésből a detonálásba való átmenet veszélye a normális szállítási feltételek között, és amelyek kiállták az 5. vizsgálati sorozatot.

**NYOMJELZŐK LŐSZEREKHEZ:** UN 0212, 0306

Ezek olyan zárt tárgyak, amelyek pirotechnikai anyagot tartalmaznak és arra szolgálnak, hogy a lövedékek röppályáját láthatóvá tegyék.

**OKTOLIT (OKTOL),** száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített: UN 0266

Ez az anyag ciklotetrametilén-tetranitramin (HMX) és trinitro-toluol (TNT) belsőseges keverékéből áll.

**OKTONAL:** UN 0496

Ez az anyag ciklotetrametilén-tetranitramin (HMX), trinitro-toluol (TNT) és alumínium belsőseges keverékéből áll.

**PENTOLIT,** száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített: UN 0151

Ez az anyag pentaeritrit-tetranitrát (PETN) és trinitro-toluol (TNT) belsőseges keverékéből áll.

**PERFORÁTOR PUSKÁK, TÖLTETTEL,** detonátor nélkül, olajkutak fúrásához: UN 0124, 0494

Ezek a tárgyak acélcsőből vagy fémszalagból állnak, amelyben formázott töltetek vannak. A tölteteket robbanózsínórok kötik össze. Nem tartalmaznak indítószervezetet.

**PILLANATGYÚJTÓ, NEM ROBBANÓ:** UN 0101

Ezek a tárgyak pamutszálakból állnak, amelyek fekete lőporral vannak impregnálva (gyújtószál). Nyílt lánggal égnak és tűzijáték testek stb. gyújtóláncaiban kerülnek alkalmazásra.

**PIROFOROS TÁRGYAK:** UN 0380

Ezek a tárgyak piroforos (levegő hatására öngyulladásra hajlamos) anyagot és valamilyen robbanóanyagot vagy robbanó alkotórészt tartalmaznak. Nem tartoznak e fogalom alá a fehérfoszfor tartalmú tárgyak.

**PIROTECHNIKAI TÁRGYAK** műszaki célokra: UN 0428, 0429, 0430, 0431, 0432

Olyan tárgyak, amelyek pirotechnikai anyagot tartalmaznak, és műszaki célokra használatosak, pl. hőfejlesztésre, gázfejlesztésre vagy színházi hatások elérésére.

*Megjegyzés:* A következő tárgyak nem tartoznak e fogalomkörbe: FÜSTJELZŐK; - JELZÓPATRONOK; JELZŐTESTEK, KÉZI; KÁBELVÁGÓ SZER-

*KEZET ROBBANÓANYAGGAL; KIOLDÓSZERKEZETEK, ROBBANÓ-  
ANYAG TARTALMÚAK; mindenféle lőszer; ROBBANÓSZEGECSEK;  
TŰZIJÁTÉK TESTEK; VASÚTI DURRANTYÚK; VÉSZJELZŐK,  
tengeri; VILÁGÍTÓTESTEK, FÖLDI; VILÁGÍTÓTESTEK, LÉGI. Ezek a  
jelen szójegyzékben külön vannak feltüntetve.*

**PRÓBALŐSZER: UN 0363**

Olyan lőszer, amely pirotechnikai anyagot tartalmaz, és új lőszer, fegyverrész vagy fegyverrendszer működőképességének és hatásosságának vizsgálatára való.

**RAKÉTAHAJTÓMŰVEK: UN 0186, 0280, 0281**

Ezek a tárgyak toló hatású töltetből (rendszerint szilárd hajtóanyagból) állnak, amely egy vagy több fúvókával ellátott hengerben található. Rakéták vagy irányítható lövedékek hajtására valók.

**RAKÉTAHAJTÓMŰVEK FOLYÉKONY HAJTÓANYAGGAL: UN 0395, 0396**

Ezek a tárgyak egy vagy több fúvókát tartalmazó hengerből állnak, amely folyékony hajtóanyagot tartalmaz. A tárgyak rakéták vagy irányítható lövedékek hajtására valók.

**RAKÉTAHAJTÓMŰVEK HIPERGOL FOLYADÉKOKKAL, kidobótöltettel vagy anélkül: UN 0250, 0322**

Ezek a tárgyak hipergol hajtóanyagból állnak, amely egy vagy több fúvókával ellátott hengerben található. Rakéták vagy irányítható lövedékek hajtására valók.

**RAKÉTÁK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel: UN 0397, 0398**

Ezek a tárgyak folyékony hajtóanyaggal töltött, egy vagy több fúvókával ellátott hengerből és támadófejből állnak. Ide tartoznak irányítható lövedékek is.

**RAKÉTÁK inert fejjel: UN 0183, 0502**

Ezek a tárgyak rakétahajtóműből és inert fejből állnak. Ide tartoznak irányítható lövedékek is.

**RAKÉTÁK kidobótöltettel: UN 0436, 0437, 0438**

A tárgyak rakétahajtóműből és kidobótöltetből állnak, a hasznos teher rakétafejből való kidobására szolgálnak. Ide tartoznak irányítható lövedékek is.

**RAKÉTÁK robbanótöltettel: UN 0180, 0295**

Ezek a tárgyak rakétahajtóműből és támadófejből állnak. Olyan gyújtószerkezetet tartalmaznak, amely nincs ellátva legalább két hatékony biztonsági szerkezettel. Ide tartoznak az irányítható lövedékek is.

**RAKÉTÁK robbanótöltettel: UN 0181, 0182**

Ezek a tárgyak rakétahajtóműből és támadófejből állnak. Vagy nem tartalmaznak gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva. Ide tartoznak irányítható lövedékek is.

**RENDKÍVÜL ÉRZÉKETLEN ROBBANÓTÁRGYAK (EEI TÁRGYAK): UN 0486**

Olyan tárgyak, amelyek csak rendkívül érzéketlen detonáló robbanóanyagokat (EIDS) tartalmaznak és véletlen beindulási vagy detonálás továbbviteli-hajlamuk normális szállítási feltételek között elhanyagolható és kiállták a 7. vizsgálati sorozatot.

**ROBBANÓANYAG MINTÁK, az indító robbanóanyagok kivételével: UN 0190**

Új vagy régebben létező robbanóanyagok vagy robbanótárgyak, amelyek nincsenek besorolva a 3.2 fejezet „A” táblázatának egyetlen megnevezése alá sem, és az illetékes hatóság előírásai szerint általában kis mennyiségben kerülnek szállításra, többek között



kísérleti, besorolási, kutatási és fejlesztési vagy minőségellenőrzési célból, vagy mint kereskedelmi minták.

***Megjegyzés:** Azok a robbanóanyagok és robbanótárgyak, amelyek a 3.2 fejezet „A” táblázatának valamely más megnevezése alá vannak besorolva, nem esnek ezen fogalom alá.*

**ROBBANÓGYÚJTÓK:** UN 0106, 0107, 0257, 0367

Ezek a tárgyak robbanóelemeket tartalmaznak, amelyek a lőszerekben a detonáció kiváltására szolgálnak. A detonáció kiváltására mechanikai, villamos, kémiai vagy hidrosztatikus úton aktiválható szerkezetet tartalmaznak. Rendszerint biztonsági szerkezet is be van építve.

**ROBBANÓGYÚJTÓK** biztonsági szerkezettel: UN 0408, 0409, 0410

Ezek a tárgyak robbanó elemeket tartalmaznak, amelyek a lőszerekben a detonáció kiváltására szolgálnak. A detonáció kiváltására mechanikai, villamos, kémiai vagy hidrosztatikus úton aktiválható szerkezetet tartalmaznak. A robbanógyújtókban legalább két hatékony biztonsági szerkezetnek is kell lennie.

**ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.:** UN 0382, 0383, 0384, 0461

Tárgyak, amelyek a detonáció vagy deflagráció továbbvitelére szolgálnak a robbanólánc mentén.

**ROBBANÓSZEGECSEK:** UN 0174

Ezek a tárgyak fémszegecsek, belül levő kis robbanóanyag-töltettel.

**ROBBANÓSZONDÁK:** UN 0204, 0296

Ezek a tárgyak detonáló robbanóanyag-töltetből állnak. Olyan gyújtószert tartalmaznak, amely nincs ellátva (legalább két) hatékony biztonsági szerkezettel. Hajókról dobják a vízbe, és meghatározott vízmélységben vagy a tengerfenékre érve robbannak.

**ROBBANÓSZONDÁK:** UN 0374, 0375

Ezek a tárgyak detonáló robbanóanyag-töltetből állnak. Vagy nem tartalmaznak gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva. Hajókról dobják a vízbe, és meghatározott vízmélységben vagy a tengerfenékre érve robbannak.

**ROBBANÓTÖLTETEK:** UN 0048

Ezek a tárgyak papírlemezből, műanyagból, fémből vagy más anyagból készített házból állnak és detonáló robbanóanyag-töltetet tartalmaznak. Vagy nem tartalmaznak gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva.

***Megjegyzés:** A következő tárgyak nem tartoznak e fogalomkörbe: AKNÁK; BOMBÁK; LÖVEDÉKEK. Ezek a jelen szójegyzékben külön vannak feltüntetve.*

**ROBBANÓTÖLTETEK, IPARIAK,** detonátor nélkül: UN 0442, 0443, 0444, 0445

Ezek a tárgyak gyújtószerkezet nélküli detonáló robbanóanyag-töltetből állnak. Robbantásos hegesztéshez, robbantásos illesztéshez, robbantásos sajtoláshoz vagy más fémmegmunkálási eljáráshoz használatosak.

**ROBBANÓTÖLTETEK, KIEGÉSZÍTŐK:** UN 0060

Ezek a tárgyak kisméretű, eltávolítható erősítőtöltetek, amelyet a lövedékek üregébe az indítógyújtó és a fő robbanótöltet közé helyeznek el.

**ROBBANÓTÖLTETEK, MŰANYAG KÖTÉSŰEK:** UN 0457, 0458, 0459, 0460

Ezek a tárgyak műanyag kötésű detonáló robbanóanyag-töltetből állnak. Burkolat nélküli speciális alakúak, és nem tartalmaznak gyújtószerkezetet. Lőszerek, pl. támadófejek alkotórészeként használatosak.

**ROBBANÓZSINÓR,** fémköpenyes: UN 0102, 0290

Ez a tárgy lágy fémcsőben lévő detonáló robbanóanyag-bélből áll, védőbevonattal ellátva vagy anélkül.

**ROBBANÓZSINÓR,** hajlékony: UN 0065, 0289

Ez a tárgy detonáló robbanóanyag-bélből áll, textilszállal körbefonva, műanyagból vagy más anyagból álló burkolattal ellátva. A burkolat nem szükséges, ha a textilonat portömör.

**ROBBANÓZSINÓR, KISHATÁSÚ,** fémköpennyel: UN 0104

Ez a tárgy lágy fémcsőben lévő detonáló robbanóanyag-bélből áll, védőbevonattal ellátva vagy anélkül. A robbanóanyag mennyisége olyan csekély, hogy kifelé csak kis hatás lép fel.

**ROBBANTÓTÖLTETEK, PROFILOZOTT, HAJLÉKONY, VONAL ALAKÚ:** UN 0237, 0288

Ezek a tárgyak detonáló robbanóanyagból készült V alakú bélből állnak hajlékony köpenybe burkolva.

**SZÉTVETŐK,** robbanótöltettel: UN 0043

Ezek a tárgyak kis robbanótöltetek. Lövedékek vagy más lőszerek szétrobbantására valók, hogy azok tartalma szétszóródjon.

**TÁMADÓFEJEK RAKÉTÁKHOZ** robbanó- vagy kidobótöltettel: UN 0370

Ezek a tárgyak inert hasznos teherből és detonáló vagy deflagráló robbanóanyagot tartalmazó kis töltetből állnak. Vagy nem tartalmaznak gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva. Rakétákba vannak beszerelve az inert anyag szétszórása céljából. Ide tartoznak irányított lövedékek támadófejei is.

**TÁMADÓFEJEK RAKÉTÁKHOZ** robbanó- vagy kidobótöltettel: UN 0371

Ezek a tárgyak inert hasznos teherből és detonáló vagy deflagráló robbanóanyagot tartalmazó kis töltetből állnak. Olyan gyújtószerkezetet tartalmaznak, amely nincs ellátva (két vagy több) hatékony biztonsági szerkezettel. Rakétákba vannak beszerelve az inert anyag szétszórása céljából. Ide tartoznak irányított lövedékek támadófejei is.

**TÁMADÓFEJEK RAKÉTÁKHOZ** robbanótöltettel: UN 0286, 0287

Ezek a tárgyak detonáló robbanóanyagból állnak, amely vagy nem tartalmaz gyújtószerkezetet, vagy olyan gyújtószerkezetet tartalmaz, amely legalább két hatékony biztonsági szerkezettel van ellátva. Rakétákba vannak beszerelve. Ide tartoznak az irányított lövedékek támadófejei is.

**TÁMADÓFEJEK RAKÉTÁKHOZ** robbanótöltettel: UN 0369

Ezek a tárgyak detonáló robbanóanyagból állnak, amely olyan gyújtószerkezetet tartalmaz, ami nincs ellátva (két vagy több) hatékony biztonsági szerkezettel. Rakétákba vannak beszerelve. Ide tartoznak az irányított lövedékek támadófejei is.

**TÁMADÓFEJEK TORPEDÓKHOZ** robbanótöltettel: UN 0221

Ezek a tárgyak detonáló robbanóanyagból állnak. Vagy nem tartalmaznak gyújtószerkezetet, vagy olyan gyújtószerkezetet tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva. Torpedókba vannak beszerelve.



**TORPEDÓK FOLYÉKONY HAJTÓANYAGGAL**, inert fejjel: UN 0450

Ezek a tárgyak folyékony robbanóanyagot tartalmazó hajtórendszerből, amely a torpedót a víz alatt mozgatja, és inert fejből állnak.

**TORPEDÓK FOLYÉKONY HAJTÓANYAGGAL**, robbanótöltettel vagy anélkül: UN 0449

Ezek a tárgyak vagy folyékony robbanóanyagot tartalmazó hajtórendszerből állnak, amely a támadófejjel ellátott vagy anélküli torpedót a víz alatt mozgatja, vagy folyékony nem robbanó anyagot tartalmazó hajtórendszerből állnak, amely a támadófejjel ellátott torpedót a víz alatt mozgatja.

**TORPEDÓK** robbanótöltettel: UN 0329

Ezek a tárgyak támadófejből és folyékony robbanóanyagot tartalmazó hajtórendszerből állnak, amely a torpedót a víz alatt mozgatja. A támadófej vagy nem tartalmaz gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaz, amely legalább két hatékony biztonsági szerkezettel van ellátva.

**TORPEDÓK** robbanótöltettel: UN 0330

Ezek a tárgyak támadófejből és folyékony robbanóanyagot vagy nem robbanó anyagot tartalmazó hajtórendszerből állnak, amely a torpedót a víz alatt mozgatja. A támadófej olyan gyújtószerkezetet tartalmaz, amely nincs ellátva két vagy több hatékony biztonsági szerkezettel.

**TORPEDÓK** robbanótöltettel: UN 0451

Ezek a tárgyak támadófejből és folyékony, nem robbanó hajtórendszerből állnak, amely a torpedót a víz alatt mozgatja. A támadófej vagy nem tartalmaz gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaz, amely legalább két hatékony biztonsági szerkezettel van ellátva.

**TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL:** UN 0012, 0328, 0339, 0417

Olyan lőszer, amely robbanótöltet nélküli lövedékből és kidobótöltetből áll gyutaccsal vagy gyutacs nélkül. A lőszer nyomjelzőszert tartalmazhat, feltéve, hogy a fő veszélyt a kidobótöltet képezi.

**TÖLTÉNYEK FEGYVEREKHEZ** robbanólövedékkel: UN 0005, 0007, 0348

Olyan lőszer, amely robbanótöltetet tartalmazó lövedékből és kidobótöltetből áll gyutaccsal vagy gyutacs nélkül. A lövedék olyan gyújtószerkezetet tartalmaz, amely nincs ellátva (legalább két) hatékony biztonsági szerkezettel. Ide tartoznak összeszerelt löszerek, félig összeszerelt löszerek és különálló darabokból álló löveg löszerek, amennyiben egybe vannak csomagolva.

**TÖLTÉNYEK FEGYVEREKHEZ** robbanólövedékkel: UN 0006, 0321, 0412

Olyan lőszer, amely robbanótöltetet tartalmazó lövedékből és kidobótöltetből áll gyutaccsal vagy gyutacs nélkül. A lövedék vagy nem tartalmaz gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaz, amely legalább két hatékony biztonsági szerkezettel van ellátva. Ide tartoznak összeszerelt löszerek, félig összeszerelt löszerek és különálló darabokból álló löveg löszerek, amennyiben egybe vannak csomagolva.

**TÖLTÉNYHÜVELYEK, ÜRESEK, ÉGHETŐK, GYUTACS NÉLKÜL:** UN 0446, 0447

Ezek a tárgyak részben vagy teljes egészében nitrocellulózból gyártott töltényhüvelyek.

**TÖLTÉNYHÜVELYEK, ÜRESEK, GYUTACCSAL:** UN 0055; 0379

Ezek a tárgyak fémből, műanyagból vagy más, nem éghető anyagból készülnek. Egyetlen robbanó alkotórészük a gyutacs.

**TRITONAL: UN 0390**

Ez az anyag trinitro-toluol (TNT) és alumínium keverékéből áll.

**TÚZIJÁTÉK TESTEK: UN 0333, 0334, 0335, 0336, 0337**

Olyan pirotechnikai tárgyak, amelyek szórakoztatási célokra használatosak.

**VAKTÖLTÉNYEK FEGYVEREKHEZ: UN 0014, 0326, 0327, 0338, 0413**

Olyan lőszer, amely zárt töltényhüvelyből áll központi vagy peremgyújtással és feketelőpor- vagy füst nélküli löportöltetet tartalmaz. A töltényhüvely nem tartalmaz lövedéket. Erős durranás keltésére valók, valamint gyakorláshoz, díszlövéshez, kidobótöltetként és indítópisztolyokhoz stb. használatosak. Ide tartoznak a gyakorló löszerek is.

**VAKTÖLTÉNYEK KÉZIFEGYVEREKHEZ: UN 0014, 0327, 0338**

Olyan lőszer, amely zárt töltényhüvelyből áll központi vagy peremgyújtással és feketelőpor- vagy füst nélküli löportöltetet tartalmaz. A töltényhüvely nem tartalmaz lövedéket. Legfeljebb 19,1 mm kaliberű fegyverekhez valók és erős durranás keltésére szolgálnak és gyakorláshoz, díszlövéshez, kidobótöltetként és indítópisztolyokhoz stb. használatosak.

**VASÚTI DURRANTYÚK: UN 0192, 0193, 0492, 0493**

Ezek a tárgyak pirotechnikai anyagot tartalmaznak, amely a tárgy összetörésekor erős hanghatással felrobban. Vasúti sínre helyezik.

**VÉSZJELZŐK, tengeri: UN 0194, 0195, 0505, 0506**

Ezek a tárgyak pirotechnikai anyagot tartalmaznak és arra valók, hogy durranás, láng, füst vagy ezek kombinációja formájában jelzést adjanak.

**VILÁGÍTÓTESTEK, FÖLDI: UN 0092, 0418, 0419**

Ezek a tárgyak pirotechnikai anyagot tartalmaznak, és a földön megvilágításra, jelzésre, megjelölésre vagy figyelmeztetésre használatosak.

**VILÁGÍTÓTESTEK, LÉGI: UN 0093, 0403, 0404, 0420, 0421**

Ezek a tárgyak pirotechnikai anyagot tartalmaznak és légi járműről ledobva megvilágításra, jelzésre, megjelölésre vagy figyelmeztetésre szolgálnak.

**VILLANÓFÉNY-PATRONOK: UN 0049, 0050**

Ezek a tárgyak házból, gyújtóelemből és villanópor-készletből állnak. Minden alkotórész egyetlen, kilövésre kész tárggyá van egyesítve.

**VILLANÓFÉNYPOR: UN 0094, 0305**

Olyan pirotechnikai anyag, amely meggyújtáskor intenzív fényt kelt.

**VÍZIBOMBÁK: UN 0056**

Ezek a tárgyak detonáló robbanóanyagot tartalmazó hordóból, dobból vagy lövedékből állnak, amely vagy nem tartalmaz gyújtószerkezetet, vagy olyan gyújtószerkezetet tartalmaz, amely legalább két hatékony biztonsági szerkezettel van ellátva. Víz alatti robbanás előidézésére valók.

**VÍZZEL AKTIVÁLHATÓ SZERKEZETEK** robbanó-, kidobó- vagy hajtótöltettel: UN 0248, 0249

Olyan tárgyak, amelyek működése tartalmuk vízzel való fizikai-kémiai reakciójától függ.

**2.2.1.2 A szállításból kizárt anyagok és tárgyak**

**2.2.1.2.1** Azok a robbanóanyagok, amelyek a „Vizsgálatok és kritériumok kézikönyv”, I. Rész kritériumai szerint nagymértékben robbanásérzékenyek, vagy amelyeknél spontán reakció léphet fel, valamint azok a robbanóanyagok és -tárgyak, amelyek nem sorolhatók a 3.2 fejezet „A” táblázatának valamely megnevezése vagy m.n.n. tétele alá, a szállításból ki vannak zárva.

**2.2.1.2.2** A K összeférhetőségi csoport tárgyai a szállításból ki vannak zárva (1.2K – UN 0020 és 1.3K – UN 0021).

**2.2.1.3 A gyűjtőmegnevezések felsorolása**

| Osztályozási kód<br>(lásd 2.2.1.1.4) | UN szám | Az anyag vagy tárgy megnevezése   |
|--------------------------------------|---------|---|
| 1.1A                                 | 0473    | ROBBANÓANYAGOK, M.N.N.  |
| 1.1B                                 | 0461    | ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.  |
| 1.1C                                 | 0474    | ROBBANÓANYAGOK, M.N.N.  |
|                                      | 0497    | FOLYÉKONY HAJTÓANYAG  |
|                                      | 0498    | SZILÁRD HAJTÓANYAG  |
|                                      | 0462    | ROBBANÓTÁRGYAK, M.N.N.  |
| 1.1D                                 | 0475    | ROBBANÓANYAGOK, M.N.N.  |
|                                      | 0463    | ROBBANÓTÁRGYAK, M.N.N.  |
| 1.1E                                 | 0464    | ROBBANÓTÁRGYAK, M.N.N.  |
| 1.1F                                 | 0465    | ROBBANÓTÁRGYAK, M.N.N.  |
| 1.1G                                 | 0476    | ROBBANÓANYAGOK, M.N.N.  |
| 1.1L                                 | 0357    | ROBBANÓANYAGOK, M.N.N.  |
|                                      | 0354    | ROBBANÓTÁRGYAK, M.N.N.  |
| 1.2B                                 | 0382    | ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.  |
| 1.2C                                 | 0466    | ROBBANÓTÁRGYAK, M.N.N.  |
| 1.2D                                 | 0467    | ROBBANÓTÁRGYAK, M.N.N.  |
| 1.2E                                 | 0468    | ROBBANÓTÁRGYAK, M.N.N.  |
| 1.2F                                 | 0469    | ROBBANÓTÁRGYAK, M.N.N.  |
| 1.2L                                 | 0358    | ROBBANÓANYAGOK, M.N.N.  |
|                                      | 0248    | VÍZZEL AKTIVÁLHATÓ SZERKEZETEK robbanó-,<br>kidobó- vagy hajtótöltettel |
|                                      | 0355    | ROBBANÓTÁRGYAK, M.N.N.  |
| 1.3C                                 | 0132    | AROMÁS NITROVEGYÜLETEK DEFLAGRÁLÓ<br>FÉMSÓI, M.N.N.                     |
|                                      | 0477    | ROBBANÓANYAGOK, M.N.N.  |
|                                      | 0495    | FOLYÉKONY HAJTÓANYAG  |
|                                      | 0499    | SZILÁRD HAJTÓANYAG  |
|                                      | 0470    | ROBBANÓTÁRGYAK, M.N.N.  |
| 1.3G                                 | 0478    | ROBBANÓANYAGOK, M.N.N.  |
| 1.3L                                 | 0359    | ROBBANÓANYAGOK, M.N.N.  |
|                                      | 0249    | VÍZZEL AKTIVÁLHATÓ SZERKEZETEK robbanó-,<br>kidobó- vagy hajtótöltettel |
|                                      | 0356    | ROBBANÓTÁRGYAK, M.N.N.  |
| 1.4B                                 | 0350    | ROBBANÓTÁRGYAK, M.N.N.  |
|                                      | 0383    | ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.  |

| Osztályozási kód<br>(lásd 2.2.1.1.4) | UN szám | Az anyag vagy tárgy megnevezése  |
|--------------------------------------|---------|--|
| 1.4C                                 | 0479    | ROBBANÓANYAGOK, M.N.N.   |
|                                      | 0501    | SZILÁRD HAJTÓANYAG   |
|                                      | 0351    | ROBBANÓTÁRGYAK, M.N.N.   |
| 1.4D                                 | 0480    | ROBBANÓANYAGOK, M.N.N.   |
|                                      | 0352    | ROBBANÓTÁRGYAK, M.N.N.   |
| 1.4E                                 | 0471    | ROBBANÓTÁRGYAK, M.N.N.   |
| 1.4F                                 | 0472    | ROBBANÓTÁRGYAK, M.N.N.   |
| 1.4G                                 | 0485    | ROBBANÓANYAGOK, M.N.N.   |
|                                      | 0353    | ROBBANÓTÁRGYAK, M.N.N.   |
| 1.4S                                 | 0481    | ROBBANÓANYAGOK, M.N.N.   |
|                                      | 0349    | ROBBANÓTÁRGYAK, M.N.N.   |
|                                      | 0384    | ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.   |
| 1.5D                                 | 0482    | NAGYON ÉRZÉKETLEN ROBBANÓANYAGOK (EVI <sup>a)</sup> ANYAGOK), M.N.N.   |
| 1.6N                                 | 0486    | RENDKÍVÜL ÉRZÉKETLEN ROBBANÓTÁRGYAK (EEI <sup>b)</sup> TÁRGYAK)  |
|                                      | 0190    | ROBBANÓANYAG MINTÁK, az indító robbanó-<br>anyagok kivételével<br><b>Megjegyzés:</b> Az alosztályt és az összeférhetőségi<br>csoportot a 2.2.1.1.4 pont elvei alapján és az illetékes<br>hatóság utasításai szerint kell meghatározni. |

a) EVI = explosive, very insensitive (angol rövidítés)

b) EEI = explosive, extremely insensitive (angol rövidítés)

**2.2.2 2 osztály Gázok****2.2.2.1 Kritériumok**

**2.2.2.1.1** A 2 osztály fogalma a tiszta gázokra, a gázkeverékekre, egy vagy több gáz keverékére egy vagy több más anyaggal, valamint az ilyen anyagokat tartalmazó tárgyakra terjed ki.

A gázok olyan anyagok, amelyek

- a) gőznyomása 50 °C-on meghaladja a 300 kPa-t (3 bar-t); vagy
- b) 20 °C-on és 101,3 kPa normál nyomáson teljesen gáz alakúak.

**Megjegyzés:** 1. Az UN 1052 vízmentes hidrogén-fluorid azonban a 8 osztály anyaga.

2. Valamely tiszta gáz tartalmazhat egyéb alkotórészeket is a gyártási folyamatból adódóan vagy hozzáadott anyagokat a termék stabilitásának megőrzésére, amennyiben ezen alkotórészek koncentrációja nem módosítja a gáz besorolását vagy a szállítási feltételeket, mint pl. a töltési fokot, a töltőnyomást, a próbanyomást.

3. A 2.2.2.3 bekezdés m.n.n. tételei tiszta gázokra és gázkeverékekre egyaránt vonatkoznak.

4. A szénsavas italok nem tartoznak az ADR előírásainak hatálya alá.

**2.2.2.1.2** A 2 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

- 1. Sűrített gáz: olyan gáz, amely a szállításra szánt csomagolásban túlnyomás alatt -50 °C-on teljesen gáz halmazállapotú; ebbe a kategóriába tartozik minden gáz, amelynek kritikus hőmérséklete -50 °C vagy annál alacsonyabb
- 2. Cseppfolyósított gáz: olyan gáz, amely a szállításra szánt csomagolásban túlnyomás alatt -50 °C felett részben folyékony állapotban van. Meg kell különböztetni a következőket:
  - nagy nyomáson cseppfolyósított gáz: olyan gáz, amelynek kritikus hőmérséklete -50 °C-nál magasabb, de legfeljebb +65 °C;
  - kis nyomáson cseppfolyósított gáz: olyan gáz, amelynek kritikus hőmérséklete +65 °C-nál magasabb
- 3. Mélyhűtött, cseppfolyósított gáz: olyan gáz, amely a szállításra szánt csomagolásban alacsony hőmérséklete folytán részben folyékony állapotban van
- 4. Oldott gáz: olyan gáz, amely a szállításra szánt csomagolásban túlnyomás alatt folyadék fázisú oldószerben van oldva
- 5. Aeroszol csomagolások és gázzal töltött kisméretű tartályok (gázpatronok)
- 6. Túlnyomás alatti gázt tartalmazó egyéb tárgyak
- 7. Túlnyomás nélküli gázok, amelyekre különleges előírások érvényesek (gázminták).

**2.2.2.1.3** A 2 osztály anyagai és tárgyai (az aeroszokok kivételével) veszélyes tulajdonságaik alapján a következő csoportok valamelyikéhez vannak hozzárendelve:

- A fojtó
- O gyújtó hatású
- F gyúlékony
- T mérgező

TF mérgező, gyúlékony

TC mérgező, maró

TO mérgező, gyújtó hatású

TFC mérgező, gyúlékony, maró

TOC mérgező, gyújtó hatású, maró.

Ha a gázok vagy gázkeverékek veszélyes tulajdonságai a kritériumok alapján egynél több csoporthoz tartoznak, a T betűvel jelölt csoportok minden más csoportot megelőznek. Az F betűvel jelölt csoportok megelőzik az A vagy O betűvel jelölteket.

**Megjegyzés:** 1. Az ENSZ Minta Szabályzatban, az IMDG kódexben és az ICAO Műszaki Utasításokban a gázokat az általuk képviselt fő veszély alapján a következő három alosztály egyikébe sorolják:

- 2.1 alosztály: gyúlékony gázok (megfelel az F betűvel jelölt csoportokba tartozó gázoknak);
- 2.2 alosztály: nem gyúlékony, nem mérgező gázok (megfelel az A vagy az O betűvel jelölt csoportokba tartozó gázoknak);
- 2.3 alosztály: mérgező gázok (megfelel a T betűvel jelölt, azaz T, TF, TC, TO, TFC és TOC csoportba tartozó gázoknak).

2. A gázzal töltött kisméretű tartályokat (UN 2037) a tartalom veszélyessége alapján az A - TOC csoport valamelyikéhez kell hozzárendelni. Az aeroszolokra (UN 1950) lásd a 2.2.2.1.6 pontot

3. A maró hatású gázok mérgezőnek is tekintendők és ezért a TC, a TFC vagy a TOC csoportba vannak sorolva.

4. A 21 térf. %-nál nagyobb oxigéntartalmú gázkeverékeket gyújtó hatásúnak kell besorolni.

**2.2.2.1.4** Ha a 2 oszttálynak a 3.2 fejezet „A” táblázatában név szerint említett valamely keveréke a 2.2.2.1.2 és a 2.2.2.1.5 pontban felsorolt kritériumoktól eltérőeket elégít ki, akkor ezt a keveréket ezen kritériumok szerint kell besorolni és a megfelelő m.n.n. tételhez hozzárendelni.

**2.2.2.1.5** A 2 osztály azon anyagait és tárgyait (az aeroszolak kivételével), amelyek a 3.2 fejezet „A” táblázatában nincsenek név szerint feltüntetve a 2.2.2.1.2 és a 2.2.2.1.3 pont szerint a 2.2.2.3 bekezdésben felsorolt valamely gyújtómegnevezés alá kell besorolni. A kritériumok a következők:

#### *Fojtó gázok*

Olyan nem gyúlékony, nem gyújtó hatású és nem mérgező gázok, amelyek a légkörben rendes körülmények között jelen levő oxigént hígítják vagy kiszorítják.

#### *Gyúlékony gázok*

Olyan gázok, amelyek 20 °C-on és 101,3 kPa normál nyomáson

- a) a levegővel alkotott, legfeljebb 13 térf. % gázt tartalmazó keverék formájában gyúlékonyak (alsó robbanási határjuk legfeljebb 13%); vagy
- b) az alsó robbanási határuktól függetlenül a levegővel legalább 12 százalékpont terjedelmű robbanási tartománnyal bírnak.

A gyúlékonyságot vizsgálatokkal vagy számítással kell meghatározni az ISO által elfogadott módszerek (lásd az ISO 10156:1996 szabványt) szerint.

Ha nem áll elegendő adat rendelkezésre ezen módszerek használatához, a származási ország illetékes hatósága által elismert más, azonos értékű vizsgálati eljárások is alkalmazhatók.

Ha a származási ország nem valamely ADR Szerződő Fél, akkor ezeket a módszereket a

küldemény által érintett első ADR Szerződő Fél illetékes hatóságának kell elismernie.

*Gyújtó hatású (oxidáló) gázok*

Olyan gázok, amelyek általában oxigén leadásával tüzet okozhatnak, vagy más anyagok égését a levegőnél nagyobb mértékben elősegíthetik. Az oxidáló képességet az ISO által elfogadott módszer (lásd az ISO 10156:1996 és az ISO 10156-2:2005 szabványt) szerinti vizsgálattal vagy számítással kell meghatározni.

*Mérgező gázok*

**Megjegyzés:** Azokat a gázokat, amelyek részben vagy teljes egészében a maró hatásuk következtében elégítik ki a mérgezőképesség kritériumait, mérgező gázokként kell besorolni. A maró hatás, mint lehetséges járulékos veszély kritériumait lásd a „maró gázok” címszó alatt is.

Olyan gázok,

- amelyekről ismert, hogy az emberi egészséget veszélyeztető mértékben mérgezők vagy marók; vagy
- amelyekről feltételezhető, hogy az emberre nézve mérgezők vagy marók, mivel a 2.2.61.1 bekezdés szerint vizsgálva az akut mérgezési  $LC_{50}$  értékük legfeljebb 5000 ml/m<sup>3</sup> (ppm).

A gázkeverékek (beleértve a más osztályba tartozó anyagok gőzeit) esetében a következő képlet használható:

$$\text{a mérgező (keverék) } LC_{50} \text{ értéke} = \frac{1}{\sum_{i=1}^n \frac{f_i}{T_i}}$$

ahol

$f_i$  = a keverék  $i$ -edik alkotórészének mólaránya

$T_i$  = a keverék  $i$ -edik alkotórészének toxicitási mutatója. A  $T_i$ -érték egyenlő a 4.1.4.1 bekezdés P200 csomagolási utasítása szerinti  $LC_{50}$  értékkel. Amennyiben az  $LC_{50}$  érték nem szerepel a 4.1.4.1 bekezdés P200 csomagolási utasításában, a szakirodalomban található  $LC_{50}$  értéket kell használni. Ha az  $LC_{50}$  érték ismeretlen, a toxicitási mutatót a hasonló fiziológiai és kémiai hatásokkal rendelkező anyagok legalacsonyabb  $LC_{50}$  értéke alapján kell meghatározni, vagy – ha ez az egyetlen gyakorlati lehetőség – kísérleteket kell végezni.

*Maró gázok*

Azokat a gázokat és gázkeverékeket, amelyek teljes egészében a maró hatásuk következtében elégítik ki a mérgezőképesség kritériumait, mint maró járulékos veszéllyel bíró mérgező gázokat kell besorolni.

Egy olyan gázkeveréknek, amely a maró és mérgező hatás kombinálódása folytán mérgezőnek tekintendő, akkor van maró járulékos veszélye, ha emberen szerzett tapasztalatok alapján ismert, hogy roncsolja a bőrt, a szemet vagy a nyálkahártyát, vagy ha a keverék maró alkotórészeinek  $LC_{50}$  értéke a következő képlettel számítva legfeljebb 5000 ml/m<sup>3</sup> (ppm):



$$a \text{ maró (keverék) } LC_{50} \text{ értéke} = \frac{1}{\sum_{i=1}^n \frac{fc_i}{Tc_i}}$$

ahol

$fc_i$  = a keverék i-edik alkotórészének mólaránya

$Tc_i$  = a keverék i-edik maró alkotórészének toxicitási mutatója. A  $Tc_i$ -érték egyenlő a 4.1.4.1 bekezdés P200 csomagolási utasítása szerinti  $LC_{50}$  értékkel. Amennyiben az  $LC_{50}$  érték nem szerepel a 4.1.4.1 bekezdés P200 csomagolási utasításában, a szakirodalomban található  $LC_{50}$  értéket kell használni. Ha az  $LC_{50}$  érték ismeretlen, a toxicitási mutatót a hasonló fiziológiai és kémiai hatásokkal rendelkező anyagok legalacsonyabb  $LC_{50}$  értéke alapján kell meghatározni, vagy – ha ez az egyetlen gyakorlati lehetőség – kísérleteket kell végezni.

#### 2.2.2.1.6 Aeroszolak

Az aeroszolak (UN 1950) veszélyes tulajdonságai alapján a következő csoportok valamelyikéhez vannak hozzárendelve:

- A fojtó
- O gyújtó hatású
- F gyúlékony
- T mérgező
- C maró
- CO maró, gyújtó hatású
- FC gyúlékony, maró
- TF mérgező, gyúlékony
- TC mérgező, maró
- TO mérgező, gyújtó hatású
- TFC mérgező, gyúlékony, maró
- TOC mérgező, gyújtó hatású, maró.

A csoporthoz rendelés az aeroszol csomagolás tartalmának tulajdonságaitól függ.

**Megjegyzés:** Aeroszol csomagolások hajtóanyagaként nem használhatók a 2.2.2.1.5 pont kritériumai szerint mérgező gázok, ill. a 4.1.4.1 bekezdés P200 csomagolási utasítása szerint piroforos gázok. Azok az aeroszolak, amelyek tartalma mérgezőképesség vagy maró hatás tekintetében a 1 csomagolási csoportnak felel meg, a szállításból ki vannak zárva (lásd még a 2.2.2.2.2 pontot is).

A kritériumok a következők:

- a) az A csoporthoz kell hozzárendelni, ha a tartalom a következő b) – f) pont szerinti, egyetlen más csoport kritériumainak sem felel meg;
- b) az O csoporthoz kell hozzárendelni, ha az aeroszol a 2.2.2.1.5 pont szerint gyújtó hatású (oxidáló) gázt tartalmaz;
- c) az F csoporthoz kell hozzárendelni, ha a tartalom 85 tömeg% vagy annál több gyúlékony alkotórészt tartalmaz és a kémiai égéshő 30 kJ/g vagy annál nagyobb; nem kell az F csoporthoz hozzárendelni, ha a tartalom 1 tömeg% vagy annál kevesebb



gyúlékony alkotórészt tartalmaz és a kémiai égéshő 20 kJ/g-nál kisebb;  
egyéb esetekben az aeroszol gyúlékonyságát a „Vizsgálatok és kritériumok kézikönyv”, III. rész 31. fejezetében leírt vizsgálatokkal kell meghatározni. A vizsgálat szerint „rendkívül gyúlékony”, ill. „gyúlékony” aeroszolókat az F csoporthoz kell hozzárendelni.

**Megjegyzés:** A gyúlékony alkotórészek a „Vizsgálatok és kritériumok kézikönyv”, III. rész 31.1.3 szakaszához fűzött 1 – 3. megjegyzésben meghatározott gyúlékony folyékony anyagok, gyúlékony szilárd anyagok, ill. gyúlékony gázok és gázkeverékek. Ez a meghatározás nem terjed ki a piroforos, az önmelegedő és a vízzel reaktív anyagokra. A kémiai égéshőt a következő módszerek valamelyikével kell meghatározni: ASTM D 240, ISO/FDIS 13943: 1999 (E/F) 86.1 – 86.3, ill. NFPA 30B.

- d) a T csoporthoz kell hozzárendelni, ha a tartalom, az aeroszol csomagolás hajtóanyagát kivéve, a 6.1 osztály II vagy III csomagolási csoportjába tartozik;
- e) a C csoporthoz kell hozzárendelni, ha a tartalom, az aeroszol csomagolás hajtóanyagát kivéve, kielégíti a 8 osztály II vagy III csomagolási csoportjának kritériumait;
- f) ha az O, F, T és C csoport közül egynél több kritériuma teljesül, akkor az esettől függően a CO, FC, TF, TC TO, TFC vagy TOC csoporthoz kell hozzárendelni.

#### **2.2.2.2 A szállításból kizárt gázok**

**2.2.2.2.1** A 2 osztály vegyileg nem állandó anyagai csak akkor adhatók át szállításra, ha megtették a szükséges intézkedéseket a normális szállítási körülmények között a veszélyes reakció, mint pl. bomlás, szétválás vagy polimerizálódás mindenfajta lehetőségének megakadályozására. E célból különösen arról kell gondoskodni, hogy a tartályok és tartányok ne tartalmazzanak olyan anyagokat, amelyek ezeket a reakciókat elősegíthetik.

**2.2.2.2.2** A következő anyagok és keverékek a szállításból ki vannak zárva:

- UN 2186 hidrogén-klorid, mélyhűtött, cseppfolyósított;
- UN 2421 nitrogén-trioxid;
- UN 2455 metil-nitrit;
- azok a mélyhűtött, cseppfolyósított gázok, amelyek nem sorolhatók a 3A, 3O vagy 3F osztályozási kód alá;
- azok az oldott gázok, amelyek nem sorolhatók az UN 1001, 2073 vagy 3318 alá;
- azok az aeroszolókat, amelyek hajtógázként olyan gázt tartalmaznak, amely a 2.2.2.1.5 pont kritériuma szerint mérgező, vagy a 4.1.4.1 bekezdés P200 csomagolási utasítás kritériuma szerint piroforos;
- azok az aeroszolókat, amelyek tartalma a mérgezőképesség vagy maró hatás tekintetében az I csomagolási csoportnak felel meg (lásd a 2.2.61 és a 2.2.8 szakaszt);
- azok a nagyon mérgező gázzal ( $LC_{50}$  200 ppm-nél kisebb) vagy olyan gázzal töltött kisméretű tartályok (gázpatronok), amely gáz a 4.1.4.1 bekezdés P200 csomagolási utasítás kritériuma szerint piroforos.

## 2.2.2.3 A gyújtómegnevezések felsorolása

| Osztályozási kód              | UN szám | Az anyag vagy tárgy megnevezése  |
|-------------------------------|---------|--|
| <i>Sűrített gázok</i>         |         |  |
| 1A                            | 1956    | SŰRÍTETT GÁZ, M.N.N.   |
| 1O                            | 3156    | SŰRÍTETT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.  |
| 1F                            | 1964    | SZÉNHIDROGÉN-GÁZ KEVERÉK, SŰRÍTETT, M.N.N.   |
|                               | 1954    | SŰRÍTETT GÁZ, GYÚLÉKONY, M.N.N.  |
| 1T                            | 1955    | SŰRÍTETT GÁZ, MÉRGEZŐ, M.N.N.  |
| 1TF                           | 1953    | SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.   |
| 1TC                           | 3304    | SŰRÍTETT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.  |
| 1TO                           | 3303    | SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.   |
| 1TFC                          | 3305    | SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.   |
| 1TOC                          | 3306    | SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.   |
| <i>Cseppfolyósított gázok</i> |         |  |
| 2A                            | 1058    | CSEPPFOLYÓSÍTOTT GÁZ, nem gyúlékony, nitrogén, szén-dioxid vagy levegő alatt   |
|                               | 1078    | HŰTŐGÁZ, M.N.N.<br>mint pl. az R ... jelű gázok keveréke, azaz:<br>F1 keverék, amelynek gőznyomása 70 °C-on 1,3 MPa-nál (13 bar) nem nagyobb, és sűrűsége 50 °C-on a diklór-fluor-metánénál (1,30 kg/l) nem kisebb;<br>F2 keverék, amelynek gőznyomása 70 °C-on 1,9 MPa-nál (19 bar) nem nagyobb, és sűrűsége 50 °C-on a diklór-difluor-metánénál (1,21 kg/l) nem kisebb;<br>F3 keverék, amelynek gőznyomása 70 °C-on 3 MPa-nál (30 bar) nem nagyobb, és sűrűsége 50 °C-on a klór-difluor-metánénál (1,09 kg/l) nem kisebb.<br><b>Megjegyzés:</b> A triklór-monofluor-metán (R 11 hűtőgáz), az 1,1,2-triklór-1,2,2-trifluor-etán (R 113 hűtőgáz), az 1,1,1-triklór-2,2,2-trifluor-etán (R 113a hűtőgáz), az 1-klór-1,2,2-trifluor-etán (R 133 hűtőgáz) és az 1-klór-1,1,2-trifluor-etán (R 133b hűtőgáz) nem a 2 osztály anyaga, az F1, F2, F3 keverékekben azonban előfordulhatnak. |
|                               | 1968    | ROVARIRTÓ GÁZ, M.N.N.  |
|                               | 3163    | CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.   |
| 2O                            | 3157    | CSEPPFOLYÓSÍTOTT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.  |
| 2F                            | 1010    | BUTADIÉNEK ÉS SZÉNHIDROGÉN KEVERÉKE, STABILIZÁLT, amelynek gőznyomása 70 °C-on nem haladja meg az 1,1 MPa-t (11 bar-t) és sűrűsége 50 °C-on legalább 0,525 kg/l<br><b>Megjegyzés:</b> A stabilizált butadiének is az UN 1010 alá vannak besorolva, lásd a 3.2 fejezet „A” táblázatát.  |
|                               | 1060    | METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK, STABILIZÁLT<br>mint a metil-acetilén és propadién keveréke szénhidrogénekkal, azaz:<br>P1 keverék legfeljebb 63 térf.% metil-acetilén és propadién, és legfeljebb 24 térf.% propán és propén tartalommal, a telített C <sub>4</sub> -szénhidrogén részarányának legalább 14 térf.%-nak kell lennie; és<br>P2 keverék legfeljebb 48 térf.% metil-acetilén és propadién, és legfeljebb 50 térf.% propán és propén tartalommal, a telített C <sub>4</sub> -szénhidrogén részarányának legalább 5 térf.%-nak kell lennie; valamint<br>propadién keverékei 1...4% metil-acetilénnel.   |

| Osztályozási kód  | UN szám  | Az anyag vagy tárgy megnevezése  |
|---|--|--|
| 2F<br>(folyt.)  | 1965   | SZÉNHIDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N.<br>keverékek, mint:<br>A gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg az 1,1 MPa-t (11 bar-t), és sűrűsége 50 °C-on 0,525 kg/l-nél nem kisebb<br>A01 gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg az 1,6 MPa-t (16 bar-t), és sűrűsége 50 °C-on 0,516 kg/l-nél nem kisebb<br>A02 gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg az 1,6 MPa-t (16 bar-t), és sűrűsége 50 °C-on 0,505 kg/l-nél nem kisebb<br>A0 gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg az 1,6 MPa-t (16 bar-t), és sűrűsége 50 °C-on 0,495 kg/l-nél nem kisebb<br>A1 gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg a 2,1 MPa-t (21 bar-t), és sűrűsége 50 °C-on 0,485 kg/l-nél nem kisebb<br>B1 gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg a 2,6 MPa-t (26 bar-t), és sűrűsége 50 °C-on 0,474 kg/l-nél nem kisebb<br>B2 gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg a 2,6 MPa-t (26 bar-t), és sűrűsége 50 °C-on 0,463 kg/l-nél nem kisebb<br>B gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg a 2,6 MPa-t (26 bar-t), és sűrűsége 50 °C-on 0,450 kg/l-nél nem kisebb<br>C gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg a 3,1 MPa-t (31 bar-t), és sűrűsége 50 °C-on 0,440 kg/l-nél nem kisebb.<br><b>Megjegyzés: 1.</b> Az előbbi gázkeverékek megnevezésére a kereskedelemben szokásos következő elnevezések is használhatók: A, A01, A02 és A0 keverék esetén BUTÁN, C gázkeverék esetén PROPÁN.<br><b>2.</b> A tengeri vagy légi szállítást megelőző és követő szállításnál az UN 1965 SZÉNHIDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N. helyett választható az UN 1075 PETRÓLEUMGÁZ, CSEPPFOLYÓSÍTOTT tétel is. |
|   | 3354   | ROVARIRTÓ GÁZ, GYÚLÉKONY, M.N.N.   |
|   | 3161   | CSEPPFOLYÓSÍTOTT GÁZ, GYÚLÉKONY, M.N.N.  |
|   | 2T   | 1967   |
|   | 3162   | CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, M.N.N.  |
| 2TF   | 3355   | ROVARIRTÓ GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.  |
|   | 3160   | CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.   |
| 2TC   | 3308   | CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.  |
| 2TO   | 3307   | CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.   |
| 2TFC  | 3309   | CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.   |
| 2TOC  | 3310   | CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.   |
| Mélyhűtött, cseppfolyósított gázok                            |  |  |
| 3A  | 3158   | MÉLYHŰTÖTT , CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.  |
| 3O  | 3311   | MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.  |
| 3F  | 3312   | MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT GÁZ, GYÚLÉKONY, M.N.N.  |
| Oldott gázok  |  |  |
| 4   | Csak a 3.2 fejezet „A” táblázatában felsorolt anyagok fogadhatók el szállításra. |  |
| Aeroszolk és gázzal töltött kisméretű tartályok (gázpatronok) |  |  |
| 5   | 1950   | AEROSZOLOK   |
|   | 2037   | GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők  |

| Osztályozási kód                                      | UN szám | Az anyag vagy tárgy megnevezése  |
|---|---------|--|
| <i>Túlnyomás alatti gázt tartalmazó egyéb tárgyak</i> |         |  |
| 6A  | 2857    | HÚTÓGÉPEK, nem gyúlékony, nem mérgező gáz vagy ammónia oldat (UN 2672) tartalommal               |
|   | 3164    | PNEUMATIKUS NYOMÁS ALATTI TÁRGYAK (nem gyúlékony gáz tartalommal); vagy                          |
|   | 3164    | HIDRAULIKUS NYOMÁS ALATTI TÁRGYAK (nem gyúlékony gáz tartalommal)                                |
| 6F  | 3150    | KISMÉRETŰ ESZKÖZÖK SZÉNHIDROGÉN-GÁZ TÖLTETTEL, adagoló-szerkezettel; vagy                        |
|   | 3150    | SZÉNHIDROGÉN-GÁZ UTÁNTÖLTŐ PATRONOK KISMÉRETŰ ESZKÖZÖKHÖZ, adagoló-szerkezettel                  |
|   | 3478    | ÜZEMANYAGCELLA KAZETTA, gyúlékony, cseppfolyósított gáz tartalommal; vagy                        |
|   | 3478    | ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN, gyúlékony, cseppfolyósított gáz tartalommal; vagy            |
|   | 3478    | ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBECSOMAGOLVA, gyúlékony, cseppfolyósított gáz tartalommal; |
|   | 3479    | ÜZEMANYAGCELLA KAZETTA, fémhidridben lévő hidrogén tartalommal; vagy                             |
|   | 3479    | ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN, fémhidridben lévő hidrogén tartalommal; vagy                 |
|   | 3479    | ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBECSOMAGOLVA, fémhidridben lévő hidrogén tartalommal       |
| <i>Gázminták</i>                                      |         |  |
| 7F  | 3167    | TÚLNYOMÁS NÉLKÜLI, GYÚLÉKONY GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított              |
| 7T  | 3169    | TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított                |
| 7TF   | 3168    | TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ, GYÚLÉKONY GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított     |

**2.2.3 3 osztály Gyúlékony folyékony anyagok****2.2.3.1 Kritériumok**

**2.2.3.1.1** A 3 osztály fogalomköre olyan anyagokra és ezen osztály anyagait tartalmazó tárgyra terjed ki, amelyek

- az 1.2.1 szakaszban a „folyékony anyag” meghatározás a) bekezdése szerint folyékonyak;
- gőznyomásuk 50 °C hőmérsékleten legfeljebb 300 kPa (3 bar) és 20 °C hőmérsékleten, 101,3 kPa normál nyomáson nem teljesen gáz alakúak;
- lobbanáspontjuk legfeljebb 60 °C (a vizsgálatra lásd a 2.3.3.1 bekezdést).

A 3 osztály fogalomköre kiterjed az olyan gyúlékony folyékony anyagokra és olvasztott szilárd anyagokra is, amelyek lobbanáspontja meghaladja a 60 °C-ot és amelyeket lobbanáspontjukkal megegyező vagy annál magasabb hőmérsékletre melegítve szállítanak vagy adnak át szállításra. Ezek az anyagok az UN 3256 tétel alá vannak besorolva.

A 3 osztály fogalomköre kiterjed a folyékony, érzéketlenített robbanóanyagokra is. A folyékony, érzéketlenített robbanóanyagok olyan robbanóanyagok, amelyek vízben vagy más folyadékokban vannak oldva vagy szuszpendálva azért, hogy homogén folyékony keveréket képezve robbanó tulajdonságaikat elnyomják. A 3.2 fejezet „A” táblázatában ilyen tétel az UN 1204, 2059, 3064, 3343, 3357 és 3379.

**Megjegyzés:** 1. *Nem tartoznak a 3 osztályba azok a 35 °C feletti lobbanáspontú, nem mérgező és nem maró anyagok, amelyek a „Vizsgálatok és kritériumok kézikönyv” III. rész 32.2.5 bekezdés kritériumai alapján nem égést fenntartóak; ha azonban az ilyen anyagokat lobbanáspontjukkal megegyező vagy annál magasabb hőmérsékletre melegítve szállítják vagy adják át szállításra, akkor a 3 osztály anyagai.*

2. *Az előző 2.2.3.1.1 ponttól eltérően a dízelolajat, a gázolajat és a könnyű fűtőolajat 60 °C feletti, de legfeljebb 100 °C lobbanásponttal a 3 osztály UN 1202 számú anyagának kell tekinteni.*
3. *Azok a folyékony anyagok, amelyek lobbanáspontja 23 °C alatt van és belélegzés esetén nagyon mérgezőek, valamint azok, amelyek lobbanáspontja 23 °C vagy annál magasabb és mérgezőek, a 6.1 osztály anyagai (lásd a 2.2.61.1 bekezdést).*
4. *Azok a peszticidként használt gyúlékony folyékony anyagok és készítmények, amelyek nagyon mérgezők, mérgezők vagy enyhén mérgezők és lobbanáspontjuk 23 °C vagy annál magasabb, a 6.1 osztály anyagai (lásd a 2.2.61.1 bekezdést).*

**2.2.3.1.2** A 3 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

F Gyúlékony folyékony anyagok járulékos veszély nélkül:

F1 Gyúlékony folyékony anyagok 60 °C vagy annál alacsonyabb lobbanásponttal

F2 60 °C feletti lobbanáspontú folyékony anyagok, amelyeket lobbanáspontjukkal megegyező vagy annál magasabb hőmérsékletre melegítve szállítanak vagy adnak fel szállításra (magas hőmérsékletű anyagok)

FT Gyúlékony folyékony anyagok, amelyek mérgezők:

FT1 Gyúlékony folyékony anyagok, amelyek mérgezők

FT2 Peszticidek

FC Gyúlékony folyékony anyagok, amelyek marók

FTC Gyúlékony folyékony anyagok, amelyek mérgezők és marók

D Folyékony, érzéketlenített robbanóanyagok.

### 2.2.3.1.3

A 3 osztályba sorolt anyagokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett anyagokat a 2.2.3.3 bekezdés megfelelő tételéhez és a megfelelő csomagolási csoportba kell sorolni, ezen bekezdés előírásai szerint. A gyúlékony folyékony anyagokat a szállítás során általuk képviselt veszély mértéke alapján a következő csomagolási csoportok egyikéhez kell hozzárendelni:

|                   | Lobbanáspont (zárttéri)                    | Forráskezdő         |
|-------------------|--|---------------------|
| I                 | –  | $\leq 35\text{ °C}$ |
| II <sup>a)</sup>  | $< 23\text{ °C}$                           | $> 35\text{ °C}$    |
| III <sup>a)</sup> | $\geq 23\text{ °C}$ és $\leq 60\text{ °C}$ | $> 35\text{ °C}$    |

a) Lásd a 2.2.3.1.4 pontot is.

Járlékos veszéllyel (veszélyekkel) rendelkező folyékony anyagok esetében az előző táblázat alapján meghatározott csomagolási csoportot és a járulékos veszély(ek) fokozata alapján adódó csomagolási csoportot is tekintetbe kell venni, ezek alapján az osztályt és a csomagolási csoportot a 2.1.3.10 bekezdés veszélyességi rangsor táblázata szerint kell meghatározni.

### 2.2.3.1.4

A folyékony vagy viszkózus keverékeket és készítményeket, beleértve a legfeljebb 20% nitrocellulóz tartalmú keverékeket is, amelyek nitrogéntartalma 12,6%-nál nem több (száraz tömegre vetítve), csak akkor lehet a III csomagolási csoportba sorolni, ha a következő követelményeket kielégítik:

- az oldószer-szétválási próba során a szétváló oldószer réteg magassága a minta teljes magasságának 3%-ánál kisebb (lásd a „Vizsgálatok és kritériumok kézikönyv” III. Rész, 32.5.1 bekezdését); és
- a viszkozitás<sup>3)</sup> és a lobbanáspont a táblázatnak megfelelő:

| Extrapolált kinematikai viszkozitás, $\nu$ (0-hoz közelítő nyírósebességnél, 23 °C-on), $\text{mm}^2/\text{s}$ | A kifolyási idő, $t$ ISO 2431:1993 szerint |                              | Lobbanáspont, °C |
|--|--|------------------------------|------------------|
|  | s  | A kifolyónyílás átmérője, mm |                  |
| $20 < \nu \leq 80$   | $20 < t \leq 60$                           | 4                            | 17 felett        |
| $80 < \nu \leq 135$  | $60 < t \leq 100$                          | 4                            | 10 felett        |
| $135 < \nu \leq 220$   | $20 < t \leq 32$                           | 6                            | 5 felett         |
| $220 < \nu \leq 300$   | $32 < t \leq 44$                           | 6                            | –1 felett        |
| $300 < \nu \leq 700$   | $44 < t \leq 100$                          | 6                            | –5 felett        |
| $700 < \nu$  | $100 < t$                                  | 6                            | –5 és alatta     |

**Megjegyzés:** A 20%-nál több, de legfeljebb 55% nitrocellulózt tartalmazó keverékek, amelynek nitrogéntartalma 12,6%-nál nem több (száraz anyagra vetítve), az UN 2059 szám alá tartoznak.

A 23 °C-nál alacsonyabb lobbanáspontú keverékek

– több mint 55% nitrocellulóz-tartalommal, bármilyen nitrogéntartalom esetén, vagy

3) A viszkozitás meghatározása: Ha a szóban forgó anyag nemnewtoni folyadék, vagy a viszkozitás kifolyópohárral nem határozható meg, változó nyírósebességű viszkoziméterrel meg kell határozni az anyag dinamikai viszkozitását 23 °C-on, különböző nyírósebességekre, majd az így kapott, nyírósebességtől függő értékekből a 0 nyírósebességre kell extrapolálni. Az így kapott dinamikai viszkozitás és a sűrűség hányadosa adja a látszólagos kinematikai viszkozitást a 0-hoz közelítő nyírósebességnél.



– legfeljebb 55% nitrocellulóz-tartalommal és 12,6%-nál nagyobb nitrogéntartalom esetén (száraz anyagra vetítve)

az 1 osztály (UN 0340 vagy 0342) vagy a 4.1 osztály (UN 2555, 2556 vagy 2557) anyagai.

**2.2.3.1.5** A nem mérgező, nem maró és környezetre nem veszélyes oldatok és a homogén keverékek, amelyek lobbanáspontja 23 °C vagy ennél magasabb (viszkózus anyagok, mint pl. némely festékek és zománcok, kivéve a 20%-nál nagyobb nitrocellulóz tartalmú anyagokat), 450 litert meg nem haladó tartályokba csomagolva nem esnek az ADR előírásainak hatálya alá, ha oldószer-szétválási próba (lásd a „Vizsgálatok és kritériumok kézikönyv” III. rész 32.5.1 bekezdését) során a szétvált oldószer réteg magassága kisebb, mint a teljes mintamagasság 3%-a, és ha 23 °C-on az ISO 2431:1993 szabvány szerinti 6 mm átmérőjű kifolyónyílással ellátott kifolyópohárból a kifolyás időtartama:

- a) legalább 60 s, vagy
- b) legalább 40 s, és nem tartalmaz a 3 osztályba tartozó anyagokból 60%-nál többet.

**2.2.3.1.6** Ha a 3 osztály anyagai valamilyen adalékanyag hozzáadása révén eltérő veszélyességi kategóriába kerülnek át, mint ahová a 3.2 fejezet „A” táblázatában név szerint említett anyagok tartoznak, ezeket a keverékeket vagy oldatokat azok alá a tételek alá kell besorolni, ahová tényleges veszélyességük mértéke alapján tartoznak.

**Megjegyzés:** Az oldatok és keverékek (készítmények és hulladékok) osztályozására lásd a 2.1.3 szakaszt is.

**2.2.3.1.7** A 2.3.3.1 bekezdés és a 2.3.4 szakasz szerinti vizsgálati eljárások és a 2.2.3.1.1 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett (vagy név szerint feltüntetett anyagot tartalmazó) oldat vagy keverék természete olyan, hogy az oldat vagy keverék nem esik ezen osztály előírásainak hatálya alá (lásd a 2.1.3 szakaszt is).

## **2.2.3.2 A szállításból kizárt anyagok**

**2.2.3.2.1** A 3 osztályba tartozó olyan anyagok, amelyek könnyen peroxidálódnak (mint az éter vagy bizonyos heterociklikus, oxigéntartalmú anyagok), nem fogadhatók el szállításra, ha peroxid-tartalmuk – hidrogén-peroxidra (H<sub>2</sub>O<sub>2</sub>-re) számítva – meghaladja a 0,3%-ot. A peroxid-tartalmat a 2.3.3.2 bekezdésben foglaltak szerint kell meghatározni.

**2.2.3.2.2** A 3 osztály vegyileg nem állandó anyagai csak akkor adhatók át szállításra, ha megtették a szükséges intézkedéseket a szállítás alatt bekövetkező veszélyes bomlás vagy polimerizáció megakadályozására. Ezért különösen arról kell gondoskodni, hogy a tartályok és tartányok ne tartalmazzanak olyan anyagokat, amelyek az ilyen reakciókat elősegítik.

**2.2.3.2.3** Azok a folyékony, érzéketlenített robbanóanyagok, amelyek a 3.2 fejezet „A” táblázatában nincsenek feltüntetve, a 3 osztály anyagaiként nem fogadhatók el szállításra.

### 2.2.3.3 A gyűjtőmegnevezések felsorolása

| Járlékos -<br>veszély                     | Osztályozási<br>kód            | UN<br>szám | Az anyag vagy tárgy megnevezése  |
|---|--------------------------------|------------|--|
| Gyúlékony, folyékony anyagok              |                                |            |  |
| Járlékos<br>veszély<br>nélküli<br>anyagok | F1                             | 1133       | RAGASZTÓK gyúlékony folyadék tartalommal   |
|   |                                | 1136       | GYÚLÉKONY KÖSZÉNKÁTRÁNY PÁRLATOK   |
|   |                                | 1139       | BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonóanyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) |
|   |                                | 1169       | FOLYÉKONY AROMÁS KIVONATOK   |
|   |                                | 1197       | FOLYÉKONY ÍZANYAG KIVONATOK  |
|   |                                | 1210       | NYOMDAFESTÉK, gyúlékony vagy   |
|   |                                | 1210       | NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony   |
|   |                                | 1263       | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy                                  |
|   |                                | 1263       | FESTÉK SEGÉDANYAGOK (beleértve a festékhígítót vagy oldószert)   |
|   |                                | 1266       | PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel  |
|   |                                | 1293       | GYÓGYÁSZATI TINKTÚRÁK  |
|   |                                | 1306       | FOLYÉKONY FAKONZERVÁLÓ ANYAGOK   |
|   |                                | 1866       | GYANTA OLDAT, gyúlékony  |
|   |                                | 1999       | FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket  |
|   |                                | 3065       | ALKOHOLOS ITALOK   |
|   |                                | 3269       | POLIÉSZTER-GYANTA KÉSZLET  |
|   |                                | 1224       | FOLYÉKONY KETONOK, M.N.N.  |
| F   |                                | 1268       | NYERSOLAJ PÁRLATOK, M.N.N. vagy  |
|   |                                | 1268       | NYERSOLAJ TERMÉKEK, M.N.N.   |
|   |                                | 1987       | ALKOHOLOK, M.N.N.  |
|   |                                | 1989       | ALDEHIDEK, M.N.N.  |
|   |                                | 2319       | TERPÉN SZÉNHIDROGÉNEK, M.N.N.  |
|   |                                | 3271       | ÉTEREK, M.N.N.   |
|   |                                | 3272       | ÉSZTEREK, M.N.N.   |
|   |                                | 3295       | FOLYÉKONY SZÉNHIDROGÉNEK, M.N.N.   |
|   |                                | 3336       | FOLYÉKONY, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy  |
|   |                                | 3336       | FOLYÉKONY, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N.   |
|   |                                | 1993       | GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.  |
|   |                                |            |  |
|   | F2                             | 3256       | MAGAS HŐMÉRSÉKLETŰ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., 60 °C feletti lobbanásponttal, a lobbanásponton vagy magasabb hőmérsékleten                                |
|   | Magas<br>hőmérsékletű<br>anyag |            |  |



## 2.2.3.3 A gyűjtőmegnevezések felsorolása (folyt.)

| Járlékos veszély   | Osztályozási kód  | UN szám | Az anyag vagy tárgy megnevezése   |      |   |
|--|---|---------|---|------|---|
| Mérgező anyagok  | FT1   | 1228    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ MERKAPTÁNOK, M.N.N. vagy  |      |   |
|  |   | 1228    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ MERKAPTÁN KEVERÉK, M.N.N.   |      |   |
|  |   | 1986    | GYÚLÉKONY, MÉRGEZŐ ALKOHOLOK, M.N.N.  |      |   |
|  |   | 1988    | GYÚLÉKONY, MÉRGEZŐ ALDEHIDEK, M.N.N.  |      |   |
|  |   | 2478    | GYÚLÉKONY, MÉRGEZŐ IZOCIANÁTOK, M.N.N. vagy   |      |   |
|  |   | 2478    | GYÚLÉKONY, MÉRGEZŐ IZOCIANÁT OLDAT, M.N.N.  |      |   |
|  |   | 3248    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.   |      |   |
|  |   | 3273    | GYÚLÉKONY, MÉRGEZŐ NITRILEK, M.N.N.   |      |   |
|  |   | 1992    | GYÚLÉKONY, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.  |      |   |
|  |   | FT      | FT2<br>Peszticidek (l.p. <23 °C)  | 2758 | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID  |
| 2760   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ ARZÉN PESZTICID                     |         |   |      |   |
| 2762   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID      |         |   |      |   |
| 2764   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TRIAZIN PESZTICID                   |         |   |      |   |
| 2772   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID               |         |   |      |   |
| 2776   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID                 |         |   |      |   |
| 2778   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID              |         |   |      |   |
| 2780   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ HELYETTESÍTETT NITROFENOL PESZTICID |         |   |      |   |
| 2782   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ BIPYRIDILIUM PESZTICID              |         |   |      |   |
| 2784   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID   |         |   |      |   |
| 2787   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID                |         |   |      |   |
| 3024   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID         |         |   |      |   |
| 3346   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID  |         |   |      |   |
| 3350   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PIRETROID PESZTICID                 |         |   |      |   |
| 3021   | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PESZTICID, M.N.N.                   |         |   |      |   |
| <b>Megjegyzés:</b> A peszticidek besorolását valamely tételhez a hatóanyag, a peszticid halmazállapota és a lehetséges járulékos veszélyek alapján kell végezni. |   |         |   |      |   |
| Maró anyagok   | FC  |         |   | 3469 | GYÚLÉKONY, MARÓ FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy |
|  |   |         |   | 3469 | GYÚLÉKONY, MARÓ FESTÉK SEGÉDANYAG (beleértve a festékhígítót és oldószert   |
|  |   |         |   | 2733 | GYÚLÉKONY, MARÓ AMINOK, M.N.N. vagy   |
|  |   | 2733    | GYÚLÉKONY, MARÓ POLIAMINOK, M.N.N.  |      |   |
|  |   | 2985    | GYÚLÉKONY, MARÓ KLÓR-SZILÁNOK, M.N.N.   |      |   |
|  |   | 3274    | ALKOHOLÁTOK OLDATA, M.N.N., alkoholban  |      |   |
| Mérgező, maró anyagok  | FTC   | 2924    | MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.   |      |   |
|  |   | 3286    | MÉRGEZŐ, MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.  |      |   |
| Folyékony, érzéketlenített robbanóanyagok  | D   | 3343    | NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, GYÚLÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerintartalommal |      |   |
|  |   | 3357    | NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerintartalommal            |      |   |
|  |   | 3379    | FOLYÉKONY, ÉRZÉKETLENÍTETT ROBBANÓANYAG, M.N.N.   |      |   |

**2.2.41 4.1 osztály Gyúlékony szilárd anyagok, önreaktív anyagok és szilárd, érzéketlenített robbanóanyagok****2.2.41.1 Kritériumok**

**2.2.41.1.1** A 4.1 osztály fogalomköre a gyúlékony anyagokra és tárgyakra, az érzéketlenített robbanóanyagokra, amelyek az 1.2.1 szakaszban a „szilárd anyag” meghatározás a) bekezdése szerint szilárdak, valamint a szilárd vagy folyékony önreaktív anyagokra terjed ki.

A következők tartoznak a 4.1 osztályba:

- könnyen gyulladó szilárd anyagok és tárgyak (lásd a 2.2.41.1.3 – 2.2.41.1.8 pontot);
- szilárd és folyékony önreaktív anyagok (lásd a 2.2.41.1.9 – 2.2.41.1.17 pontot);
- szilárd, érzéketlenített robbanóanyagok (lásd a 2.2.41.1.18 pontot);
- önreaktív anyagokkal rokon anyagok (lásd a 2.2.41.1.19 pontot).

**2.2.41.1.2** A 4.1 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

F Gyúlékony szilárd anyagok járulékos veszély nélkül:

F1 Szerves anyagok

F2 Szerves anyagok olvasztott állapotban

F3 Szervetlen anyagok

FO Gyúlékony szilárd anyagok, amelyek gyújtó hatásúak

FT Gyúlékony szilárd anyagok, amelyek mérgezőek:

FT1 Szerves, mérgező anyagok

FT2 Szervetlen, mérgező anyagok

FC Gyúlékony szilárd anyagok, amelyek maróak:

FC1 Szerves, maró anyagok

FC2 Szervetlen, maró anyagok

D Szilárd, érzéketlenített robbanóanyagok, járulékos veszély nélkül

DT Szilárd, érzéketlentett robbanóanyagok, amelyek mérgezőek

SR Önreaktív anyagok:

SR1 Önreaktív anyagok hőmérséklet-szabályozási igény nélkül

SR2 Önreaktív anyagok hőmérséklet-szabályozási igénnyel.

**Gyúlékony szilárd anyagok****Meghatározások és tulajdonságok**

**2.2.41.1.3** A *gyúlékony szilárd anyagok* a könnyen gyulladó szilárd anyagok és azok, amelyek súrlódás révén tüzet okozhatnak.

A *könnyen gyulladó szilárd anyagok* porszerűek, szemcsések vagy pasztaszerűek, és csak akkor veszélyesek, ha a gyújtóforrással, pl. égő gyufával való rövid érintkezéssel könnyen meggyújthatók és a láng gyorsan terjed. A veszélyt nemcsak a tűz jelentheti, hanem a mérgező égéstermékek is. A fémporok különösen azért veszélyesek, mert nehéz a tüzet eloltani, mivel a szokásos oltószerek, mint a szén-dioxid vagy a víz növelhetik a veszélyt.

*Besorolás*

**2.2.41.1.4** A 4.1 osztály gyúlékony szilárd anyagai közé sorolt anyagokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett szerves anyagok és tárgyak besorolása a 2.1 fejezet előírásai szerint a 2.2.41.3 bekezdés megfelelő tétele alá tapasztalatok alapján vagy a „Vizsgálatok és kritériumok kézikönyv” III. rész 33.2.1 bekezdése szerinti vizsgálati eljárások eredményei alapján történhet. A 3.2 fejezet „A” táblázatában név szerint nem említett szervetlen anyagok besorolásának a „Vizsgálatok és kritériumok kézikönyv” III. rész 33.2.1 bekezdése szerinti vizsgálati eljárások eredményei alapján kell történnie; a tapasztalatokat is figyelembe kell azonban venni, ha azok szigorúbb hozzárendeléshez vezetnének.

**2.2.41.1.5** A név szerint nem említett anyagoknak a „Vizsgálatok és kritériumok kézikönyv” III. rész 33.2.1 bekezdése szerinti vizsgálati eljárások eredményei alapján a 2.2.41.3 bekezdés valamely tétel alá történő besorolásánál a következő kritériumokat kell alkalmazni:

- a) A fémporok és a fémötvözet-porok kivételével a porszerű, szemcsés vagy pasztaszerű anyagokat akkor kell a 4.1 osztályba könnyen gyulladó anyagnak besorolni, ha azok gyújtóforrással (pl. égő gyufával) való rövid érintkezés hatására könnyen meggyulladnak, vagy ha meggyulladás esetén a láng gyorsan terjed, az égési idő 100 mm mérési távolságon kevesebb 45 s-nál vagy az égési sebesség nagyobb mint 2,2 mm/s.
- b) A fémporokat és a fémötvözet-porokat akkor kell a 4.1 osztályba sorolni, ha lánggal meggyújthatók és a reakció 10 percen belül a minta teljes hosszára kiterjed.

Azokat a szilárd anyagokat, amelyek sűrűlódás révén tüzet okozhatnak, valamely meglévő tételhez (pl. gyufához) való hasonlóság alapján, vagy valamely, ráillő különleges előírás alapján kell a 4.1 osztályba sorolni.

**2.2.41.1.6** A „Vizsgálatok és kritériumok kézikönyv” III. rész 33.2.1 bekezdése szerinti vizsgálati eljárások, valamint a 2.2.41.1.4 és a 2.2.41.1.5 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett anyag természete olyan, hogy az anyag nem esik ezen osztály előírásainak hatálya alá.

**2.2.41.1.7** Ha a 4.1 osztály anyagai valamilyen adalékanyag hozzáadása révén eltérő veszélyességi kategóriába kerülnek át, mint ahová a 3.2 fejezet „A” táblázatában név szerint említett anyagok tartoznak, ezeket a keverékeket azok alá a tételek alá kell besorolni, ahová tényleges veszélyességük mértéke alapján tartoznak.

**Megjegyzés:** Az oldatok és keverékek (készítmények és hulladékok) besorolásához lásd a 2.1.3 szakaszt.

*Csomagolási csoporthoz való hozzárendelés*

**2.2.41.1.8** A 3.2 fejezet „A” táblázatának egyes tételei alá sorolt gyúlékony szilárd anyagokat a „Vizsgálatok és kritériumok kézikönyv” III. rész 33.2.1 bekezdése szerinti vizsgálati eljárások alapján a II vagy a III csomagolási csoportba kell sorolni, a következő kritériumok szerint:

- a) A könnyen gyulladó szilárd anyagokat, amelyeknél a vizsgálat során az égési idő 100 mm mérési távolságon 45 s-nál kevesebb:
  - a II csomagolási csoportba kell sorolni akkor, ha a láng áthalad a nedvesített zónán;
  - a III csomagolási csoportba kell sorolni akkor, ha a nedvesített zóna legalább négy percre megállítja a láng terjedését.
- b) A fémporokat és fémötvözet-porokat:
  - a II csomagolási csoportba kell sorolni akkor, ha a vizsgálat során a reakció öt percen belül az egész mintára kiterjed;

a III csomagolási csoportba kell sorolni akkor, ha a vizsgálat során a reakció csak öt percen túl terjed ki az egész mintára.

Azokat a szilárd anyagokat, amelyek sűrűlódás révén tüzet okozhatnak, valamely meglévő tételhez való hasonlóság, vagy valamely különleges előírás alapján kell valamely csomagolási csoporthoz hozzárendelni.

### **Önreaktív anyagok**

#### *Meghatározások*

**2.2.41.1.9** Az ADR alkalmazásában az önreaktív anyagok termikusan instabil anyagok, amelyek hajlamosak az erős exoterm bomlásra még oxigén (levegő) részvétele nélkül is. Nem tekinthetők a 4.1 osztály önreaktív anyagainak azok az anyagok, amelyek:

- a) az 1 osztály kritériumai szerint robbanóanyagok;
- b) az 5.1 osztály besorolási eljárása szerint gyújtó hatású anyagok (lásd a 2.2.51.1 bekezdést), kivéve a gyújtó hatású anyagok olyan keverékeit, amelyek 5% vagy annál több éghető szerves anyagot tartalmaznak, mivel ezeket a 2. megjegyzésben szereplő elv szerint kell besorolni;
- c) az 5.2 osztály kritériumai szerint szerves peroxidok (lásd a 2.2.52.1 bekezdést);
- d) bomláshője nem éri el a 300 J/g-ot; vagy
- e) öngyorsuló bomlási hőmérséklete (ÖBH) (lásd a 3. megjegyzést) 50 kg-os küldeménydarab esetén meghaladja a 75 °C-ot.

**Megjegyzés:** 1. A bomláshő bármely nemzetközileg elfogadott módszerrel, pl. differenciál kaloriméteres (DSC) méréssel és adiabatikus kalorimetriával meghatározható.

2. Az 5.1 osztály kritériumainak megfelelő gyújtó hatású anyagok keverékeit, amelyek 5% vagy annál több éghető szerves anyagot tartalmaznak, és amelyek nem elégitik ki az előző a), c), d) vagy e) pont kritériumait, az önreaktív anyagok besorolási eljárása szerint meg kell vizsgálni.

Ha a keverék B – F típusú önreaktív anyag jellemzőivel rendelkezik, akkor a 4.1 osztályba kell sorolni.

Ha a keverék a „Vizsgálatok és kritériumok kézikönyv” II. Rész 20.40.3 g) bekezdése alapján G típusú anyag jellemzőivel rendelkezik, akkor az 5.1 osztály kritériumai szerint kell besorolni (lásd a 2.2.51.1 bekezdést).

3. Az öngyorsuló bomlási hőmérséklet (ÖBH) az a legalacsonyabb hőmérséklet, amelynél öngyorsuló bomlás mehet végbe az anyagban a szállításra használt csomagolásban. Az ÖBH meghatározására vonatkozó előírásokat a „Vizsgálatok és kritériumok kézikönyv” II. rész 20. fejezete és a 28.4 bekezdése tartalmazza.

4. Bármely anyagot, ami az önreaktív anyag tulajdonságait mutatja, mint ilyent kell besorolni, még ha az anyag a 2.2.42.1.5 pont szerinti vizsgálatban a 4.2 osztályba történő besoroláshoz pozitív eredményt adott is.

#### *Tulajdonságok*

**2.2.41.1.10** Az önreaktív anyagok bomlása hővel, katalitikus szennyeződésekkel való érintkezéssel (pl. savak, nehézfém vegyületek, bázisok), sűrűlódással vagy ütéssel iniciálható. A bomlás sebessége a hőmérséklettel növekszik és az anyagtól függően változik. A bomlás, különösen ha nem történik meggyulladás, mérgező gázok vagy gőzök fejlődésével járhat. Egyes önreaktív anyagok hőmérséklet-szabályozást igényelnek. Egyes önreaktív anyagok, különösen zárt térben, robbanásszerűen elbomolhatnak. Ezek a jellemzők hígítók

hozzáadásával vagy megfelelő csomagolások használatával módosíthatók. Némely önreaktív anyag élénken ég. Önreaktív anyagok például a következő típusú vegyületek:

alifás azovegyületek ( $-C-N=N-C-$ );  
szerves azidok ( $-C-N_3$ );  
diazónium sók ( $-CN_2^+Z^-$ );  
N-nitrózo vegyületek ( $-N=N=O$ ); és  
aromás szulfohidrazidok ( $-SO_2-NH-NH_2$ ).

Ez a felsorolás nem teljes, más reaktív csoportot tartalmazó anyagok és az anyagok egyes keverékei hasonló tulajdonságokkal rendelkezhetnek.

#### Besorolás

**2.2.41.1.11** Az önreaktív anyagok a veszély mértéke alapján hét típusba vannak sorolva. Az önreaktív anyagok típusai az A típustól, amely abban a csomagolásban, amelyben bevizsgálásra került, nem szállítható, egészen a G típusig tartanak, amely nem esik a 4.1 osztály előírásainak hatálya alá. A B-től F-ig terjedő típusok alá való besorolás az egy csomagolásban engedélyezett legnagyobb mennyiségtől függ. Az anyagok besorolásához alkalmazandó elveket, besorolási eljárásokat, vizsgálati módszereket és kritériumokat, valamint a megfelelő vizsgálati jegyzőkönyvre példát a „Vizsgálatok és kritériumok kézikönyv” II. Rész tartalmazza.

**2.2.41.1.12** A már besorolt és csomagolóeszközben való szállításra már engedélyezett önreaktív anyagokat a 2.2.41.4 bekezdés, az IBC-ben való szállításra már engedélyezett önreaktív anyagokat a 4.1.4.2 bekezdés IBC520 csomagolási utasítása, és a 4.2 fejezet szerint tartányban szállítható önreaktív anyagokat a 4.2.5.2 bekezdés T23 mobil tartány utasítása sorolja fel. Ezekben a felsorolásokban minden engedélyezett anyag a 3.2 fejezet „A” táblázatának valamely generikus tételéhez (UN 3221 – 3240) hozzá van rendelve, és meg vannak adva a szállítás szempontjából fontos információt jelentő járulékos veszélyek, ill. megjegyzések.

A gyűjtőmegnevezések meghatározzák:

- az önreaktív anyag típusát (B – F), lásd az előző 2.2.41.1.11 pontot;
- a fizikai állapotot (folyékony/szilárd); és
- a hőmérséklet-szabályozást (ha szükséges), lásd a következő 2.2.41.1.17 pontot.

A 2.2.41.4 bekezdésben felsorolt önreaktív anyagok besorolása technikailag tiszta anyagokon alapul (kivéve ahol 100%-nál kisebb koncentráció van megadva).

**2.2.41.1.13** A 2.2.41.4 bekezdésben, a 4.1.4.2 bekezdés IBC520 csomagolási utasításában, ill. a 4.2.5.2 bekezdés T23 mobil tartány utasításában fel nem sorolt önreaktív anyagok besorolását és valamely gyűjtőmegnevezéshez való hozzárendelését a vizsgálati jegyzőkönyv alapján a származási ország illetékes hatóságának kell elvégeznie. A jóváhagyásnak tartalmaznia kell a besorolást és a szállítási feltételeket. Ha a származási ország nem valamely ADR Szerződő Fél, a besorolást és a szállítási feltételeket a küldemény által érintett első ADR Szerződő Fél illetékes hatóságának kell elismernie.

**2.2.41.1.14** Egyes önreaktív anyagokhoz aktivátorok, pl. cinkvegyületek adhatók reaktivitásuk megváltoztatására. Az aktivátor típusától és koncentrációjától függően ez a termikus stabilitás csökkenéséhez és a robbanó tulajdonságok változásához vezethet. Ha ezen tulajdonságok bármelyike is megváltozik, az új készítményt a besorolási eljárás szerint újra kell értékelni.

**2.2.41.1.15** A 2.2.41.4 bekezdésben fel nem sorolt önreaktív anyag vagy önreaktív anyag készítmény mintákat, amelyekre nézve nem áll rendelkezésre teljes körű vizsgálati eredmény és szállításuk további vizsgálatok vagy értékelés céljából történik, a C típusú önreaktív anyagokra vonatkozó, megfelelő tételhez kell hozzárendelni, feltéve, hogy a következő feltételeknek megfelelnek:

- a rendelkezésre álló adatokból kitűnik, hogy a minta nem veszélyesebb, mint egy B típusú

önreaktív anyag;

- a minta az OP2 csomagolási módszernek megfelelően van csomagolva és mennyisége szállítóegységenként nem haladja meg a 10 kg-ot;
- a rendelkezésre álló adatok jelzik, hogy a szabályozási hőmérséklet, ha ilyen van, elegendően alacsony minden veszélyes bomlás megakadályozására és elegendően magas minden veszélyes fázis-átalakulás megakadályozására.

#### *Érzéketlenítés*

- 2.2.41.1.16** A biztonságos szállítás céljából az önreaktív anyagokat számos esetben hígítók használatával érzéketlenítik. Amennyiben valamely anyag százalékos tartalma meg van határozva, ez a tartalom tömegére vonatkozik, egész számra kerekítve. Hígító használata esetén az önreaktív anyagot a szállítás során használt koncentrációjú és formájú hígító jelenléte mellett kell vizsgálni. Olyan hígítók, amelyek a küldeménydarabból való kifolyás esetén lehetővé teszik, hogy az önreaktív anyag veszélyes mértékben koncentrálódhasson, nem használhatók. A használt hígítónak az önreaktív anyaggal összeférhetőnek kel lennie. Ebben a tekintetben összeférhető hígítók azok a szilárd vagy folyékony anyagok, amelyek nem befolyásolják hátrányosan az önreaktív anyag termikus stabilitását és veszélytípusát. A folyékony hígítók forráspontja a hőmérséklet-szabályozást igénylő készítményekben lásd a 2.2.41.1.17 pontot) legalább 60 °C és lobbanáspontja legalább 5 °C legyen. A folyékony hígító forráspontjának legalább 50 °C-kal magasabbnak kell lennie, mint az önreaktív anyag szabályozási hőmérséklete.

#### *Hőmérséklet szabályozási előírások*

- 2.2.41.1.17** Egyes önreaktív anyagok csak hőmérséklet-szabályozás mellett szállíthatók. A szabályozási hőmérséklet az a maximális hőmérséklet, amelyen az önreaktív anyag biztonságosan szállítható. Feltételezett, hogy a szállítás során a küldeménydarab közvetlen környezetében a hőmérséklet 24 óránként csak rövid ideig magasabb 55 °C-nál. A hőmérséklet-szabályozás megszűnése esetén szükség lehet vészhelyzeti eljárások alkalmazására. A vészhőmérséklet az a hőmérséklet, amelynél az ilyen eljárásokat meg kell indítani. A szabályozási és vészhőmérsékleteket az öngyorsuló bomlási hőmérsékletből (ÖBH) vezetik le (lásd az 1. táblázatot). Az ÖBH-t azért kell meghatározni, hogy eldönthető legyen, vajon az anyagot alá kell-e vetni hőmérséklet-szabályozásnak a szállítás alatt. Az ÖBH meghatározására vonatkozó előírásokat a „Vizsgálatok és kritériumok kézikönyv” II. Rész 20. fejezete és 28.4 bekezdése tartalmazza.

1. táblázat: A szabályozási és a vészhőmérséklet meghatározása

| A tartály típusa                  | ÖBH <sup>a)</sup>      | Szabályozási hőmérséklet | Vészhőmérséklet        |
|-----------------------------------|------------------------|--------------------------|------------------------|
| Önálló csomagolóeszközök és IBC-k | 20 °C vagy az alatt    | 20 °C-kal az ÖBH alatt   | 10 °C-kal az ÖBH alatt |
|                                   | 20 °C felett, 35 °C-ig | 15 °C-kal az ÖBH alatt   | 10 °C-kal az ÖBH alatt |
|                                   | 35 °C felett           | 10 °C-kal az ÖBH alatt   | 5 °C-kal az ÖBH alatt  |
| Tartályok                         | legfeljebb 50 °C       | 10 °C-kal az ÖBH alatt   | 5 °C-kal az ÖBH alatt  |

a) Az anyag ÖBH értéke a szállításra kész csomagolásban.

Azokat az önreaktív anyagokat, amelyek ÖBH értéke 55 °C-nál nem nagyobb, a szállítás alatt hőmérséklet-szabályozásnak kell alávetni. A szabályozási és vészhőmérsékletek, ahol vannak, a 2.2.41.4 bekezdésben vannak felsorolva. A tényleges szállítási hőmérséklet lehet alacsonyabb, mint a szabályozási hőmérséklet, de úgy kell megválasztani, hogy veszélyes fázis-átalakulás ne következhesen be.

#### *Szilárd, érzéketlenített robbanóanyagok*

- 2.2.41.1.18** A szilárd, érzéketlenített robbanóanyagok olyan anyagok, amelyeket vízzel vagy alkohollal nedvesítenek vagy más anyagokkal hígítanak azért, hogy robbanó tulajdonságaikat elnyomják. A 3.2 fejezet „A” táblázatában ilyen tétel az UN 1310, 1320, 1321, 1322, 1336, 1337, 1344, 1347, 1348, 1349, 1354, 1355, 1356, 1357, 1517, 1571, 2555, 2556, 2557, 2852,



2907, 3317, 3319, 3344, 3364, 3365, 3366, 3367, 3368, 3369, 3370, 3376, 3380 és 3474.

***Önreaktív anyagokkal rokon anyagok***

**2.2.41.1.19** Azok az anyagok,

- a) amelyeket az 1 és 2 vizsgálati sorozat eredményei alapján ideiglenesen az 1 osztályba soroltak, de a 6. vizsgálati sorozat alapján mentesülnek az 1 osztály alól;
- b) amelyek nem a 4.1 osztály önreaktív anyagai; és
- c) amelyek nem az 5.1 vagy az 5.2 osztály anyagai;

szintén a 4.1 osztályba tartoznak. Ilyen tételek az UN 2956, 3241, 3242 és 3251.

**2.2.41.2** *A szállításból kizárt anyagok*

**2.2.41.2.1** A 4.1 osztályba tartozó, vegyileg nem állandó anyagok csak akkor adhatók át szállításra, ha megtették a szükséges intézkedéseket a szállítás alatt bekövetkező veszélyes bomlás vagy polimerizáció megakadályozására. Ezért különösen arról kell gondoskodni, hogy a tartályok és tartányok ne tartalmazzanak olyan anyagokat, amelyek az ilyen reakciókat elősegítik.

**2.2.41.2.2** Az UN 3097 számú gyújtó hatású, gyúlékony, szilárd anyagok a szállításból ki vannak zárva, kivéve, ha megfelelnek az 1 osztály előírásainak (lásd a 2.1.3.7 bekezdést is).

**2.2.41.2.3** A következő anyagok a szállításból ki vannak zárva:

- az A típusú önreaktív anyagok [lásd a „Vizsgálatok és kritériumok kézikönyv” II. rész, 20.4.2 a) bekezdését];
- a fehér- vagy sárgafoszfortól nem mentes foszfor-szulfidok;
- a 3.2 fejezet „A” táblázatában fel nem sorolt szilárd, érzéketlenített robbanóanyagok;
- a szervesetlen, gyúlékony anyagok olvasztott formában, kivéve az UN 2448 olvasztott ként.

## 2.2.41.3 A gyűjtőmegnevezések felsorolása

| Járolékos veszély         | Osztályozási kód         | UN szám                  | Az anyag vagy tárgy megnevezése  |
|---------------------------|--------------------------|--------------------------|--|
| Gyúlékony szilárd anyagok | járolékos veszély nélkül | szerves F1               | 3175 GYÚLÉKONY FOLYADÉK TARTALMÚ SZILÁRD ANYAGOK, M.N.N.<br>1353 GYENGÉN NITRÁLT NITROCELLULÓZZAL IMPREGNÁLT SZÁLAK, M.N.N. vagy   |
|                           |                          | anyagok                  | 1353 GYENGÉN NITRÁLT NITROCELLULÓZZAL IMPREGNÁLT SZÖVETEK, M.N.N.<br>1325 GYÚLÉKONY, SZERVES SZILÁRD ANYAG, M.N.N.   |
|                           |                          | szerves anyagok F2       | 3176 SZERVES, GYÚLÉKONY SZILÁRD ANYAG OLVASZTOTT ÁLLAPOTBAN, M.N.N.  |
|                           |                          | olvasztott állapotban    |  |
|                           |                          | szervetlen anyagok F3    | 3089 GYÚLÉKONY FÉMPOR, M.N.N. <sup>a, b)</sup><br>3181 SZERVES VEGYÜLETEK GYÚLÉKONY FÉMSÓI, M.N.N.<br>3182 GYÚLÉKONY FÉMHIDRIDEK, M.N.N. <sup>c)</sup><br>3178 SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.   |
|                           | F                        | gyújtó hatású anyagok FO | 3097 GYÚJTÓ HATÁSÚ, GYÚLÉKONY SZILÁRD ANYAG, M.N.N. (a szállításból ki van zárva, lásd a 2.2.41.2.2 pontot)  |
|                           |                          | mérgező anyagok          | szerves FT1 2926 MÉRGEZŐ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.<br>anyagok  |
|                           | FT                       | szervetlen anyagok FT2   | 3179 MÉRGEZŐ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.  |
|                           |                          | anyagok                  |  |
|                           | maró anyagok             | szerves FC1              | 2925 MARÓ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.  |
|                           |                          | anyagok                  |  |
| Szilárd érzéketlenített   | járolékos veszély nélkül | szervetlen FC2           | 3180 MARÓ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.   |
|                           |                          | anyagok                  |  |
|                           |                          | D                        | 3319 NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, M.N.N., 2 tömeg%-nál több, de legfeljebb 10 tömeg% nitroglicerintartalommal<br>3344 PENTAERITRIT-TETRANITRÁT (PENTRIT, PETN) KEVERÉK, ÉRZÉKETLENÍTETT, SZILÁRD, M.N.N., 10 tömeg%-nál több, de legfeljebb 20 tömeg % PETN tartalommal<br>3380 SZILÁRD, ÉRZÉKETLENÍTETT ROBBANÓANYAG, M.N.N.   |
|                           |                          |                          |  |
| robbanóanyagok            | mérgező anyagok          | DT                       | Csak a 3.2 fejezet „A” táblázatában felsorolt anyagok fogadhatók el szállításra a 4.1 osztály anyagaként.  |
| Önreaktív anyagok         | SR                       | SR1                      | 3221 A TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG<br>3222 A TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG<br>3223 B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG<br>3224 B TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG<br>3225 C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG<br>3226 C TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG<br>3227 D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG<br>3228 D TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG<br>3229 E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG<br>3230 E TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG<br>G TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG<br>G TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG |
|                           |                          |                          | (a szállításból ki van zárva, lásd a 2.2.41.2.3 pontot)  |
|                           |                          |                          |  |
|                           |                          |                          |  |
|                           |                          |                          |  |
|                           |                          |                          |  |
|                           |                          |                          |  |
|                           |                          |                          |  |
|                           |                          |                          |  |
|                           |                          |                          | (nem tartozik a 4.1 osztály előírásainak hatálya alá, lásd a 2.2.41.1.11 pontot)   |



**2.2.41.3 A gyűjtőmeg nevezések felsorolása (folyt.)**

| Járulékos veszély       | Osztályozási kód                     | UN szám | Az anyag vagy tárgy megnevezése                                    |
|-------------------------|--------------------------------------|---------|--|
| Önreaktív anyagok<br>SR | hőmérséklet-szabályozási<br>igénnyel | SR2     | 3231 B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|                         |                                      |         | 3232 B TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
|                         |                                      |         | 3233 C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|                         |                                      |         | 3234 C TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
|                         |                                      |         | 3235 D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|                         |                                      |         | 3236 D TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
|                         |                                      |         | 3237 E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|                         |                                      |         | 3238 E TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
|                         |                                      |         | 3239 F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|                         |                                      |         | 3240 F TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |

**Megjegyzés:**

- a) A fémek és fémötvözetek por vagy egyéb gyúlékony formában, ha öngyulladásra hajlamosak, a 4.2 osztály anyagai.
- b) A fémek és fémötvözetek por vagy egyéb gyúlékony formában, ha vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai.
- c) Azok a fém-hidridek, amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai. Az alumínium-bórhidrid vagy alumínium-bórhidrid készülékekben a 4.2 osztály UN 2870 alá tartozó anyag

**2.2.41.4 A már besorolt és csomagolóeszközben való szállításra engedélyezett önreaktív anyagok felsorolása**

A „csomagolási módszer” oszlopban az „OP1” – „OP8” kód a 4.1.4.1 bekezdés P520 csomagolási utasítás csomagolási módszereire utal (lásd még a 4.1.7.1 bekezdést). A szállítandó önreaktív anyagnak meg kell felelnie a felsorolás szerinti besorolásnak és (az ÖBH-ből levezetett) szabályozási, ill. vészhőmérsékletnek. Az IBC-ben engedélyezett anyagokra lásd a 4.1.4.2 bekezdés IBC520 csomagolási utasítását, a 4.2 fejezet szerint tartányban engedélyezettekre lásd a 4.2.5.2 bekezdés T23 mobil tartány utasítását.

**Megjegyzés:** Az ebben a táblázatban levő besorolás a technikailag tiszta anyagokon alapul (kivéve, ha a megadott koncentráció 100%-nál kisebb). Más koncentrációk esetében az anyag a „Vizsgálatok és kritériumok kézikönyv” II. Részében és a 2.2.41.1.17 pontban található eljárást követve ettől eltérően is besorolható.

| ÖNREAKTÍV ANYAG   | Koncentráció (%) | Csomagolási módszer | Szabályozási hőmérséklet (°C) | Vészhőmérséklet (°C) | Generikus UN tétel | Megjegyzés |
|---|------------------|---------------------|-------------------------------|----------------------|--------------------|------------|
| ACETON-PIROGALLOL- KOPOLIMER-2-DIAZO-1-NAFTOL-5-SZULFONÁT       | 100              | OP8                 |                               |                      | 3228               |            |
| AZO-DIKARBONAMID B TÍPUSÚ KÉSZÍTMÉNY HŐMÉRSÉKLET-SZABÁLYOZÁSSAL | < 100            | OP5                 |                               |                      | 3232               | 1), 2)     |
| AZO-DIKARBONAMID C TÍPUSÚ KÉSZÍTMÉNY                            | < 100            | OP6                 |                               |                      | 3224               | 3)         |
| AZO-DIKARBONAMID C TÍPUSÚ KÉSZÍTMÉNY HŐMÉRSÉKLET-SZABÁLYOZÁSSAL | < 100            | OP6                 |                               |                      | 3234               | 4)         |

| ÖNREAKTÍV ANYAG  | Koncentráció (%) | Csomagolási módszer | Szabályozási hőmérséklet (°C) | Vészhőmérséklet (°C) | Generikus UN tétel | Megjegyzés |
|--|------------------|---------------------|-------------------------------|----------------------|--------------------|------------|
| AZO-DIKARBONAMID D TÍPUSÚ KÉSZÍTMÉNY                                     | < 100            | OP7                 |                               |                      | 3226               | 5)         |
| AZO-DIKARBONAMID D TÍPUSÚ KÉSZÍTMÉNY HŐMÉRSÉKLET-SZABÁLYOZÁSSAL          | < 100            | OP7                 |                               |                      | 3236               | 6)         |
| 2,2'-AZO-DI(2,4-DIMETIL-4-METOXI-VALERONITRIL)                           | 100              | OP7                 | -5                            | +5                   | 3236               |            |
| 2,2'-AZO-DI(2,4-DIMETIL-VALERONITRIL)                                    | 100              | OP7                 | +10                           | +15                  | 3236               |            |
| 2,2'-AZO-DI(ETIL-2-METIL-PROPIONÁT)                                      | 100              | OP7                 | +20                           | +25                  | 3235               |            |
| 1,1-AZO-DI(HEXAHIDRO-BENZONITRIL)  | 100              | OP7                 |                               |                      | 3226               |            |
| 2,2'-AZO-DI(IZOBUTIRONITRIL)   | 100              | OP6                 | +40                           | +45                  | 3234               |            |
| 2,2'-AZO-DI(IZOBUTIRONITRIL) vizes paszta                                | ≤ 50             | OP6                 |                               |                      | 3224               |            |
| 2,2'-AZO-DI(2-METIL-BUTIRONITRIL)  | 100              | OP7                 | +35                           | +40                  | 3236               |            |
| BENZOL-1,3-DISZULFONIL-HIDRAZID, paszta                                  | 52               | OP7                 |                               |                      | 3226               |            |
| BENZOL-SZULFONIL-HIDRAZID  | 100              | OP7                 |                               |                      | 3226               |            |
| 4-(BENZIL(ETIL)AMINO)-3-ETOXI-BENZOL-DIAZÓNIUM-CINK-KLORID               | 100              | OP7                 |                               |                      | 3226               |            |
| 4-(BENZIL(METIL)AMINO)-3-ETOXI-BENZOL-DIAZÓNIUM-CINK-KLORID              | 100              | OP7                 | +40                           | +45                  | 3236               |            |
| 3-KLÓR-4-DIETIL-AMINO-BENZOL-DIAZÓNIUM-CINK-KLORID                       | 100              | OP7                 |                               |                      | 3226               |            |
| 2-DIAZO-1-NAFTOL-4-SZULFONIL-KLORID                                      | 100              | OP5                 |                               |                      | 3222               | 2)         |
| 2-DIAZO-1-NAFTOL-5-SZULFONIL-KLORID                                      | 100              | OP5                 |                               |                      | 3222               | 2)         |
| 2-DIAZO-1-NAFTOL-SZULFONSAV ÉSZTER KEVERÉK, D TÍPUSÚ                     | < 100            | OP7                 |                               |                      | 3226               | 9)         |
| 2,5-DIBUTOXI-4-(4-MORFOLINIL)-BENZOL-DIAZÓNIUM, TETRAKLORO-CINKÁT (2:1)  | 100              | OP8                 |                               |                      | 3228               |            |
| 2,5-DIETOXI-4-MORFOLINO-BENZOL-DIAZÓNIUM-CINK-KLORID                     | 67...100         | OP7                 | +35                           | +40                  | 3236               |            |
| 2,5-DIETOXI-4-MORFOLINO-BENZOL-DIAZÓNIUM-CINK-KLORID                     | 66               | OP7                 | +40                           | +45                  | 3236               |            |
| 2,5-DIETOXI-4-MORFOLINO-BENZOL-DIAZÓNIUM-TETRAFLUORO-BORÁT               | 100              | OP7                 | +30                           | +35                  | 3236               |            |
| 2,5-DIETOXI-4-(4-MORFOLINIL)-BENZOL-DIAZÓNIUM-SZULFÁT                    | 100              | OP7                 |                               |                      | 3226               |            |
| 2,5-DIETOXI-4-(FENIL-SZULFONIL)-BENZOL-DIAZÓNIUM-CINK-KLORID             | 67               | OP7                 | +40                           | +45                  | 3236               |            |
| DIETILÉNGLIKOL-BISZ(ALLIL-KARBONÁT) + DIIZOPROPIL- -PEROXI-DIKARBONÁT    | ≥ 88<br>+ ≤ 12   | OP8                 | -10                           | 0                    | 3237               |            |
| 2,5-DIETOXI-4-(4-METIL FENIL-SZULFONIL)-BENZOL-DIAZÓNIUM-CINK-KLORID     | 79               | OP7                 | +40                           | +45                  | 3236               |            |
| 4-(DIMETIL-AMINO)-BENZOL-DIAZÓNIUM-TRIKLORO-CINKÁT (-1)                  | 100              | OP8                 |                               |                      | 3228               |            |
| 4-DIMETIL-AMINO-6-(2-DIMETIL-AMINO-ETOXI)-TOLUOL-2-DIAZÓNIUM-CINK-KLORID | 100              | OP7                 | +40                           | +45                  | 3236               |            |
| N,N'-DINITROZO-N,N'-DIMETIL-   | 72               | OP6                 |                               |                      | 3224               |            |

| ÖNREAKTÍV ANYAG   | Koncentráció (%) | Csomagolási módszer | Szabályozási hőmérséklet (°C) | Vészhőmérséklet (°C) | Generikus UN tétel | Megjegyzés |
|---|------------------|---------------------|-------------------------------|----------------------|--------------------|------------|
| TEREFTÁLAMID paszta   |                  |                     |                               |                      |                    |            |
| N,N'-DINITRÓZÓ-PENTAMETILÉN-TETRAMIN  | 82               | OP6                 |                               |                      | 3224               | 7)         |
| DIFENIL-OXID-4,4'-DISZULFONIL-HIDRAZID  | 100              | OP7                 |                               |                      | 3226               |            |
| 4-DIPROPIL-AMINO-BENZOL-DIAZÓNIUM-CINK-KLORID   | 100              | OP7                 |                               |                      | 3226               |            |
| 2-(N,N-ETOXI-KARBONIL-FENIL-AMINO)-3-METOXI-4-(N-METIL-N-CIKLOHEXIL-AMINO)-BENZOL-DIAZÓNIUM-CINK-KLORID | 63...92          | OP7                 | +40                           | +45                  | 3236               |            |
| 2-(N,N-ETOXI-KARBONIL-FENIL-AMINO)-3-METOXI-4-(N-METIL-N-CIKLOHEXIL-AMINO)-BENZOL-DIAZÓNIUM CINK-KLORID | 62               | OP7                 | +35                           | +40                  | 3236               |            |
| N-FORMIL-2-(NITRO-METILÉN)-1,3-PERHIDRO-TIAZIN  | 100              | OP7                 | +45                           | +50                  | 3236               |            |
| 2-(2-HIDROXI-ETOXI)-1-(PIRROLIDIN-1-IL)BENZOL-4-DIAZÓNIUM-CINK-KLORID                                   | 100              | OP7                 | +45                           | +50                  | 3236               |            |
| 3-(2-HIDROXI-ETOXI)-4-(PIRROLIDIN-1-IL)BENZOL-DIAZÓNIUM-CINK-KLORID                                     | 100              | OP7                 | +40                           | +45                  | 3236               |            |
| 2-(N,N-METIL-AMINO-ETIL-KARBONIL)-4-(3,4-DIMETIL-FENIL-SZULFONIL)-BENZOL-DIAZÓNIUM-HIDROGÉN-SZULFÁT     | 96               | OP7                 | +45                           | +50                  | 3236               |            |
| 4-METIL-BENZOL-SZULFONIL-HIDRAZID   | 100              | OP7                 |                               |                      | 3226               |            |
| 3-METIL-4-(PIRROLIDIN-1-IL)-BENZOL-DIAZÓNIUM-TETRAFLUORO-BORÁT  | 95               | OP6                 | +45                           | +50                  | 3234               |            |
| NÁTRIUM-2-DIAZO-1-NAFTOL-4-SZULFONÁT  | 100              | OP7                 |                               |                      | 3226               |            |
| NÁTRIUM-2-DIAZO-1-NAFTOL-5-SZULFONÁT  | 100              | OP7                 |                               |                      | 3226               |            |
| 4-NITROZO-FENOL   | 100              | OP7                 | +35                           | +40                  | 3236               |            |
| ÖNREAKTÍV FOLYÉKONY ANYAG MINTA   |                  | OP2                 |                               |                      | 3223               | 8)         |
| ÖNREAKTÍV FOLYÉKONY ANYAG MINTA HŐMÉRSÉKLET-SZABÁLYOZÁSSAL  |                  | OP2                 |                               |                      | 3233               | 8)         |
| ÖNREAKTÍV SZILÁRD ANYAG MINTA   |                  | OP2                 |                               |                      | 3224               | 8)         |
| ÖNREAKTÍV SZILÁRD ANYAG MINTA HŐMÉRSÉKLET-SZABÁLYOZÁSSAL  |                  | OP2                 |                               |                      | 3234               | 8)         |
| PALLÁDIUM(II)-TETRAMIN-NITRÁT   | 100              | OP6                 | +30                           | +35                  | 3234               |            |

**Megjegyzés:**

- 1) A „Vizsgálatok és kritériumok kézikönyv” II. Rész 20.4.2.b) bekezdését kielégítő azo-dikarbonamid készítmények. A szabályozási és vészhőmérsékletet a 2.2.41.1.17 pontban megadott eljárással kell meghatározni.
- 2) „ROBBANÁSVESZÉLY” járulékos veszély bárca szükséges (1 sz. bárca, lásd az 5.2.2.2.2 pontot).
- 3) A „Vizsgálatok és kritériumok kézikönyv” II. rész 20.4.2.c) bekezdését kielégítő azo-dikarbonamid készítmények.
- 4) A „Vizsgálatok és kritériumok kézikönyv” II. Rész 20.4.2.c) bekezdését kielégítő azo-dikarbonamid készítmények. A szabályozási és vészhőmérsékletet a 2.2.41.1.17 pontban megadott eljárással kell meghatározni.

- 5) A „Vizsgálatok és kritériumok kézikönyv” II. rész 20.4.2.d) bekezdését kielégítő azo-dikarbonamid készítmények.
- 6) A „Vizsgálatok és kritériumok kézikönyv” II. Rész 20.4.2.d) bekezdését kielégítő azo-dikarbonamid készítmények. A szabályozási és vészhőmérsékletet a 2.2.41.1.17 pontban megadott eljárással kell meghatározni.
- 7) Legalább 150 °C forráspontú, összeférhető hígítóval.
- 8) Lásd a 2.2.41.1.15 pontot.
- 9) Ez a tétel a 2-diazo-1-naftol-4-szulfonsav észter és a 2-diazo-1-naftol-5-szulfonsav észter keverékeire vonatkozik, amelyek megfelelnek a „Vizsgálatok és kritériumok kézikönyv” 20.4.2 d) bekezdésének kritériumainak.

**2.2.42            4.2 osztály        Öngyulladásra hajlamos anyagok****2.2.42.1            *Kritériumok*****2.2.42.1.1**        A 4.2 osztály fogalomköre a következőkre terjed ki:

- piroforos anyagokra, amelyek olyan anyagok (beleértve a folyékony vagy szilárd keverékeket és oldatokat), amelyek már kis mennyiségben is a levegővel érintkezve 5 percen belül meggyulladnak. A 4.2 osztály ezen anyagai a leginkább öngyulladásra hajlamosak; és
- önmelegedő anyagokra és tárgyakra, amelyek olyan anyagok és tárgyak (beleértve az oldatokat és keverékeket), amelyek a levegővel érintkezve energia közlés nélkül hajlamosak az önmelegedésre. Ezek az anyagok csak nagy mennyiségben (több kilogrammban), hosszabb idő után (órák vagy napok) gyulladnak meg.

**2.2.42.1.2**        A 4.2 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

S     Öngyulladásra hajlamos anyagok járulékos veszély nélkül:

S1    Szerves, folyékony anyagok

S2    Szerves, szilárd anyagok

S3    Szervetlen, folyékony anyagok

S4    Szervetlen, szilárd anyagok

S5    Szerves fémvegyületek

SW    Öngyulladásra hajlamos anyagok, amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek

SO    Öngyulladásra hajlamos, gyújtó hatású anyagok

ST    Öngyulladásra hajlamos, mérgező anyagok:

ST1    Mérgező, szerves, folyékony anyagok

ST2    Mérgező, szerves, szilárd anyagok

ST3    Mérgező, szervetlen, folyékony anyagok

ST4    Mérgező, szervetlen, szilárd anyagok

SC    Öngyulladásra hajlamos, maró anyagok:

SC1    Maró, szerves, folyékony anyagok

SC2    Maró, szerves, szilárd anyagok

SC3    Maró, szervetlen, folyékony anyagok

SC4    Maró, szervetlen, szilárd anyagok.

***Tulajdonságok*****2.2.42.1.3**        Ezen anyagok önmelegedését, ami öngyulladáshoz vezet, az anyagok oxigénnel (levegőn) történő reakciója okozza, mivel a fejlődő hő nem képes elég gyorsan a környezetbe távozni. Öngyulladás akkor következik be, ha a hőfejlődés sebessége meghaladja a hővesztesség sebességét és az anyag eléri az öngyulladási hőmérsékletet.

*Besorolás*

**2.2.42.1.4** A 4.2 osztályba sorolt anyagokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett anyagok és tárgyak besorolása a 2.1 fejezet előírásai szerint a 2.2.42.3 bekezdés megfelelő m.n.n. tétele alá, a tapasztalatok alapján vagy a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.3 bekezdése szerinti vizsgálati eljárások eredményei alapján történhet. A 4.2 osztály valamely általános m.n.n. tétele alá történő besorolásnak a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.3 bekezdése szerinti vizsgálati eljárások eredményei alapján kell történnie; a tapasztalatokat is figyelembe kell azonban venni, ha azok szigorúbb hozzárendeléshez vezetnének.

**2.2.42.1.5** A név szerint nem említett anyagoknak vagy tárgyaknak a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.3 bekezdése szerinti vizsgálati eljárások eredményei alapján a 2.2.42.3 bekezdés valamely tétele alá történő besorolásánál a következő kritériumokat kell alkalmazni:

- a) az öngyulladásra hajlamos (piroforos) szilárd anyagokat akkor kell a 4.2 osztályba sorolni, ha 1 m magasságból leejtve vagy öt percen belül meggyulladnak;
- b) az öngyulladásra hajlamos (piroforos) folyékony anyagokat akkor kell a 4.2 osztályba sorolni, ha:
  - i) inert hordozóra kiöntve öt percen belül meggyulladnak, vagy
  - ii) az i) szerinti próbánál negatív eredményt adnak, de száraz, redőzött szűrőpapírra kiöntve (Whatman No.3 szűrőpapír) öt percen belül meggyulladnak vagy a szűrőpapírt elszenesítik;
- c) azokat az anyagokat, amelyeknél egy 10 cm élhosszúságú kocka alakú mintában 140 °C vizsgálati hőmérsékleten 24 órán belül öngyulladás vagy a hőmérséklet 200 °C fölé emelkedése figyelhető meg, a 4.2 osztályba kell sorolni. Ez a kritérium a faszén öngyulladási hőmérsékletén alapul, ami 27 m<sup>3</sup>-es kockánál 50 °C. Azokat az anyagokat, amelyek öngyulladási hőmérséklete 27 m<sup>3</sup> térfogatú kocka formában 50 °C-nál magasabb, nem szabad a 4.2 osztályba sorolni.

**Megjegyzés:** 1. Azok az anyagok, amelyeket legfeljebb 3 m<sup>3</sup> térfogatú csomagolásokban szállítanak, nem tartoznak a 4.2 osztályba, ha 10 cm élhosszúságú kocka alakú mintában 120 °C vizsgálati hőmérsékleten 24 órán belül öngyulladás vagy a hőmérséklet 180 °C fölé emelkedése nem figyelhető meg.

2. Azok az anyagok, amelyeket legfeljebb 450 liter térfogatú csomagolásokban szállítanak, nem tartoznak a 4.2 osztályba, ha 10 cm élhosszúságú kocka alakú mintában 100 °C vizsgálati hőmérsékleten 24 órán belül öngyulladás vagy a hőmérséklet 160 °C fölé emelkedése nem figyelhető meg.

3. Mivel a járulékos veszélyekkel rendelkező szerves fémvegyületek tulajdonságaiktól függően a 4.2 vagy a 4.3 osztályba sorolhatók, ezekhez az anyagokhoz a 2.3.5 szakaszban különleges besorolási folyamatára található.

**2.2.42.1.6** Ha a 4.2 osztály anyagai valamilyen adalékanyag hozzáadása révén eltérő veszélyességi kategóriába kerülnek át, mint ahová a 3.2 fejezet „A” táblázatában név szerint említett anyagok tartoznak, ezeket a keverékeket vagy oldatokat azok alá a tételek alá kell besorolni, ahová tényleges veszélyességük mértéke alapján tartoznak.

**Megjegyzés:** Az oldatok és keverékek (készítmények és hulladékok) besorolásához lásd a 2.1.3 szakaszt.

**2.2.42.1.7** A „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.3 bekezdése szerinti vizsgálati eljárások és a 2.2.42.1.5 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett anyag természete olyan, hogy az anyag nem esik ezen osztály előírásainak hatálya alá.

*Csomagolási csoporthoz való hozzárendelés***2.2.42.1.8**

A 3.2 fejezet „A” táblázatának egyes tételei alá sorolt anyagokat és tárgyakat a „Vizsgálatok és kritériumok kézikönyv” III. rész 33.3 bekezdése szerinti vizsgálati eljárások alapján az I, a II vagy a III csomagolási csoportba kell sorolni a következő kritériumok szerint:

- a) az öngyulladásra hajlamos (piroforos) anyagokat az I csomagolási csoportba kell sorolni;
- b) azokat az önmelegedő anyagokat és tárgyakat, amelyeknél 2,5 cm élhosszúságú kocka alakú mintában 140 °C vizsgálati hőmérsékleten 24 órán belül öngyulladás vagy a hőmérséklet 200 °C fölé emelkedése figyelhető meg, a II csomagolási csoportba kell sorolni.

Azokat az anyagokat, amelyek öngyulladási hőmérséklete 450 liter térfogatban meghaladja az 50 °C-ot, nem kell a II csomagolási csoportba sorolni;

- c) azokat a gyengén önmelegedő anyagokat, amelyeknél 2,5 cm élhosszúságú kocka alakú mintában a b) pontban említett jelenségek nem figyelhetők meg az adott körülmények között, de amelyeknél 10 cm élhosszúságú kocka alakú mintában 140 °C vizsgálati hőmérsékleten 24 órán belül öngyulladás vagy a hőmérséklet 200 °C fölé emelkedése figyelhető meg, a III csomagolási csoportba kell sorolni.

**2.2.42.2***A szállításból kizárt anyagok*

A következő anyagok a szállításból ki vannak zárva:

- az UN 3255 terc-butil-hipoklorit; és
- az UN 3127 számú gyújtó hatású, önmelegedő, szilárd anyagok, kivéve, ha megfelelnek az 1 osztály előírásainak (lásd a 2.1.3.7 bekezdést).

## 2.2.42.3 A gyújtómegnevezések felsorolása

| Járulékos veszély                      | Osztályozási kód      | UN szám | Az anyag vagy tárgy megnevezése   |   |
|--|-----------------------|---------|---|---|
| Öngyulladásra hajlamos anyagok         |                       |         |   |   |
| Járulékos veszély nélküli anyagok<br>S | szerves anyagok       | 2845    | PIROFOROS, SZERVES FOLYÉKONY ANYAG, M.N.N.                                |   |
|  |                       | 3183    | ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.                               |   |
|  |                       | 3313    | ÖNMELEGEDŐ, SZERVES PIGMENTEK   |   |
|  |                       | 1373    | ÁLLATI vagy NÖVÉNYI vagy SZINTETIKUS EREDETŰ SZÁLAK, M.N.N., olajjal vagy |   |
|  |                       | 1373    | ÁLLATI vagy NÖVÉNYI vagy SZINTETIKUS EREDETŰ SZÖVETEK, M.N.N., olajjal    |   |
|  |                       | 2006    | NITROCELLULÓZ ALAPÚ, ÖNMELEGEDŐ MŰANYAGOK, M.N.N.                         |   |
|  | szervetlen anyagok    | 2846    | PIROFOROS, SZERVES SZILÁRD ANYAG, M.N.N.                                  |   |
|  |                       | 3088    | ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.                                 |   |
|  |                       | 3186    | ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.                            |   |
|  |                       | 3194    | PIROFOROS, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.                             |   |
|  |                       | 1378    | FÉM KATALIZÁTOR, látható folyadékfelesleggel NEDVESÍTETT                  |   |
|  |                       | 2881    | SZÁRAZ FÉM KATALIZÁTOR  |   |
| Vízzel reaktív anyagok                 | szilárd anyagok       | 1383    | PIROFOROS FÉM, M.N.N. vagy  |   |
|  |                       | 1383    | PIROFOROS ÖTVÖZET, M.N.N.   |   |
|  |                       | 3189    | ÖNMELEGEDŐ FÉMPOR, M.N.N. <sup>a)</sup>                                   |   |
|  |                       | 3205    | ALKÁLIFÖLDFÉM-ALKOHOLÁTOK, M.N.N.   |   |
|  |                       | 3190    | ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.                              |   |
|  |                       | 3200    | PIROFOROS, SZERVETLEN SZILÁRD ANYAG, M.N.N.                               |   |
|  | szerves fémvegyületek | 3391    | PIROFOROS, SZILÁRD, SZERVES FÉMVEGYÜLET                                   |   |
|  |                       | 3392    | PIROFOROS, FOLYÉKONY, SZERVES FÉMVEGYÜLET                                 |   |
|  |                       | 3400    | ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET                                  |   |
|  |                       | 3393    | PIROFOROS, VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET                   |   |
|  |                       | 3394    | PIROFOROS, VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET                 |   |
|  |                       |         |   |   |
| Gyújtó hatású anyagok                  |                       |         | 3127  | GYÚJTÓ HATÁSÚ, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.<br>(a szállításból ki van zárva, lásd a 2.2.42.2 bekezdést) |
| Mérgező anyagok<br>ST                  | szerves anyagok       | 3184    | MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.                      |   |
|  |                       | 3128    | MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.                        |   |
|  |                       | 3187    | MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.                   |   |
|  |                       | 3191    | MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.                     |   |
|  |                       | 3185    | MARÓ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.                         |   |
|  |                       | 3126    | MARÓ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.                           |   |
|  | szervetlen anyagok    | 3188    | MARÓ, ÖNMELEGEDŐ SZERVETLEN FOLYÉKONY ANYAG, M.N.N.                       |   |
|  |                       | 3206    | MARÓ, ÖNMELEGEDŐ ALKÁLIFÉM-ALKOHOLÁTOK, M.N.N.                            |   |
|  |                       | 3192    | MARÓ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.                        |   |
|  |                       |         |   |   |
|  |                       |         |   |   |
|  |                       |         |   |   |

a) Azok a nem mérgező fémporok és finom porok, amelyek öngyulladásra nem hajlamos formában vannak, de amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai.



**2.2.43            4.3 osztály            Vízzel érintkezve gyúlékony gázokat fejlesztő anyagok****2.2.43.1            *Kritériumok***

**2.2.43.1.1**            A 4.3 osztály fogalmköre olyan anyagokra és olyan anyagokat tartalmazó tárgyakra terjed ki, amelyek vízzel reagálva a levegővel robbanó keverék alkotására hajlamos, gyúlékony gázokat fejlesztenek.

**2.2.43.1.2**            A 4.3 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

W    Vízzel érintkezve gyúlékony gázokat fejlesztő anyagok járulékos veszély nélkül és az ilyen anyagokat tartalmazó tárgyak:

W1 Folyékony anyagok

W2 Szilárd anyagok

W3 Tárgyak

WF1 Vízzel érintkezve gyúlékony gázokat fejlesztő, folyékony, gyúlékony anyagok

WF2 Vízzel érintkezve gyúlékony gázokat fejlesztő, szilárd, gyúlékony anyagok

WS    Vízzel érintkezve gyúlékony gázokat fejlesztő, önmelegedő, szilárd anyagok

WO    Vízzel érintkezve gyúlékony gázokat fejlesztő, gyújtó hatású, szilárd anyagok

WT    Vízzel érintkezve gyúlékony gázokat fejlesztő, mérgező anyagok:

WT1 Folyékony anyagok

WT2 Szilárd anyagok

WC    Vízzel érintkezve gyúlékony gázokat fejlesztő, maró anyagok:

WC1 Folyékony anyagok

WC2 Szilárd anyagok

WFC Vízzel érintkezve gyúlékony gázokat fejlesztő, gyúlékony, maró anyagok.

*Tulajdonságok*

**2.2.43.1.3**            Bizonyos anyagok a vízzel érintkezve olyan gyúlékony gázokat fejleszthetnek, amelyek a levegővel robbanó elegyet alkothatnak. Az ilyen keverékek bármilyen közönséges gyújtóforrástól, pl. nyílt lángtól, szikrát vető kéziszerszámtól vagy védelem nélküli izzólámpától könnyen meggyulladhatnak. A keletkező lökéshullám és a láng veszélyeztetheti az embereket és a környezetet. A 2.2.43.1.4 pontban leírt vizsgálati módszer használatos annak meghatározására, hogy az anyag reakciója a vízzel nem jár-e veszélyes mennyiségű, esetleg gyúlékony gázok fejlődésével. Ezt a módszert piroforos anyagokhoz nem szabad használni.

*Besorolás*

**2.2.43.1.4**            A 4.3 osztályba sorolt anyagokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett anyagok és tárgyak besorolásának a 2.1 fejezet előírásai szerint a 2.2.43.3 bekezdés megfelelő tétele alá a „Vizsgálatok és kritériumok kézikönyv” III. rész 33.4 bekezdése szerinti vizsgálati eljárások eredményei alapján kell történnie; a tapasztalatokat is figyelembe kell azonban venni, ha azok szigorúbb besoroláshoz vezetnének.

**2.2.43.1.5**            A név szerint nem említett anyagoknak a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.4 bekezdése szerinti vizsgálati eljárások eredményei alapján a 2.2.43.3 bekezdés valamely

tétele alá történő besorolásánál a következő kritériumokat kell alkalmazni:

Egy anyagot akkor kell a 4.3 osztályba sorolni, ha

- a) a vizsgálatok bármely szakaszában a fejlődött gáz magától meggyullad; vagy
- b) a gyúlékony gáz fejlődési sebessége a vizsgált anyag 1 kg-jára számítva meghaladja az 1 liter/óra értéket.

**Megjegyzés:** Mivel a járulékos veszélyekkel rendelkező szerves fémvegyületek tulajdonságaiktól függően a 4.2 vagy a 4.3 osztályba sorolhatók, ezekhez az anyagokhoz a 2.3.5 szakaszban különleges besorolási folyamatára található.

- 2.2.43.1.6** Ha a 4.3 osztály anyagai valamilyen adalékanyag hozzáadása révén eltérő veszélyességi kategóriába kerülnek át, mint ahová a 3.2 fejezet „A” táblázatában név szerint említett anyagok tartoznak, ezeket a keverékeket vagy oldatokat azok alá a tételek alá kell besorolni, ahová tényleges veszélyességük mértéke alapján tartoznak.

**Megjegyzés:** Az oldatok és keverékek (készítmények és hulladékok) besorolásához lásd a 2.1.3 szakaszt.

- 2.2.43.1.7** A „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.4 bekezdése szerinti vizsgálati eljárások és a 2.2.43.1.5 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett anyag természete olyan, az anyag nem esik ezen osztály előírásainak hatálya alá.

*Csomagolási csoporthoz való hozzárendelés*

- 2.2.43.1.8** A 3.2 fejezet „A” táblázatának egyes tételei alá sorolt anyagokat és tárgyakat a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.4 bekezdése szerinti vizsgálati eljárások alapján az I, a II vagy a III csomagolási csoportba kell sorolni a következő kritériumok szerint:

- a) Az I csomagolási csoportba akkor kell sorolni egy anyagot, ha szobahőmérsékleten a vízzel erősen reagál és a fejlődő gáz általában hajlamot mutat arra, hogy önmagától meggyulladjon, vagy szobahőmérsékleten olyan könnyen reagál a vízzel, hogy a gyúlékony gáz fejlődésének mértéke a vizsgált anyag 1 kg-jára számítva bármely egy perces időtartam alatt legalább 10 liter;
- b) A II csomagolási csoportba akkor kell sorolni egy anyagot, ha szobahőmérsékleten olyan könnyen reagál vízzel, hogy a gyúlékony gáz maximális fejlődési sebessége a vizsgált anyag 1 kg-jára számítva legalább 20 liter/óra és az I csomagolási csoport kritériumai nem teljesülnek;
- c) A III csomagolási csoportba akkor kell sorolni egy anyagot, ha szobahőmérsékleten olyan lassan reagál vízzel, hogy a gyúlékony gáz maximális fejlődési sebessége a vizsgált anyag 1 kg-jára számítva legalább 1 liter/óra és sem az I csomagolási csoport, sem a II csomagolási csoport kritériumai nem teljesülnek.

**2.2.43.2** *A szállításból kizárt anyagok*

Az UN 3133 alá sorolt vízzel reaktív, gyújtó hatású, szilárd anyagok a szállításból ki vannak zárva, kivéve ha megfelelnek az 1. osztály előírásainak (lásd a 2.1.3.7 bekezdést is).

**2.2.43.3 A gyűjtőmegnevezések felsorolása**

| Járulékos veszély                                     | Osztályozási kód | UN szám          | Az anyag vagy tárgy megnevezése  |
|---|------------------|------------------|--|
| Vízzel érintkezve gyúlékony gázokat fejlesztő anyagok |                  |                  |  |
| Járulékos veszély nélkül                              | W                | W1               | 1389 FOLYÉKONY ALKÁLIFÉM AMALGÁM   |
|   |                  |                  | 1391 ALKÁLIFÉM DISZPERZIÓ, amelynek lobbanáspontja nagyobb mint 60 °C vagy   |
| W   | W                | W2 <sup>a)</sup> | 1391 ALKÁLIFÖLDFÉM DISZPERZIÓ, amelynek lobbanáspontja nagyobb mint 60 °C  |
|   |                  |                  | 1392 FOLYÉKONY ALKÁLIFÖLDFÉM AMALGÁM   |
| W   | W                | W3               | 1420 FOLYÉKONY KÁLIUMFÉM ÖTVÖZETEK   |
|   |                  |                  | 1422 FOLYÉKONY KÁLIUM-NÁTRIUM ÖTVÖZETEK  |
| W   | W                | W3               | 3398 VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET  |
|   |                  |                  | 1421 FOLYÉKONY ALKÁLIFÉM ÖTVÖZET, M.N.N.   |
| W   | W                | W3               | 3148 VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.  |
|   |                  |                  | 1390 ALKÁLIFÉM AMIDOK  |
| W   | W                | W3               | 3170 ALUMÍNIUMFELDOLGOZÁSI MELLÉKTERMÉKEK vagy   |
|   |                  |                  | 3170 ALUMÍNIUM ÚJRAOLVASZTÁSI MELLÉKTERMÉKEK   |
| W   | W                | W3               | 3395 VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET  |
|   |                  |                  | 3401 SZILÁRD ALKÁLIFÉM AMALGÁM   |
| W   | W                | W3               | 3402 SZILÁRD ALKÁLIFÖLDFÉM AMALGÁM   |
|   |                  |                  | 3403 SZILÁRD KÁLIUMFÉM ÖTVÖZETEK   |
| W   | W                | W3               | 3404 SZILÁRD KÁLIUM-NÁTRIUM ÖTVÖZETEK  |
|   |                  |                  | 1393 ALKÁLIFÖLDFÉM ÖTVÖZET, M.N.N.   |
| W   | W                | W3               | 1409 VÍZZEL REAKTÍV FÉM-HIRDIDEK, M.N.N.   |
|   |                  |                  | 3208 VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N.  |
| W   | W                | W3               | 2813 VÍZZEL REAKTÍV SZILÁRD ANYAG, M.N.N.  |
|   |                  |                  | 3292 NÁTRIUM AKKUMULÁTOROK, vagy   |
| W   | W                | W3               | 3292 NÁTRIUM CELLÁK  |
| W   | W                | W3               | 1391 ALKÁLIFÉM DISZPERZIÓ, amelynek lobbanáspontja legfeljebb 60 °C vagy   |
|   |                  |                  | 1391 ALKÁLIFÖLDFÉM DISZPERZIÓ, amelynek lobbanáspontja legfeljebb 60 °C  |
| W   | W                | W3               | 3399 VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY, SZERVES FÉMVEGYÜLET   |
|   |                  |                  | 3396 VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD, SZERVES FÉMVEGYÜLET   |
| W   | W                | W3               | 3132 VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.   |
|   |                  |                  | 3397 VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET  |
| W   | W                | W3               | 3135 VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.  |
|   |                  |                  | 3209 VÍZZEL REAKTÍV, ÖNMELEGEDŐ FÉMES ANYAG, M.N.N.  |
| W   | W                | W3               | 3133 VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N. (a szállításból ki van zárva, lásd a 2.2.43.2 bekezdést)  |
|   |                  |                  | 3130 VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   |
| W   | W                | W3               | 3134 VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
|   |                  |                  | 3129 VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.  |
| W   | W                | W3               | 3131 VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.  |
|   |                  |                  | 2988 VÍZZEL REAKTÍV, GYÚLÉKONY, MARÓ KLÓR-SZILÁNOK, M.N.N. (Ilyen osztályozási kóddal nincs más gyűjtőmegnevezés. Ha szükséges, a 2.1.3.10 bekezdés veszélyességi rangsor táblázata alapján meghatározandó, másik osztályozási kód valamely gyűjtőmegnevezése alá kell sorolni.) |

**Megjegyzés:**

- a) Azok a fémek és fémötvözetek, amelyek a vízzel érintkezve nem fejlesztenek gyúlékony gázokat és nem piroforosak, vagy nem önmelegedők, de amelyek könnyen

*meggyulladnak, a 4.1 osztály anyagai. Az alkáliföldfémek és alkáliföldfém ötvözetek piroforos formában a 4.2 osztály anyagai. A fémporok és finom porok piroforos állapotban a 4.2 osztály anyagai. A fémek és fémötvözetek piroforos állapotban a 4.2 osztály anyagai. A foszfor vegyületei nehézfémekkel, pl. vassal, rézzel stb. nem esnek az ADR előírásainak hatálya alá.*

- b) A fémek és fémötvözetek piroforos állapotban a 4.2 osztály anyagai.*
- c) Azok a klór-szilánok, amelyek lobbanáspontja 23 °C alatti, és vízzel érintkezve nem fejlesztenek gyúlékony gázokat, a 3 osztály anyagai. Azok a klór-szilánok, amelyek lobbanáspontja 23 °C vagy ennél magasabb, és vízzel érintkezve nem fejlesztenek gyúlékony gázokat, a 8 osztály anyagai.*

**2.2.51      5.1 osztály      Gyújtó hatású (oxidáló) anyagok****2.2.51.1      *Kritériumok***

**2.2.51.1.1**      Az 5.1 osztály fogalmköre olyan anyagokra és olyan anyagokat tartalmazó tárgyra terjed ki, amelyek bár önmagukban nem szükségszerűen gyúlékonyak, általában oxigén leadásával tüzet okozhatnak vagy más anyagok égését elősegíthetik.

**2.2.51.1.2**      Az 5.1 osztály anyagai és az ilyen anyagokat tartalmazó tárgyak a következők szerint vannak csoportosítva:

O    Gyújtó hatású anyagok járulékos veszély nélkül vagy ilyen anyagokat tartalmazó tárgyak:

    O1    Folyékony anyagok

    O2    Szilárd anyagok

    O3    Tárgyak

OF    Gyújtó hatású szilárd, gyúlékony anyagok

OS    Gyújtó hatású szilárd, önmelegedő anyagok

OW    Gyújtó hatású szilárd anyagok, amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek

OT    Gyújtó hatású, mérgező anyagok:

    OT1 Folyékony anyagok

    OT2 szilárd anyagok

OC    Gyújtó hatású, maró anyagok:

    OC1 Folyékony anyagok

    OC2 Szilárd anyagok

OTC Gyújtó hatású, mérgező, maró anyagok.

**2.2.51.1.3**      Az 5.1 osztályba sorolt anyagokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett anyagok és tárgyak besorolása a 2.1 fejezet szerint a 2.2.51.3 bekezdés megfelelő tétele alá a következő 2.2.51.1.6 – 2.2.51.1.9 pontok és a „Vizsgálatok és kritériumok kézikönyv” III. Rész 34.4 bekezdése szerinti kritériumok, módszerek és vizsgálati eljárások alapján történhet. Amennyiben a vizsgálati eredmények és az ismeretes tapasztalatok között eltérés van, a tapasztalat alapján való megítélést előnyben kell részesíteni a vizsgálati eredményekkel szemben.

**2.2.51.1.4**      Ha az 5.1 osztály anyagai valamilyen anyag hozzáadása révén eltérő veszélyességi kategóriába kerülnek át, mint ahová a 3.2 fejezet „A” táblázatában név szerint említett anyagok tartoznak, ezeket a keverékeket azok alá a tételek alá kell besorolni, amelyekbe tényleges veszélyességük mértéke alapján tartoznak.

*Megjegyzés:* Az oldatok és keverékek (készítmények és hulladékok) besorolásához lásd a 2.1.3 szakaszt.

**2.2.51.1.5**      A „Vizsgálatok és kritériumok kézikönyv” III. Rész 34.4 bekezdése szerinti vizsgálati eljárások és a 2.2.51.1.6 – 2.2.51.1.9 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett anyag természete olyan, hogy az anyag nem esik ezen osztály előírásainak hatálya alá.

***Gyújtó hatású szilárd anyagok******Besorolás***

- 2.2.51.1.6** A 3.2 fejezet „A” táblázatában név szerint nem említett gyújtó hatású, szilárd anyagoknak a „Vizsgálatok és kritériumok kézikönyv” III. Rész 34.4.1 bekezdése szerinti vizsgálati eljárások alapján a 2.2.51.3 bekezdés valamely tétele alá történő besorolásánál a következő kritériumokat kell alkalmazni:

Egy szilárd anyagot akkor kell az 5.1 osztályba sorolni, ha cellulózzal 4:1 vagy 1:1 tömegarányban alkotott keveréke meggyullad vagy elég vagy az átlagos égési ideje azonos vagy rövidebb, mint a kálium-bromát/cellulóz 3:7 tömegarányú keverék átlagos égési ideje.

***Csomagolási csoporthoz való hozzárendelés***

- 2.2.51.1.7** A 3.2 fejezet „A” táblázatának egyes tételei alá sorolt gyújtó hatású, szilárd anyagokat a „Vizsgálatok és kritériumok kézikönyv” III. rész 34.4.1 bekezdése szerinti vizsgálati eljárások alapján az I, a II vagy a III csomagolási csoportba kell sorolni, a következő kritériumok szerint:

- a) az I csomagolási csoportba akkor kell sorolni az anyagot, ha cellulózzal 4:1 vagy 1:1 tömegarányban alkotott keverékének átlagos égési ideje rövidebb, mint a kálium-bromát/cellulóz 3:2 tömegarányú keverék átlagos égési ideje;
- b) a II csomagolási csoportba akkor kell sorolni az anyagot, ha cellulózzal 4:1 vagy 1:1 tömegarányban alkotott keverékének átlagos égési ideje azonos vagy rövidebb, mint a kálium-bromát/cellulóz 2:3 tömegarányú keverék átlagos égési ideje és az I csomagolási csoport kritériumait nem elégtí ki;
- c) a III csomagolási csoportba akkor kell sorolni az anyagot, ha cellulózzal 4:1 vagy 1:1 tömegarányban alkotott keverékének átlagos égési ideje azonos vagy rövidebb, mint a kálium-bromát/cellulóz 3:7 tömegarányú keverék átlagos égési ideje és sem az I, sem a II csomagolási csoport kritériumait nem elégtí ki.

***Gyújtó hatású folyékony anyagok******Besorolás***

- 2.2.51.1.8** A 3.2 fejezet „A” táblázatában név szerint nem említett gyújtó hatású, folyékony anyagoknak a „Vizsgálatok és kritériumok kézikönyv” III. rész 34.4.2 bekezdése szerinti vizsgálati eljárások alapján a 2.2.51.3 bekezdés valamely tétele alá történő besorolásánál a következő kritériumokat kell alkalmazni:

Egy folyékony anyagot akkor kell az 5.1 osztályba sorolni, ha cellulózzal 1:1 tömegarányban alkotott keveréke 2070 kPa vagy nagyobb nyomásnövekedést eredményez, és az átlagos nyomásnövekedési idő azonos vagy rövidebb, mint a 65%-os vizes salétromsav oldat/cellulóz 1:1 tömegarányú keveréke esetében.

***Csomagolási csoporthoz való hozzárendelés***

- 2.2.51.1.9** A 3.2 fejezet „A” táblázatának egyes tételei alá sorolt gyújtó hatású, folyékony anyagokat a „Vizsgálatok és kritériumok kézikönyv” III. rész 34.4.2 bekezdése szerinti vizsgálati eljárások alapján az I, a II vagy a III csomagolási csoportba kell sorolni, a következő kritériumok szerint:

- a) az I csomagolási csoportba akkor kell sorolni az anyagot, ha cellulózzal 1:1 tömegarányban alkotott keveréke önmagától meggyullad, vagy a nyomásnövekedési ideje rövidebb, mint az 50%-os perklórsav oldat/cellulóz 1:1 tömegarányú keveréké;
- b) a II csomagolási csoportba akkor kell sorolni az anyagot, ha cellulózzal 1:1 tömegarányban alkotott keverékének nyomásnövekedési ideje azonos vagy rövidebb, mint a 40%-os vizes nátrium-klorát oldat/cellulóz 1:1 tömegarányú keveréké és az I

csomagolási csoport kritériumait nem elégíti ki;

- c) a III csomagolási csoportba akkor kell sorolni az anyagot, ha cellulózzal 1:1 tömegarányban alkotott keverékének nyomásnövekedési ideje azonos vagy rövidebb, mint a 65%-os vizes salétromsav oldat/cellulóz 1:1 tömegarányú keveréké és sem az I, sem a II csomagolási csoport kritériumait nem elégíti ki.

#### **2.2.51.2 A szállításból kizárt anyagok**

**2.2.51.2.1** Az 5.1 osztály vegyileg nem állandó anyagai csak akkor adhatók át szállításra, ha megtették a szükséges intézkedéseket a szállítás alatt bekövetkező veszélyes bomlás vagy polimerizáció megakadályozására. Ezért különösen arról kell gondoskodni, hogy a tartályok és tartányok ne tartalmazzanak olyan anyagokat, amelyek az ilyen reakciókat elősegítik.

**2.2.51.2.2** A következő anyagok a szállításból ki vannak zárva:

- az UN 3100 számú önmelegedő, gyújtó hatású szilárd anyagok, az UN 3121 számú vízzel reaktív, gyújtó hatású szilárd anyagok és az UN 3137 számú gyúlékony, gyújtó hatású szilárd anyagok, kivéve, ha megfelelnek az 1 osztály előírásainak (lásd a 2.1.3.7 bekezdést is);
- a nem stabilizált hidrogén-peroxid és a nem stabilizált hidrogén-peroxid vizes oldatok 60%-nál több hidrogén-peroxid tartalommal;
- az éghető szennyeződésektől nem mentes tetranitro-metán;
- perklórsav oldatok 72 tömeg%-nál nagyobb savtartalommal és a perklórsav keverékek vízen kívül bármilyen más folyadékkal;
- a klórsav oldatok 10% feletti klórsav-tartalommal és a klórsav keverékek vízen kívül bármilyen más folyadékkal;
- az ebbe az osztályba tartozó UN 1745 bróm-pentafluorid, 1746 bróm-trifluorid és 2495 jód-pentafluorid, valamint a 2 osztályba tartozó UN 1749 klór-trifluorid és 2548 klór-pentafluorid kivételével minden más halogénezett fluorvegyület;
- az ammónium-klorát és vizes oldatai, valamint a klorátok keverékei ammóniumsóval;
- az ammónium-klorit és vizes oldatai, valamint a kloritok keverékei ammóniumsóval;
- a hipokloritok keverékei ammóniumsóval;
- az ammónium-bromát és vizes oldatai, valamint a bromátok keverékei ammóniumsóval;
- az ammónium-permanganát és vizes oldatai, valamint a permanganátok keverékei ammóniumsóval;
- az ammónium-nitrát 0,2%-nál több éghető anyag tartalommal (beleértve bármilyen szerves anyagot szénegyenértékre átszámítva), hacsak nem valamely 1 osztályba tartozó anyag vagy tárgy alkotórésze;
- az ammónium-nitrát tartalmú műtrágyák, amelyek ammónium-nitrát tartalma (mindazon nitrát-ion mennyiséget, amellyel egyenérték tömegű ammónium-ion van jelen a keverékben, ammónium-nitrátként kell számításba venni) vagy éghető anyag tartalma a 307 különleges előírásban megadott határokat meghaladja, kivéve az 1 osztályra vonatkozó feltételek melletti szállítást;
- az ammónium-nitrit és vizes oldatai, valamint a szervesetlen nitritek keverékei ammóniumsóval;
- a kálium-nitrát és nátrium-nitrit keverékei ammóniumsóval.



**2.2.51.3 A gyűjtőmegnevezések felsorolása**

| Járlékos veszély                   | Osztályozási kód     | UN szám | Az anyag vagy tárgy megnevezése  |
|------------------------------------|----------------------|---------|--|
| Gyújtó hatású (oxidáló) anyagok    |                      |         |  |
|                                    | folyékony<br>anyagok | O1      | 3210 SZERVETLEN KLOORÁTOK VIZES OLDA, M.N.N.<br>3211 SZERVETLEN PERKLOORÁTOK VIZES OLDA, M.N.N.<br>3213 SZERVETLEN BROMÁTOK VIZES OLDA, M.N.N.<br>3214 SZERVETLEN PERMANGANÁTOK VIZES OLDA, M.N.N.<br>3216 SZERVETLEN PERSZULFÁTOK VIZES OLDA, M.N.N.<br>3218 SZERVETLEN NITRÁTOK VIZES OLDA, M.N.N.<br>3219 SZERVETLEN NITRITEK VIZES OLDA, M.N.N.<br>3139 FOLYÉKONY, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.                                     |
| Járlékos veszély<br>nélkül<br>O    | szilárd<br>anyagok   | O2      | 1450 SZERVETLEN BROMÁTOK, M.N.N.<br>1461 SZERVETLEN KLOORÁTOK, M.N.N.<br>1462 SZERVETLEN KLOORITOK, M.N.N.<br>1477 SZERVETLEN NITRÁTOK, M.N.N.<br>1481 SZERVETLEN PERKLOORÁTOK, M.N.N.<br>1482 SZERVETLEN PERMANGANÁTOK, M.N.N.<br>1483 SZERVETLEN PEROXIDOK, M.N.N.<br>2627 SZERVETLEN NITRITEK, M.N.N.<br>3212 SZERVETLEN HIPOKLOORITOK, M.N.N.<br>3215 SZERVETLEN PERSZULFÁTOK, M.N.N.<br>1479 SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N. |
|                                    | tárgyak              | O3      | 3356 KÉMIAI OXIGÉNFEJLESZTŐ  |
| Szilárd, gyúlékony<br>anyagok      |                      | OF      | 3137 GYÚLÉKONY, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.<br>(a szállításból ki van zárva, lásd 2.2.51.2)  |
| Szilárd, önmelegedő<br>anyagok     |                      | OS      | 3100 ÖNMELEGEDŐ, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.<br>(a szállításból ki van zárva, lásd 2.2.51.2)   |
| Szilárd, vízzel<br>reaktív anyagok |                      | OW      | 3121 VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N. (a szállításból ki van zárva, lásd 2.2.51.2)  |
|                                    | folyékony<br>anyagok | OT1     | 3099 FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   |
| Mérgező<br>OT                      | szilárd<br>anyagok   | OT2     | 3087 SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   |
|                                    | folyékony<br>anyagok | OC1     | 3098 FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.  |
| Maró<br>OC                         | szilárd<br>anyagok   | OC2     | 3085 SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.  |
| Mérgező, maró<br>anyagok           |                      | OTC     | (Ilyen osztályozási kóddal nincs gyűjtőmegnevezés. Ha szükséges, a 2.1.3.10 bekezdés veszélyességi rangsor táblázata alapján meghatározandó, másik osztályozási kód valamely gyűjtőmegnevezése alá kell sorolni.)  |



**2.2.52 5.2 osztály Szerves peroxidok****2.2.52.1 Kritériumok**

**2.2.52.1.1** Az 5.2 osztály fogalomköre a szerves peroxidokra és a szerves peroxid készítményekre terjed ki.

**2.2.52.1.2** Az 5.2 osztály anyagai a következők szerint vannak csoportosítva:

P1 Szerves peroxidok hőmérséklet-szabályozás nélkül

P2 Szerves peroxidok hőmérséklet-szabályozással.

*Fogalommeghatározás*

**2.2.52.1.3** A szerves peroxidok olyan szerves anyagok, amelyek a kétértékű –O–O– szerkezeti elemet tartalmazzák és amelyek a hidrogén-peroxid olyan származékainak tekinthetők, ahol egyik vagy mindkét hidrogén atomot szerves gyökök helyettesítenek.

*Tulajdonságok*

**2.2.52.1.4** A szerves peroxidok normál vagy magasabb hőmérsékleten hajlamosak az exoterm bomlásra. A bomlás hőhatásra, szennyező anyagokkal (pl. savak, nehézfém vegyületek, aminok) való érintkezésre, súrlódás vagy ütés hatására következhet be. A bomlási sebesség a hőmérséklettel növekszik és függ a szerves peroxid kikészítésétől. A bomlás során egészségre ártalmas vagy gyúlékony gázok vagy gőzök fejlődhetnek. Egyes szerves peroxidok esetében a hőmérsékletet a szállítás alatt szabályozni kell. Egyes szerves peroxidok robbanásszerű bomlást szenvedhetnek, különösen zárt térben. Ez a tulajdonság hígítók hozzáadásával vagy megfelelő csomagolás használatával megváltoztatható. Számos szerves peroxid erősen ég. El kell kerülni, hogy a szerves peroxid a szemmel érintkezésbe kerülhessen. Egyes szerves peroxidok már rövid érintkezés hatására a szaruhártya súlyos sérülését vagy a bőr felmaródását okozhatják.

**Megjegyzés:** A szerves peroxidok gyúlékonyságának meghatározására szolgáló vizsgálati módszereket a „Vizsgálatok és kritériumok kézikönyv” III. Rész 32.4 bekezdése tartalmazza. Mivel a szerves peroxidok hő hatására hevesen reagálhatnak, ajánlatos a lobbaspont meghatározásához kis méretű mintát használni, pl. amilyen az ISO 3679:1983 szabványban szerepel.

*Besorolás*

**2.2.52.1.5** Bármely szerves peroxidot az 5.2 osztályba sorolhatónak kell tekinteni, kivéve, ha:

- a) legfeljebb 1,0%, szerves peroxidból származó aktív oxigént és legfeljebb 1,0% hidrogén-peroxidot tartalmaz;
- b) legfeljebb 0,5%, szerves peroxidból származó aktív oxigént és 1,0%-nál több, de legfeljebb 7,0% hidrogén-peroxidot tartalmaznak.

**Megjegyzés:** Valamely szerves peroxidot tartalmazó készítmény aktív oxigéntartalma (%-ban) a  $16 \times \sum(n_i \times c_i / m_i)$  képlettel határozható meg, ahol  
 $n_i$  = az  $i$ -edik szerves peroxid molekulánkénti peroxid-csoportjainak száma;  
 $c_i$  = az  $i$ -edik szerves peroxid koncentrációja (tömeg%); és  
 $m_i$  = az  $i$ -edik szerves peroxid molekulatömege.

**2.2.52.1.6** A szerves peroxidok veszélyességük mértéke szerint hét típusba vannak sorolva. A típusok az A típustól, amely abban a csomagolásban, amelyben bevizsgálásra került, nem szállítható, egészen a G típusig tartanak, amely nem esik az 5.2 osztály előírásainak hatálya alá. A B-től

F-ig terjedő típusok alá való besorolás az egy csomagolásban engedélyezett legnagyobb mennyiségtől függ. A 2.2.52.4 bekezdésben fel nem sorolt anyagok besorolásának alapelveit a „Vizsgálatok és kritériumok kézikönyv” II. Rész tartalmazza.

**2.2.52.1.7** A már besorolt és csomagolóeszközben való szállításra már engedélyezett szerves peroxidokat a 2.2.52.4 bekezdés, az IBC-ben való szállításra már engedélyezett szerves peroxidokat a 4.1.4.2 bekezdés IBC520 csomagolási utasítása, és a 4.2, ill. a 4.3 fejezet szerint tartányban szállítható szerves peroxidokat a 4.2.5.2 bekezdés T23 mobil tartány utasítása sorolja fel. Ezekben a felsorolásokban minden engedélyezett anyag a 3.2 fejezet „A” táblázatának valamely generikus tételéhez (UN 3101 – 3120) hozzá van rendelve, és meg vannak adva a szállítás szempontjából fontos információt jelentő járulékos veszélyek, ill. megjegyzések.

A generikus tételek meghatározzák:

- a szerves peroxidok típusait (B – F) (lásd a 2.2.52.1.6 pontot);
- a fizikai állapotot (folyékony/szilárd); és
- a hőmérséklet-szabályozást (ha szükséges), (lásd a 2.2.52.1.15 – 2.2.52.1.18 pontot).

A szerves peroxid készítmények keverékei a legveszélyesebb alkotórésznek megfelelő típusú szerves peroxidként sorolhatók be és az arra a típusra megadott szállítási feltételek mellett kell szállítani. Azonban, ha két termikusan stabil alkotórész termikusan kevésbé stabil keveréket képezhet, a keverék öngyorsuló bomlási hőmérsékletét meg kell határozni és szükség esetén a szabályozási és vészhőmérsékletet az ÖBH értékéből le kell vezetni a 2.2.52.1.16 pont szerint.

**2.2.52.1.8** A 2.2.52.4 bekezdésben, a 4.1.4.2 bekezdés IBC520 csomagolási utasításában, ill. a 4.2.5.2 bekezdés T23 mobil tartány utasításában fel nem sorolt szerves peroxidok, szerves peroxid készítmények vagy keverékek besorolását és valamely gyűjtőmegnevezéshez történő hozzárendelését a származási ország illetékes hatóságának kell végeznie. A jóváhagyásnak tartalmaznia kell a besorolást és a vonatkozó szállítási feltételeket. Amennyiben a származási ország nem valamely ADR Szerződő Fél, úgy a besorolást és a szállítási feltételeket a küldemény által érintett első ADR Szerződő Fél illetékes hatóságának kell elismernie.

**2.2.52.1.9** A 2.2.52.4 bekezdésben fel nem sorolt szerves peroxid vagy szerves peroxid készítmény mintákat, amelyekre nézve nem áll rendelkezésre teljes körű vizsgálati eredmény és szállításuk további vizsgálatok és értékelés céljából történik, a C típusú szerves peroxidokra vonatkozó, megfelelő tételhez kell hozzárendelni, feltéve, hogy megfelelnek a következő feltételeknek:

- a rendelkezésre álló adatokból kitűnik, hogy a minta nem veszélyesebb, mint egy B típusú szerves peroxid;
- a minta az OP2 csomagolási módszer szerint van csomagolva és mennyisége szállítóegységenként nem haladja meg a 10 kg-ot;
- a rendelkezésre álló adatok jelzik, hogy a szabályozási hőmérséklet, ha ilyen van, elegendően alacsony minden veszélyes bomlás megakadályozására és elegendően magas minden veszélyes fázis-átalakulás megakadályozására.

*A szerves peroxidok érzéketlenítése*

**2.2.52.1.10** A biztonságos szállítás céljából a szerves peroxidokat számos esetben szerves folyadékokkal vagy szilárd anyagokkal, szervetlen szilárd anyagokkal vagy vízzel érzéketlenítik. Amennyiben valamely anyag százalékos tartalma meg van határozva, ez tömeg%-ot jelent, egész számra kerekítve. Általában az érzéketlenítést úgy kell végrehajtani, hogy kifolyás esetén a szerves peroxid veszélyes mértékű koncentrálódása ne következhesen be.

**2.2.52.1.11** Hacsak az egyes szerves peroxid készítményekre nincs más előírva, az érzéketlenítésre használt hígítóra a következő meghatározások érvényesek:

- az A típusú hígítók olyan szerves folyadékok, amelyek összeférhetőek a szóban forgó szerves peroxiddal és forráspontjuk legalább 150 °C. Az A típusú hígítók minden szerves peroxid érzéketlenítéséhez felhasználhatók;
- a B típusú hígítók szerves folyadékok, amelyek összeférhetőek a szerves peroxiddal és amelyek forráspontja 150 °C-nál kisebb, de legalább 60 °C és lobbanáspontja legalább 5 °C.

A B típusú hígítók minden szerves peroxid érzéketlenítésére használhatók, amennyiben a hígító forráspontja legalább 60 °C-kal magasabb, mint a szerves peroxid ÖBH értéke 50 kg-os küldeménydarabban.

**2.2.52.1.12** Az A vagy B típusú hígítóktól eltérő típusú hígítók is használhatók a 2.2.52.4 bekezdésben felsorolt szerves peroxid készítményekhez, amennyiben azokkal összeférhetőek. Azonban az A vagy B típusú hígítók helyettesítése részben vagy teljes mértékben más, eltérő tulajdonságokkal bíró hígítókkal szükségessé teszi a készítmény ismételt minősítését az 5.2 osztályra vonatkozó normál besorolási eljárás szerint.

**2.2.52.1.13** A víz csak olyan szerves peroxidokhoz használható érzéketlenítőszerként, amelyek a 2.2.52.4 bekezdésben fel vannak sorolva, vagy az illetékes hatóság 2.2.52.1.8 pont szerinti jóváhagyásában mint „víz hozzáadásával” vagy mint „stabil vizes diszperziók” vannak megemlítve. A 2.2.52.4 bekezdésben fel nem sorolt szerves peroxid mintákat vagy szerves peroxid készítmény mintákat is lehet vízzel érzéketleníteni, amennyiben a 2.2.52.1.9 pont előírásainak megfelelnek.

**2.2.52.1.14** Szerves és szervetlen szilárd anyagokat csak akkor szabad a szerves peroxidok érzéketlenítésére használni, ha ezekkel összeférhetőek. A folyékony és a szilárd anyagok akkor tekinthetők összeférhetőnek, ha nem befolyásolják hátrányosan a szerves peroxid készítménynek sem termikus stabilitását, sem veszélyességét.

#### *Hőmérséklet-szabályozás*

**2.2.52.1.15** Egyes szerves peroxidok csak hőmérséklet-szabályozás mellett szállíthatók. A szabályozási hőmérséklet az a maximális hőmérséklet, amelyen a szerves peroxid biztonságosan szállítható. Feltételezett, hogy a szállítás során a küldeménydarab közvetlen környezetében a hőmérséklet 24 óránként csak rövid ideig magasabb 55 °C-nál. A hőmérséklet-szabályozás megszűnése esetén szükség lehet vészhelyzeti eljárások alkalmazására. A vészhőmérséklet az a hőmérséklet, amelynél az ilyen eljárásokat meg kell indítani.

**2.2.52.1.16** A szabályozási és a vészhőmérsékletet az öngyorsuló bomlási hőmérsékletből (ÖBH) vezetik le, ami az a legalacsonyabb hőmérséklet, amelynél a szállítás során használt csomagolásban levő anyagnál az öngyorsuló bomlás bekövetkezhet (lásd az 1. táblázatot). Az ÖBH-t azért kell meghatározni, hogy eldönthető legyen, vajon az anyagot alá kell-e vetni hőmérséklet-szabályozásnak a szállítás alatt. Az ÖBH meghatározására vonatkozó követelményeket a „Vizsgálatok és kritériumok kézikönyv” II. Rész 20. és 28.4 bekezdése tartalmazza.

1. táblázat: A szabályozási és a vészhőmérséklet meghatározása

| A tartály típusa                  | ÖBH <sup>a)</sup>      | Szabályozási hőmérséklet | Vészhőmérséklet        |
|-----------------------------------|------------------------|--------------------------|------------------------|
| Önálló csomagolóeszközök és IBC-k | 20 °C vagy az alatt    | 20 °C-kal az ÖBH alatt   | 10 °C-kal az ÖBH alatt |
|                                   | 20 °C felett, 35 °C-ig | 15 °C-kal az ÖBH alatt   | 10 °C-kal az ÖBH alatt |
|                                   | 35 °C felett           | 10 °C-kal az ÖBH alatt   | 5 °C-kal az ÖBH alatt  |
| Tartályok                         | legfeljebb 50 °C       | 10 °C-kal az ÖBH alatt   | 5 °C-kal az ÖBH alatt  |

a) Az anyag ÖBH értéke a szállításra kész csomagolásban.

**2.2.52.1.17** A következő szerves peroxidokat kell a szállítás alatt hőmérséklet-szabályozásnak alávetni:

- a B és C típusú szerves peroxidokat ÖBH ≤ 50 °C értékkel;

- azokat a D típusú szerves peroxidokat, amelyek zárt térben hevítve közepes hatást mutatnak és ÖBH értékük  $\leq 50\text{ }^{\circ}\text{C}$ , vagy zárt térben hevítés során csekély vagy semmilyen hatást nem mutatnak és ÖBH értékük  $\leq 45\text{ }^{\circ}\text{C}$ ; és
- az E és F típusú szerves peroxidokat ÖBH  $\leq 45\text{ }^{\circ}\text{C}$  értékkel.

**Megjegyzés:** A zárt térben való hevítés hatásának meghatározására vonatkozó előírásokat a „Vizsgálatok és kritériumok kézikönyv” II. Rész 20. és 28.4 bekezdés tartalmazza.

**2.2.52.1.18** A szabályozási és vészhőmérsékletet, ahol van, a 2.2.52.4 bekezdés sorolja fel. A tényleges szállítási hőmérséklet lehet alacsonyabb, mint a szabályozási hőmérséklet, de úgy kell beállítani, hogy veszélyes fázis-átalakulás ne következhesen be.

#### 2.2.52.2 A szállításból kizárt anyagok

A következő szerves peroxidok az 5.2 osztály feltételei mellett a szállításból ki vannak zárva:

- A típusú szerves peroxidok [lásd a „Vizsgálatok és kritériumok kézikönyv” II. rész 20.4.3 a) pontját].

#### 2.2.52.3 A gyűjtőmegnevezések felsorolása

| Osztályozási kód                     | UN szám | Az anyag vagy tárgy megnevezése  |   |
|--------------------------------------|---------|--|---|
| Szerves peroxidok                    |         |  |   |
| Hőmérséklet-szabályozás nélkül<br>P1 |         | A TÍPUSÚ, FOLYÉKONY SZERVES PEROXID<br>A TÍPUSÚ, SZILÁRD SZERVES PEROXID | } (a szállításból ki van zárva, lásd 2.2.52.2)                            |
|                                      | 3101    | B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID                                      |   |
|                                      | 3102    | B TÍPUSÚ, SZILÁRD SZERVES PEROXID  |   |
|                                      | 3103    | C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID                                      |   |
|                                      | 3104    | C TÍPUSÚ, SZILÁRD SZERVES PEROXID  |   |
|                                      | 3105    | D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID                                      |   |
|                                      | 3106    | D TÍPUSÚ, SZILÁRD SZERVES PEROXID  |   |
|                                      | 3107    | E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID                                      |   |
|                                      | 3108    | E TÍPUSÚ, SZILÁRD SZERVES PEROXID  |   |
|                                      | 3109    | F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID                                      |   |
|                                      | 3110    | F TÍPUSÚ, SZILÁRD SZERVES PEROXID  |   |
| Hőmérséklet-szabályozással<br>P2     |         | G TÍPUSÚ, FOLYÉKONY SZERVES PEROXID<br>G TÍPUSÚ, SZILÁRD SZERVES PEROXID | } (nem tartozik az 5.2 osztály előírásainak hatálya alá, lásd 2.2.52.1.6) |
|                                      |         |  |   |
|                                      | 3111    | B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL           |   |
|                                      | 3112    | B TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL             |   |
|                                      | 3113    | C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL           |   |
|                                      | 3114    | C TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL             |   |
|                                      | 3115    | D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL           |   |
|                                      | 3116    | D TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL             |   |
|                                      | 3117    | E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL           |   |
|                                      | 3118    | E TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL             |   |
|                                      | 3119    | F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL           |   |
|                                      | 3120    | F TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL             |   |

**2.2.52.4**      *A már besorolt és csomagolóeszközben való szállításra engedélyezett szerves peroxidok felsorolása*

A „csomagolási módszer” oszlopban az „OP1” – „OP8” kód a 4.1.4.1 bekezdés P520 csomagolási utasítás csomagolási módszereire utal (lásd még a 4.1.7.1 bekezdést). A szállítandó szerves peroxidnak meg kell felelnie a felsorolás szerinti besorolásnak és (az ÖBH-ből levezetett) szabályozási, ill. vészhőmérsékletnek. Az IBC-ben engedélyezett anyagokra lásd a 4.1.4.2 bekezdés IBC520 csomagolási utasítását, a 4.2, ill. a 4.3 fejezet szerint tartányban engedélyezettekre lásd a 4.2.5.2 bekezdés T23 mobil tartány utasítását.

| SZERVES PEROXID                                | Koncentráció (%) | A típusú hígító (%) | B típusú hígító (%) <sup>1)</sup> | Inert szilárd anyag (%) | Víz (%) | Csomagolási módszer | Szabályozási hőmérséklet (°C) | Vészhőmérséklet (°C) | UN szám (generikus tétel) | Járulékos veszélyek és megjegyzések |
|--|------------------|---------------------|-----------------------------------|-------------------------|---------|---------------------|-------------------------------|----------------------|---------------------------|-------------------------------------|
| ACETIL-ACETON- PEROXID                         | ≤ 42             | ≥ 48                |                                   |                         | ≥ 8     | OP7                 |                               |                      | 3105                      | 2)                                  |
| “(paszta)                                      | ≤ 32             |                     |                                   |                         |         | OP7                 |                               |                      | 3106                      | 20)                                 |
| ACETIL-CIKLOHEXÁN-SZULFONIL-PEROXID            | ≤ 82             |                     |                                   |                         | ≥ 12    | OP4                 | -10                           | 0                    | 3112                      | 3)                                  |
| “(   | ≤ 32             |                     | ≥ 68                              |                         |         | OP7                 | -10                           | 0                    | 3115                      |                                     |
| terc-AMIL-HIDROPEROXID                         | ≤ 88             | ≥ 6                 |                                   |                         | ≥ 6     | OP8                 |                               |                      | 3107                      |                                     |
| terc-AMIL-PEROXI-ACETÁT                        | ≤ 62             | ≥ 38                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| terc-AMIL-PEROXI-BENZOÁT                       | ≤ 100            |                     |                                   |                         |         | OP5                 |                               |                      | 3103                      |                                     |
| terc-AMIL-PEROXI-2-ETIL-HEXANOÁT               | ≤ 100            |                     |                                   |                         |         | OP7                 | +20                           | +25                  | 3115                      |                                     |
| terc-AMIL-PEROXI-2-ETIL-HEXIL-KARBONÁT         | ≤ 100            |                     |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| terc-AMIL-PEROXI-IZOPROPIL-KARBONÁT            | ≤ 77             | ≥ 23                |                                   |                         |         | OP5                 |                               |                      | 3103                      |                                     |
| terc-AMIL-PEROXI-NEODEKANOÁT                   | ≤ 77             |                     | ≥ 23                              |                         |         | OP7                 | 0                             | +10                  | 3115                      |                                     |
| “(   | ≤ 47             | ≥ 53                |                                   |                         |         | OP8                 | 0                             | +10                  | 3119                      |                                     |
| terc-AMIL-PEROXI-PIVALÁT                       | ≤ 77             |                     | ≥ 23                              |                         |         | OP5                 | +10                           | +15                  | 3113                      |                                     |
| terc-AMIL-PEROXI-3,5,5-TRIMETIL-HEXANOÁT       | ≤ 100            |                     |                                   |                         |         | OP7                 |                               |                      | 3105                      | 3)                                  |
| n-BUTIL-4,4-DI(terc-BUTIL-PEROXI)-VALERÁT      | > 52 – 100       |                     |                                   |                         |         | OP5                 |                               |                      | 3103                      |                                     |
| “(   | ≤ 52             |                     |                                   | ≥ 48                    |         | OP8                 |                               |                      | 3108                      |                                     |
| terc-BUTIL-HIDROPEROXID                        | > 79 – 90        |                     |                                   |                         | ≥ 10    | OP5                 |                               |                      | 3103                      | 13)                                 |
| “(   | ≤ 80             | ≥ 20                |                                   |                         |         | OP7                 |                               |                      | 3105                      | 4) 13)                              |
| “(   | ≤ 79             |                     |                                   |                         | > 14    | OP8                 |                               |                      | 3107                      | 13) 23)                             |
| “(   | ≤ 72             |                     |                                   |                         | ≥ 28    | OP8                 |                               |                      | 3109                      | 13)                                 |
| terc-BUTIL-HIDROPEROXID+ DI-terc-BUTIL-PEROXID | < 82 + > 9       |                     |                                   |                         | ≥ 7     | OP5                 |                               |                      | 3103                      | 13)                                 |
| terc-BUTIL-KUMIL-PEROXID                       | > 42 – 100       |                     |                                   |                         |         | OP8                 |                               |                      | 3107                      |                                     |
| “(   | ≤ 52             |                     |                                   | ≥ 48                    |         | OP8                 |                               |                      | 3108                      |                                     |
| terc-BUTIL-MONOPEROXI-MALEÁT                   | > 52 – 100       |                     |                                   |                         |         | OP5                 |                               |                      | 3102                      | 3)                                  |
| “(   | ≤ 52             | ≥ 48                |                                   |                         |         | OP6                 |                               |                      | 3103                      |                                     |
| “(   | ≤ 52             |                     |                                   | ≥ 48                    |         | OP8                 |                               |                      | 3108                      |                                     |
| “(paszta)                                      | ≤ 52             |                     |                                   |                         |         | OP8                 |                               |                      | 3108                      |                                     |
| terc-BUTIL-PEROXI-ACETÁT                       | > 52 – 77        | ≥ 23                |                                   |                         |         | OP5                 |                               |                      | 3101                      | 3)                                  |
| “(   | > 32 – 52        | ≥ 48                |                                   |                         |         | OP6                 |                               |                      | 3103                      |                                     |
| “(   | ≤ 32             |                     | ≥ 68                              |                         |         | OP8                 |                               |                      | 3109                      |                                     |
| terc-BUTIL-PEROXI-BENZOÁT                      | > 77 – 100       |                     |                                   |                         |         | OP5                 |                               |                      | 3103                      |                                     |
| “(   | > 52 – 77        | ≥ 23                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| “(   | ≤ 52             |                     |                                   | ≥ 48                    |         | OP7                 |                               |                      | 3106                      |                                     |
| terc-BUTIL-PEROXI-BUTIL-FUMARÁT                | ≤ 52             | ≥ 48                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| terc-BUTIL-PEROXI-DIETIL-ACETÁT                | ≤ 100            |                     |                                   |                         |         | OP5                 | +20                           | +25                  | 3113                      |                                     |
| terc-BUTIL-PEROXI-2-ETIL-HEXANOÁT              | > 52 – 100       |                     |                                   |                         |         | OP6                 | +20                           | +25                  | 3113                      |                                     |

| SZERVES PEROXID  | Koncentráció (%) | A típusú hígító (%) | B típusú hígító (%) <sup>1)</sup> | Inert szilárd anyag (%) | Víz (%) | Csomagolási módszer | Szabályozási hőmérséklet (°C) | Vészhőmérséklet (°C) | UN szám (generikus tétel) | Járulékos veszélyek és megjegyzések |
|--|------------------|---------------------|-----------------------------------|-------------------------|---------|---------------------|-------------------------------|----------------------|---------------------------|-------------------------------------|
| terc-BUTIL-PEROXI-2-ETIL-HEXANOÁT                                  | > 32 – 52        |                     | ≥ 48                              |                         |         | OP8                 | +30                           | +35                  | 3117                      |                                     |
| “  | ≤ 52             |                     |                                   | ≥ 48                    |         | OP8                 | +20                           | +25                  | 3118                      |                                     |
| “  | ≤ 32             |                     | ≥ 68                              |                         |         | OP8                 | +40                           | +45                  | 3119                      |                                     |
| terc-BUTIL PEROXI-2-ETIL-HEXANOÁT + 2,2-DI(terc-BUTILPEROXI)-BUTÁN | ≤ 12 + ≤ 14      | ≥ 14                |                                   | ≥ 60                    |         | OP7                 |                               |                      | 3106                      |                                     |
| “  | ≤ 31 + ≤ 36      |                     | ≥ 33                              |                         |         | OP7                 | +35                           | +40                  | 3115                      |                                     |
| terc-BUTIL-PEROXI-2-ETIL-HEXIL-KARBONÁT                            | ≤ 100            |                     |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| terc-BUTIL-PEROXI-IZOBUTIRÁT                                       | > 52 – 77        |                     | ≥ 23                              |                         |         | OP5                 | +15                           | +20                  | 3111                      | 3)                                  |
| “  | ≤ 52             |                     | ≥ 48                              |                         |         | OP7                 | +15                           | +20                  | 3115                      |                                     |
| 1-(2-terc-BUTIL-PEROXI-IZOPROPIL)-3-IZOPROPENIL-BENZOL             | ≤ 77             | ≥ 23                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| “  | ≤ 42             |                     |                                   | ≥ 58                    |         | OP8                 |                               |                      | 3108                      |                                     |
| terc-BUTIL-PEROXI-IZOPROPIL-KARBONAT                               | ≤ 77             | ≥ 23                |                                   |                         |         | OP5                 |                               |                      | 3103                      |                                     |
| terc-BUTIL-PEROXI-KROTONÁT   | ≤ 77             | ≥ 23                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| terc-BUTIL-PEROXI-2-METIL-BENZOÁT                                  | ≤ 100            |                     |                                   |                         |         | OP5                 |                               |                      | 3103                      |                                     |
| terc-BUTIL-PEROXI-NEODEKANOÁT                                      | > 77 – 100       |                     |                                   |                         |         | OP7                 | -5                            | +5                   | 3115                      |                                     |
| “  | ≤ 77             |                     | ≥ 23                              |                         |         | OP7                 | 0                             | +10                  | 3115                      |                                     |
| “ (stabil vizes diszperzió)  | ≤ 52             |                     |                                   |                         |         | OP8                 | 0                             | +10                  | 3119                      |                                     |
| “ [stabil vizes diszperzió (fagyasztott)]                          | ≤ 42             |                     |                                   |                         |         | OP8                 | 0                             | +10                  | 3118                      |                                     |
| “  | ≤ 32             | ≥ 68                |                                   |                         |         | OP8                 | 0                             | +10                  | 3119                      |                                     |
| terc-BUTIL-PEROXI-NEOHEPTANOÁT                                     | ≤ 77             | ≥ 23                |                                   |                         |         | OP7                 | 0                             | +10                  | 3115                      |                                     |
| “ (stabil vizes diszperzió)  | ≤ 42             |                     |                                   |                         |         | OP8                 | 0                             | +10                  | 3117                      |                                     |
| terc-BUTIL-PEROXI-PIVALÁT  | > 67 – 77        | ≥ 23                |                                   |                         |         | OP5                 | 0                             | +10                  | 3113                      |                                     |
| “  | > 27 – 67        |                     | ≥ 33                              |                         |         | OP7                 | 0                             | +10                  | 3115                      |                                     |
| “  | ≤ 27             |                     | ≥ 73                              |                         |         | OP8                 | +30                           | +35                  | 3119                      |                                     |
| terc-BUTIL-PEROXI-SZTEARIL-KARBONÁT                                | ≤ 100            |                     |                                   |                         |         | OP7                 |                               |                      | 3106                      |                                     |
| terc-BUTIL-PEROXI-3,5,5-TRIMETIL-HEXANOÁT                          | > 32 – 100       |                     |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| “  | ≤ 42             |                     |                                   | ≥ 58                    |         | OP7                 |                               |                      | 3106                      |                                     |
| “  | ≤ 32             |                     | ≥ 68                              |                         |         | OP8                 |                               |                      | 3109                      |                                     |
| CIKLOHEXANON-PEROXID(OK)   | ≤ 91             |                     |                                   |                         | ≥ 9     | OP6                 |                               |                      | 3104                      | 13)                                 |
| “  | ≤ 72             | ≥ 28                |                                   |                         |         | OP7                 |                               |                      | 3105                      | 5)                                  |
| “ (paszta)   | ≤ 72             |                     |                                   |                         |         | OP7                 |                               |                      | 3106                      | 5) 20)                              |
| “  | ≤ 32             |                     |                                   | ≥ 68                    |         |                     |                               |                      | mentesítve                | 29)                                 |
| DIACETON-ALKOHOL-PEROXIDOK   | ≤ 57             |                     | ≥ 26                              |                         | ≥ 8     | OP7                 | +40                           | +45                  | 3115                      | 6)                                  |
| DIACETIL-PEROXID   | ≤ 27             |                     | ≥ 73                              |                         |         | OP7                 | +20                           | +25                  | 3115                      | 7) 13)                              |
| DI-terc-AMIL-PEROXID   | ≤ 100            |                     |                                   |                         |         | OP8                 |                               |                      | 3107                      |                                     |
| 2,2-DI-(terc-AMIL-PEROXI)-BUTÁN                                    | ≤ 57             | ≥ 43                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |

| SZERVES PEROXID  | Koncentráció (%) | A típusú hígító (%) | B típusú hígító (%) <sup>1)</sup> | Inert szilárd anyag (%) | Víz (%) | Csomagolási módszer | Szabályozási hőmérséklet (°C) | Vészhőmérséklet (°C) | UN szám (generikus tétel) | Járulékos veszélyek és megjegyzések |
|--|------------------|---------------------|-----------------------------------|-------------------------|---------|---------------------|-------------------------------|----------------------|---------------------------|-------------------------------------|
| 1,1-DI(terc-AMIL-PEROXI)-CIKLOHEXÁN                                      | ≤ 82             | ≥ 18                |                                   |                         |         | OP6                 |                               |                      | 3103                      |                                     |
| DIBENZOIL-PEROXID  | > 51 – 100       |                     |                                   | ≤ 48                    |         | OP2                 |                               |                      | 3102                      | 3)                                  |
| “  | > 77 – 94        |                     |                                   |                         | ≥ 6     | OP4                 |                               |                      | 3102                      | 3)                                  |
| “  | ≤ 77             |                     |                                   |                         | ≥ 23    | OP6                 |                               |                      | 3104                      |                                     |
| “  | ≤ 62             |                     |                                   | ≥ 28                    | ≥ 10    | OP7                 |                               |                      | 3106                      |                                     |
| “ (paszta)   | > 52 – 62        |                     |                                   |                         |         | OP7                 |                               |                      | 3106                      | 20)                                 |
| “  | > 35 – 52        |                     |                                   | ≥ 48                    |         | OP7                 |                               |                      | 3106                      |                                     |
| “  | > 36 – 42        | ≥ 18                |                                   |                         | ≤ 40    | OP8                 |                               |                      | 3107                      |                                     |
| “ (paszta)   | ≤ 56,5           |                     |                                   |                         | ≥ 15    | OP8                 |                               |                      | 3108                      |                                     |
| “ (paszta)   | ≤ 52             |                     |                                   |                         |         | OP8                 |                               |                      | 3108                      | 20)                                 |
| “ (stabil vizes diszperzió)  | ≤ 42             |                     |                                   |                         |         | OP8                 |                               |                      | 3109                      |                                     |
| “  | ≤ 35             |                     |                                   | ≥ 65                    |         |                     |                               |                      | mentesítve                | 29)                                 |
| DI(4-terc-BUTIL-CIKLOHEXIL)-PEROXI-DIKARBONÁT                            | ≤ 100            |                     |                                   |                         |         | OP6                 | +30                           | +35                  | 3114                      |                                     |
| “ (stabil vizes diszperzió)  | ≤ 42             |                     |                                   |                         |         | OP8                 | +30                           | +35                  | 3119                      |                                     |
| DI-terc-BUTIL-PEROXID  | > 52 – 100       |                     |                                   |                         |         | OP8                 |                               |                      | 3107                      |                                     |
| “  | ≤ 52             |                     | ≥ 48                              |                         |         | OP8                 |                               |                      | 3109                      | 25)                                 |
| DI-terc-BUTIL-PEROXI-AZELÁT  | ≤ 52             | ≥ 48                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| 2,2-DI(terc-BUTIL-PEROXI)-BUTÁN  | ≤ 52             | ≥ 48                |                                   |                         |         | OP6                 |                               |                      | 3103                      |                                     |
| 1,1-DI(terc-BUTIL-PEROXI)-CIKLOHEXÁN                                     | > 80 – 100       |                     |                                   |                         |         | OP5                 |                               |                      | 3101                      | 3)                                  |
| “  | ≤ 72             |                     | ≥ 28                              |                         |         | OP5                 |                               |                      | 3103                      | 30)                                 |
| “  | > 52 – 80        | ≥ 20                |                                   |                         |         | OP5                 |                               |                      | 3103                      |                                     |
| “  | > 42 – 52        | ≥ 48                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| “  | ≤ 42             | ≥ 13                |                                   | ≥ 45                    |         | OP7                 |                               |                      | 3106                      |                                     |
| “  | ≤ 27             | ≥ 25                |                                   |                         |         | OP8                 |                               |                      | 3107                      | 21)                                 |
| “  | ≤ 42             | ≥ 58                |                                   |                         |         | OP8                 |                               |                      | 3109                      |                                     |
| “  | ≤ 13             | ≥ 13                | ≥ 74                              |                         |         | OP8                 |                               |                      | 3109                      |                                     |
| 1,1-DI(terc-BUTIL-PEROXI)-CIKLOHEXÁN + terc-BUTIL-PEROXI-2-ETIL-HEXANOÁT | ≤ 43 +<br>≤ 16   | ≥ 41                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| DI-n-BUTIL-PEROXI-DIKARBONÁT   | > 27 – 52        |                     | ≥ 48                              |                         |         | OP7                 | -15                           | -5                   | 3115                      |                                     |
| “  | ≤ 27             |                     | ≥ 73                              |                         |         | OP8                 | -10                           | 0                    | 3117                      |                                     |
| “ [stabil vizes diszperzió (fagyasztott)]                                | ≤ 42             |                     |                                   |                         |         | OP8                 | -15                           | -5                   | 3118                      |                                     |
| DI-szek-BUTIL-PEROXI-DIKARBONÁT  | > 52 – 100       |                     |                                   |                         |         | OP4                 | -20                           | -10                  | 3113                      |                                     |
| “  | ≤ 52             |                     | ≥ 48                              |                         |         | OP7                 | -15                           | -5                   | 3115                      |                                     |
| DI(2-terc-BUTIL-PEROXI-IZOPROPIL)-BENZOL(OK)                             | > 42 – 100       |                     |                                   | ≤ 57                    |         | OP7                 |                               |                      | 3106                      |                                     |
| “  | ≤ 42             |                     |                                   | ≥ 58                    |         |                     |                               |                      | mentesítve                | 29)                                 |
| DI(terc-BUTIL-PEROXI)-FTALÁT   | > 42 – 52        | ≥ 48                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| “ (paszta)   | ≤ 52             |                     |                                   |                         |         | OP7                 |                               |                      | 3106                      | 20)                                 |



| SZERVES PEROXID                                     | Koncentráció (%) | A típusú hígító (%) | B típusú hígító (%) <sup>1)</sup> | Inert szilárd anyag (%) | Víz (%) | Csomagolási módszer | Szabályozási hőmérséklet (°C) | Vészhőmérséklet (°C) | UN szám (generikus tétel) | Járulékos veszélyek és megjegyzések |
|---|------------------|---------------------|-----------------------------------|-------------------------|---------|---------------------|-------------------------------|----------------------|---------------------------|-------------------------------------|
| DI(terc-BUTIL-PEROXI)-FTALÁT                        | ≤ 42             | ≥ 58                |                                   |                         |         | OP8                 |                               |                      | 3107                      |                                     |
| 1,6-DI(terc-BUTIL-PEROXI-KARBONILOXI)-HEXÁN         | ≤ 72             | ≥ 28                |                                   |                         |         | OP5                 |                               |                      | 3103                      |                                     |
| 2,2-DI(terc-BUTIL-PEROXI)-PROPÁN                    | ≤ 52             | ≥ 48                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| “   | ≤ 42             | ≥ 13                |                                   | ≥ 45                    |         | OP7                 |                               |                      | 3106                      |                                     |
| 1,1-DI(terc-BUTIL-PEROXI)-3,3,5-TRIMETIL-CIKLOHEXÁN | > 90 – 100       |                     |                                   |                         |         | OP5                 |                               |                      | 3101                      | 3)                                  |
| “   | ≤ 90             |                     | ≥ 10                              |                         |         | OP5                 |                               |                      | 3103                      | 30)                                 |
| “   | > 57 – 90        | ≥ 10                |                                   |                         |         | OP5                 |                               |                      | 3103                      |                                     |
| “   | ≤ 77             |                     | ≥ 23                              |                         |         | OP5                 |                               |                      | 3103                      |                                     |
| “   | ≤ 57             |                     |                                   | ≥ 43                    |         | OP8                 |                               |                      | 3110                      |                                     |
| “   | ≤ 57             | ≥ 43                |                                   |                         |         | OP8                 |                               |                      | 3107                      |                                     |
| “   | ≤ 32             | ≥ 26                | ≥ 42                              |                         |         | OP8                 |                               |                      | 3107                      |                                     |
| DICETIL-PEROXI-DIKARBONÁT                           | ≤ 100            |                     |                                   |                         |         | OP7                 | +30                           | +35                  | 3116                      |                                     |
| “ (stabil vizes diszperzió)                         | ≤ 42             |                     |                                   |                         |         | OP8                 | +30                           | +35                  | 3119                      |                                     |
| DICIKLOHEXIL-PEROXI-DIKARBONÁT                      | > 91 – 100       |                     |                                   |                         |         | OP3                 | +10                           | +15                  | 3112                      | 3)                                  |
| “   | ≤ 91             |                     |                                   | ≥ 9                     |         | OP5                 | +10                           | +15                  | 3114                      |                                     |
| “ (stabil vizes diszperzió)                         | ≤ 42             |                     |                                   |                         |         | OP8                 | +15                           | +20                  | 3119                      |                                     |
| DIDEKANOIL-PEROXID                                  | ≤ 100            |                     |                                   |                         |         | OP6                 | +30                           | +35                  | 3114                      |                                     |
| 2,2-DI(4,4-DI(terc-BUTIL-PEROXI)-CIKLOHEXIL)-PROPÁN | ≤ 42             |                     |                                   | ≥ 58                    |         | OP7                 |                               |                      | 3106                      |                                     |
| “   | ≤ 22             |                     | ≥ 78                              |                         |         | OP8                 |                               |                      | 3107                      |                                     |
| DI(2,4-DIKLÓR-BENZOIL)-PEROXID                      | ≤ 77             |                     |                                   |                         | ≥ 23    | OP5                 |                               |                      | 3102                      | 3)                                  |
| “ (paszta)  | ≤ 52             |                     |                                   |                         |         | OP8                 | +20                           | +25                  | 3118                      |                                     |
| “ (paszta szilikonolajjal)                          | ≤ 52             |                     |                                   |                         |         | OP7                 |                               |                      | 3106                      |                                     |
| DI(2-ETOXI-ETIL)-PEROXI-DIKARBONÁT                  | ≤ 52             |                     | ≥ 48                              |                         |         | OP7                 | -10                           | 0                    | 3115                      |                                     |
| DI(2-ETIL-HEXIL)-PEROXI-DIKARBONÁT                  | > 77 – 100       |                     |                                   |                         |         | OP5                 | -20                           | -10                  | 3113                      |                                     |
| “   | ≤ 77             |                     | ≥ 23                              |                         |         | OP7                 | -15                           | -5                   | 3115                      |                                     |
| “ (stabil vizes diszperzió)                         | ≤ 62             |                     |                                   |                         |         | OP8                 | -15                           | -5                   | 3119                      |                                     |
| “ [stabil vizes diszperzió (fagyasztott)]           | ≤ 52             |                     |                                   |                         |         | OP8                 | -15                           | -5                   | 3120                      |                                     |
| DI(2-FENOXI-ETIL)-PEROXI-DIKARBONÁT                 | > 85 – 100       |                     |                                   |                         |         | OP5                 |                               |                      | 3102                      | 3)                                  |
| “   | ≤ 85             |                     |                                   |                         | ≥ 15    | OP7                 |                               |                      | 3106                      |                                     |
| 2,2-DIHIDROPEROXI-PROPÁN                            | ≤ 27             |                     |                                   | ≥ 73                    |         | OP5                 |                               |                      | 3102                      | 3)                                  |
| DI(1-HIDROXI-CIKLOHEXIL)-PEROXID                    | ≤ 100            |                     |                                   |                         |         | OP7                 |                               |                      | 3106                      |                                     |
| DIIZOBUTIRIL-PEROXID                                | > 32 – 52        |                     | ≥ 48                              |                         |         | OP5                 | -20                           | -10                  | 3111                      | 3)                                  |
| “   | ≤ 32             |                     | ≥ 68                              |                         |         | OP7                 | -20                           | -10                  | 3115                      |                                     |
| DIIZOPROPIL-BENZOL-DIHIDRO-PEROXID                  | ≤ 82             | ≥ 5                 |                                   |                         | ≥ 5     | OP7                 |                               |                      | 3106                      | 24)                                 |
| DIIZOPROPIL-PEROXI-DIKARBONÁT                       | > 52 – 100       |                     |                                   |                         |         | OP2                 | -15                           | -5                   | 3112                      | 3)                                  |

| SZERVES PEROXID  | Koncentráció (%)        | A típusú hígító (%) | B típusú hígító (%) <sup>1)</sup> | Inert szilárd anyag (%) | Víz (%) | Csomagolási módszer | Szabályozási hőmérséklet (°C) | Vészhőmérséklet (°C) | UN szám (generikus tétel) | Járulékos veszélyek és megjegyzések |
|--|-------------------------|---------------------|-----------------------------------|-------------------------|---------|---------------------|-------------------------------|----------------------|---------------------------|-------------------------------------|
| DIIZOPROPIL-PEROXI-DIKARBONÁT  | ≤ 52                    |                     | ≥ 48                              |                         |         | OP7                 | -20                           | -10                  | 3115                      |                                     |
| “  | ≤ 28                    | ≥ 72                |                                   |                         |         | OP7                 | -15                           | -5                   | 3115                      |                                     |
| DI(4-KLÓR-BENZOIL)-PEROXID   | ≤ 77                    |                     |                                   |                         | ≥ 23    | OP5                 |                               |                      | 3102                      | 3)                                  |
| “ (paszta)   | ≤ 52                    |                     |                                   |                         |         | OP7                 |                               |                      | 3106                      | 20)                                 |
| “  | ≤ 32                    |                     |                                   | ≥ 68                    |         |                     |                               |                      | mentesítve                | 29)                                 |
| DIKUMIL-PEROXID  | > 52 – 100              |                     |                                   |                         |         | OP8                 |                               |                      | 3110                      | 12)                                 |
| “  | ≤ 52                    |                     |                                   | ≥ 48                    |         |                     |                               |                      | mentesítve                | 29)                                 |
| DILAUILOIL-PEROXID   | ≤ 100                   |                     |                                   |                         |         | OP7                 |                               |                      | 3106                      |                                     |
| “ (stabil vizes diszperzió)  | ≤ 42                    |                     |                                   |                         |         | OP8                 |                               |                      | 3109                      |                                     |
| DI(2-METIL-BENZOIL)-PEROXID  | ≤ 87                    |                     |                                   |                         | ≥ 13    | OP5                 | +30                           | +35                  | 3112                      | 3)                                  |
| DI(3-METIL-BENZOIL)-PEROXID+ BENZOIL-(3-METIL-BENZOIL)-PEROXID + DIBENZOIL-PEROXID | ≤ 20 +<br>≤ 18 +<br>≤ 4 |                     | ≥ 58                              |                         |         | OP7                 | +35                           | +40                  | 3115                      |                                     |
| DI(4-METIL-BENZOIL)-PEROXID (paszta szilikonolajjal)                               | ≤ 52                    |                     |                                   |                         |         | OP7                 |                               |                      | 3106                      |                                     |
| 2,5-DIMETIL-2,5-DI(BENZOIL-PEROXI)-HEXÁN   | > 82 – 100              |                     |                                   |                         |         | OP5                 |                               |                      | 3102                      | 3)                                  |
| “  | ≤ 82                    |                     |                                   | ≥ 18                    |         | OP7                 |                               |                      | 3106                      |                                     |
| “  | ≤ 82                    |                     |                                   |                         | ≥ 18    | OP5                 |                               |                      | 3104                      |                                     |
| 2,5-DIMETIL-2,5-DI(terc-BUTIL-PEROXI)-HEXÁN  | > 52 – 100              |                     |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| “ (paszta)   | ≤ 47                    |                     |                                   |                         |         | OP8                 |                               |                      | 3108                      |                                     |
| “  | ≤ 52                    | ≥ 48                |                                   |                         |         | OP8                 |                               |                      | 3109                      |                                     |
| “  | ≤ 77                    |                     |                                   | ≥ 23                    |         | OP8                 |                               |                      | 3108                      |                                     |
| 2,5-DIMETIL-2,5-DI(terc-BUTIL-PEROXI)-3-HEXIN                                      | > 52 – 86               | ≥ 14                |                                   |                         |         | OP5                 |                               |                      | 3103                      | 26)                                 |
| “  | ≤ 52                    |                     |                                   | ≥ 48                    |         | OP7                 |                               |                      | 3106                      |                                     |
| “  | > 86 – 100              |                     |                                   |                         |         | OP5                 |                               |                      | 3101                      | 3)                                  |
| 2,5-DIMETIL-2,5-DI(2-ETIL-HEXANOIL-PEROXI)-HEXÁN                                   | ≤ 100                   |                     |                                   |                         |         | OP5                 | +20                           | +25                  | 3113                      |                                     |
| 2,5-DIMETIL-2,5-DIHIDROPEROXI-HEXÁN  | ≤ 82                    |                     |                                   |                         | ≥ 18    | OP6                 |                               |                      | 3104                      |                                     |
| 2,5-DIMETIL-2,5-DI(3,5,5-TRIMETIL-HEXANOIL-PEROXI)-HEXÁN                           | ≤ 77                    | ≥ 23                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| 1,1-DIMETIL-3-HIDROXI-BUTIL-PEROXI-NEOHEPTANOÁT                                    | ≤ 52                    | ≥ 48                |                                   |                         |         | OP8                 | 0                             | +10                  | 3117                      |                                     |
| DI(3-METOXI-BUTIL)-PEROXI-DIKARBONÁT   | ≤ 52                    |                     | ≥ 48                              |                         |         | OP7                 | -5                            | +5                   | 3115                      |                                     |
| DIMIRISZTIL-PEROXI-DIKARBONÁT  | ≤ 100                   |                     |                                   |                         |         | OP7                 | +20                           | +25                  | 3116                      |                                     |
| “ (stabil vizes diszperzió)  | ≤ 42                    |                     |                                   |                         |         | OP8                 | +20                           | +25                  | 3119                      |                                     |
| DI(2-NEODEKANOIL)-PEROXI-IZOPROPIL-BENZOL  | ≤ 52                    | ≥ 48                |                                   |                         |         | OP7                 | -10                           | 0                    | 3115                      |                                     |
| DI-n-NONANOIL-PEROXID  | ≤ 100                   |                     |                                   |                         |         | OP7                 | 0                             | +10                  | 3116                      |                                     |

| SZERVES PEROXID  | Koncentráció (%)                   | A típusú hígító (%) | B típusú hígító (%) <sup>1)</sup> | Inert szilárd anyag (%) | Víz (%) | Csomagolási módszer | Szabályozási hőmérséklet (°C) | Vészhőmérséklet (°C) | UN szám (generikus tétel) | Járulékos veszélyek és megjegyzések |
|--|------------------------------------|---------------------|-----------------------------------|-------------------------|---------|---------------------|-------------------------------|----------------------|---------------------------|-------------------------------------|
| DI-n-OKTANANOIL-PEROXID  | ≤ 100                              |                     |                                   |                         |         | OP5                 | +10                           | +15                  | 3114                      |                                     |
| DIPROPIONIL-PEROXID  | ≤ 27                               |                     | ≥ 73                              |                         |         | OP8                 | +15                           | +20                  | 3117                      |                                     |
| DI-n-PROPIL-PEROXI-DIKARBONÁT  | ≤ 100                              |                     |                                   |                         |         | OP3                 | -25                           | -15                  | 3113                      |                                     |
| “  | ≤ 77                               |                     | ≥ 23                              |                         |         | OP5                 | -20                           | -10                  | 3113                      |                                     |
| DISZUKCINIL-PEROXID  | > 72 – 100                         |                     |                                   |                         |         | OP4                 |                               |                      | 3102                      | 3) 17)                              |
| “  | ≤ 72                               |                     |                                   |                         | ≥ 28    | OP7                 | +10                           | +15                  | 3116                      |                                     |
| DI(3,5,5-TRIMETIL-HEXANOIL)-PEROXID  | > 38 – 82                          | ≥ 18                |                                   |                         |         | OP7                 | 0                             | +10                  | 3115                      |                                     |
| “ (stabil vizes diszperzió)  | ≤ 52                               |                     |                                   |                         |         | OP8                 | +10                           | +15                  | 3119                      |                                     |
| “  | ≤ 38                               | ≥ 62                |                                   |                         |         | OP8                 | +20                           | +25                  | 3119                      |                                     |
| ETIL-3,3-DI(terc-AMIL-PEROXI)-BUTIRÁT  | ≤ 67                               | ≥ 33                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| ETIL-3,3-DI(terc-BUTIL-PEROXI)-BUTIRÁT   | > 77 – 100                         |                     |                                   |                         |         | OP5                 |                               |                      | 3103                      |                                     |
| “  | ≤ 77                               | ≥ 23                |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| “  | ≤ 52                               |                     |                                   | ≥ 48                    |         | OP7                 |                               |                      | 3106                      |                                     |
| 1-(2-ETIL-HEXANOIL-PEROXI)-1,3-DIMETIL-BUTIL-PEROXI-PIVALÁT  | ≤ 52                               | ≥ 45                | ≥ 10                              |                         |         | OP7                 | -20                           | -10                  | 3115                      |                                     |
| FOLYÉKONY SZERVES PEROXID MINTA  |                                    |                     |                                   |                         |         | OP2                 |                               |                      | 3103                      | 11)                                 |
| FOLYÉKONY SZERVES PEROXID MINTA, HŐMÉRSÉKLET-SZABÁLYOZÁSSAL  |                                    |                     |                                   |                         |         | OP2                 |                               |                      | 3113                      | 11)                                 |
| terc-HEXIL-PEROXI-NEODEKANOÁT  | ≤ 71                               | ≥ 29                |                                   |                         |         | OP7                 | 0                             | +10                  | 3115                      |                                     |
| terc-HEXIL-PEROXI-PIVALÁT  | ≤ 72                               |                     | ≥ 28                              |                         |         | OP7                 | +10                           | +15                  | 3115                      |                                     |
| 3-HIDROXI—1,1-DIMETIL-BUTIL-PEROXI-NEODEKANOÁT   | ≤ 77                               | ≥ 23                |                                   |                         |         | OP7                 | -5                            | +5                   | 3115                      |                                     |
| 3-HIDROXI—1,1-DIMETIL-BUTIL-PEROXI-NEODEKANOÁT   | ≤ 52                               | ≥ 48                |                                   |                         |         | OP8                 | -5                            | +5                   | 3117                      |                                     |
| 3-HIDROXI—1,1-DIMETIL-BUTIL-PEROXI-NEODEKANOÁT (stabil vizes diszperzió)                                 | ≤ 52                               |                     |                                   |                         |         | OP8                 | -5                            | +5                   | 3119                      |                                     |
| IZOPROPIL-szek-BUTIL-PEROXI-DIKARBONÁT + DI-szek-BUTIL-PEROXI-DIKARBONÁT + DIIZOPROPIL-PEROXI-DIKARBONÁT | ≤ 32 +<br>≤ 15 – 18 +<br>≤ 12 – 15 | ≥ 38                |                                   |                         |         | OP7                 | -20                           | -10                  | 3115                      |                                     |
| “  | ≤ 52 +<br>≤ 28 +<br>≤ 22           |                     |                                   |                         |         | OP5                 | -20                           | -10                  | 3111                      | 3)                                  |
| IZOPROPIL-KUMIL-HIDROPEROXID   | ≤ 72                               | ≥ 28                |                                   |                         |         | OP8                 |                               |                      | 3109                      | 13)                                 |
| 3-KLÓR-PEROXI-BENZOESAV  | > 57 – 86                          |                     |                                   | ≥ 14                    |         | OP1                 |                               |                      | 3102                      | 3)                                  |
| “  | ≤ 57                               |                     |                                   | ≥ 3                     | ≥ 40    | OP7                 |                               |                      | 3106                      |                                     |
| “  | ≤ 77                               |                     |                                   | ≥ 6                     | ≥ 17    | OP7                 |                               |                      | 3106                      |                                     |
| KUMIL-HIDROPEROXID   | > 90 – 98                          | ≤ 10                |                                   |                         |         | OP8                 |                               |                      | 3107                      | 13)                                 |

| SZERVES PEROXID   | Koncentráció (%)       | A típusú hígító (%) | B típusú hígító (%) <sup>1)</sup> | Inert szilárd anyag (%) | Víz (%) | Csomagolási módszer | Szabályozási hőmérséklet (°C) | Vészhőmérséklet (°C) | UN szám (generikus tétel) | Járolékos veszélyek és megjegyzések |
|---|------------------------|---------------------|-----------------------------------|-------------------------|---------|---------------------|-------------------------------|----------------------|---------------------------|-------------------------------------|
| KUMIL-HIDROPEROXID  | ≤ 90                   | ≥ 10                |                                   |                         |         | OP8                 |                               |                      | 3109                      | 13) 18)                             |
| KUMIL-PEROXI-NEODEKANOÁT                                  | ≤ 87                   | ≥ 13                |                                   |                         |         | OP7                 | -10                           | 0                    | 3115                      |                                     |
| “   | ≤ 77                   |                     | ≥ 23                              |                         |         | OP7                 | -10                           | 0                    | 3115                      |                                     |
| “(stabil vizes diszperzió)                                | ≤ 52                   |                     |                                   |                         |         | OP8                 | -10                           | 0                    | 3119                      |                                     |
| KUMIL-PEROXI-NEOHEPTANOÁT                                 | ≤ 77                   | ≥ 23                |                                   |                         |         | OP7                 | -10                           | 0                    | 3115                      |                                     |
| KUMIL-PEROXI-PIVALÁT                                      | ≤ 77                   |                     | ≥ 23                              |                         |         | OP7                 | -5                            | +5                   | 3115                      |                                     |
| p-MENTIL-HIDROPEROXID                                     | > 72 – 100             |                     |                                   |                         |         | OP7                 |                               |                      | 3105                      | 13)                                 |
| “   | ≤ 72                   | ≥ 28                |                                   |                         |         | OP8                 |                               |                      | 3109                      | 27)                                 |
| METIL-CIKLOHEXANON-PEROXID(OK)                            | ≤ 67                   |                     | ≥ 33                              |                         |         | OP7                 | +35                           | +40                  | 3115                      |                                     |
| METIL-ETIL-KETON-PEROXID(OK)                              | lásd a 8) megjegyzést  | ≥ 48                |                                   |                         |         | OP5                 |                               |                      | 3101                      | 3) 8) 13)                           |
| “   | lásd a 9) megjegyzést  | ≥ 55                |                                   |                         |         | OP7                 |                               |                      | 3105                      | 9)                                  |
| “   | lásd a 10) megjegyzést | ≥ 60                |                                   |                         |         | OP8                 |                               |                      | 3107                      | 10)                                 |
| METIL-IZOBUTIL-KETON-PEROXID(OK)                          | ≤ 62                   | ≥ 19                |                                   |                         |         | OP7                 |                               |                      | 3105                      | 22)                                 |
| METIL-IZOPROPIL-KETON-PEROXID(OK)                         | lásd a 31) megjegyzést | ≥ 70                |                                   |                         |         | OP8                 |                               |                      | 3109                      | 31)                                 |
| 3,3,5,7,7-PENTAMETIL-1,2,4-TRIOXEPÁN                      | ≤ 100                  |                     |                                   |                         |         | OP8                 |                               |                      | 3107                      |                                     |
| PEROXI-ECETSAV, D TÍPUSÚ, stabilizált                     | ≤ 43                   |                     |                                   |                         |         | OP7                 |                               |                      | 3105                      | 13) 14) 19)                         |
| PEROXI-ECETSAV, E TÍPUSÚ, stabilizált                     | ≤ 43                   |                     |                                   |                         |         | OP8                 |                               |                      | 3107                      | 13) 15) 19)                         |
| PEROXI-ECETSAV, F TÍPUSÚ, stabilizált                     | ≤ 43                   |                     |                                   |                         |         | OP8                 |                               |                      | 3109                      | 13) 16) 19)                         |
| PEROXI-LAURINSAV  | ≤ 100                  |                     |                                   |                         |         | OP8                 | +35                           | +40                  | 3118                      |                                     |
| PINANIL-HIDROPEROXID                                      | > 56 – 100             |                     |                                   |                         |         | OP7                 |                               |                      | 3105                      | 13)                                 |
| “   | ≤ 56                   | ≥ 44                |                                   |                         |         | OP8                 |                               |                      | 3109                      |                                     |
| POLIÉTER-POLI(terc-BUTIL-PEROXI-KARBONÁT)                 | ≤ 52                   |                     | ≥ 48                              |                         |         | OP8                 |                               |                      | 3107                      |                                     |
| SZILÁRD SZERVES PEROXID MINTA                             |                        |                     |                                   |                         |         | OP2                 |                               |                      | 3104                      | 11)                                 |
| SZILÁRD SZERVES PEROXID MINTA, HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |                        |                     |                                   |                         |         | OP2                 |                               |                      | 3114                      | 11)                                 |
| 1,1,3,3-TETRAMETIL-BUTIL-HIDROPEROXID                     | ≤ 100                  |                     |                                   |                         |         | OP7                 |                               |                      | 3105                      |                                     |
| 1,1,3,3-TETRAMETIL-BUTIL-PEROXI-2-ETIL-HEXANOÁT           | ≤ 100                  |                     |                                   |                         |         | OP7                 | +15                           | +20                  | 3115                      |                                     |
| 1,1,3,3-TETRAMETIL-BUTIL-PEROXI-NEODEKANOÁT               | ≤ 72                   |                     | ≥ 28                              |                         |         | OP7                 | -5                            | +5                   | 3115                      |                                     |
| “(stabil vizes diszperzió)                                | ≤ 52                   |                     |                                   |                         |         | OP8                 | -5                            | +5                   | 3119                      |                                     |
| 1,1,3,3-TETRAMETIL-BUTIL-PEROXI-PIVALÁT                   | ≤ 77                   | ≥ 23                |                                   |                         |         | OP7                 | 0                             | +10                  | 3115                      |                                     |
| 3,6,9-TRIETIL-3,6,9-TRIMETIL-1,4,7-TRIPEROXONÁN           | ≤ 42                   | ≥ 58                |                                   |                         |         | OP7                 |                               |                      | 3105                      | 28)                                 |

**Megjegyzés:** (lásd a 2.2.52.4 bekezdés táblázatának utolsó oszlopát)

- 1) B típusú hígító mindig kicserélhető A típusú hígítóra. A B típusú hígító forráspontjának legalább 60 °C-kal magasabbnak kell lennie, mint a szerves peroxid ÖBH értéke.
- 2) Szabad oxigéntartalom  $\leq 4,7\%$ .
- 3) „ROBBANÁSVESZÉLY” járulékos veszély bárca szükséges (1 sz. bárca, lásd az 5.2.2.2.2 pontot).
- 4) A hígító helyettesíthető di-terc-butil-peroxiddal.
- 5) Szabad oxigéntartalom  $\leq 9\%$ .
- 6) Legfeljebb 9% hidrogén-peroxiddal; szabad oxigéntartalom  $\leq 10\%$ .
- 7) Csak nemfémes csomagolóeszközök használhatók.
- 8) Szabad oxigéntartalom  $> 10\%$  és  $\leq 10,7\%$ , vízzel vagy víz nélkül.
- 9) Szabad oxigéntartalom  $\leq 10\%$ , vízzel vagy víz nélkül.
- 10) Szabad oxigéntartalom  $\leq 8,2\%$ , vízzel vagy víz nélkül.
- 11) Lásd a 2.2.52.1.9 pontot.
- 12) Tartályonként 2000 kg-ig a nagy méreteken végzett vizsgálatok alapján az F TÍPUSÚ SZERVES PEROXID alá sorolva.
- 13) „MARÓ” járulékos veszély bárca szükséges (8 sz. bárca, lásd az 5.2.2.2.2 pontot).
- 14) Peroxi-ecetsav készítmények, amelyek a „Vizsgálatok és kritériumok kézikönyv” 20.4.3 d) pontjának megfelelnek.
- 15) Peroxi-ecetsav készítmények, amelyek a „Vizsgálatok és kritériumok kézikönyv” 20.4.3 e) pontjának megfelelnek.
- 16) Peroxi-ecetsav készítmények, amelyek a „Vizsgálatok és kritériumok kézikönyv” 20.4.3 f) pontjának megfelelnek.
- 17) Víz hozzáadásával a szerves peroxid termikus stabilitása csökken.
- 18) 80% alatti koncentrációnál nincs szükség „MARÓ” járulékos veszély bárcára (8 sz. bárca, lásd az 5.2.2.2.2 pontot).
- 19) Keverékek hidrogén-peroxiddal, vízzel és savakkal.
- 20) A típusú hígítóval, vízzel vagy anélkül.
- 21) Legalább 25 tömeg% A típusú hígítóval és ezenkívül etil-benzollal.
- 22) Legalább 19 tömeg% A típusú hígítóval és ezenkívül metil-izobutil-ketonnal.
- 23) 6%-nál kevesebb di-terc-butil-peroxiddal.
- 24) Legfeljebb 8% 1-izopropil-hidroperoxi-4-izopropil-hidroxi-benzollal.
- 25) B típusú hígító 110 °C-nál nagyobb forrásponttal.
- 26) 0,5%-nál kisebb hidroperoxid tartalommal.
- 27) 56% feletti koncentrációnál „MARÓ” járulékos veszély bárca szükséges (8 sz. bárca, lásd az 5.2.2.2.2 pontot).
- 28) Szabad aktív oxigéntartalom  $\leq 7,6\%$ , A típusú hígítóban, amelynek legalább 95%-a csak 200 °C...260 °C között párolog el.
- 29) Nem tartozik az ADR 5.2 osztályra vonatkozó előírásainak hatálya alá.
- 30) B típusú hígító 130 °C-nál nagyobb forrásponttal.
- 31) Aktív oxigéntartalom  $\leq 6,7\%$ .

**2.2.61          6.1 osztály      Mérgező anyagok****2.2.61.1      *Kritériumok***

**2.2.61.1.1**      A 6.1 osztály fogalomköre azokra a mérgező anyagokra terjed ki, amelyekről tapasztalat alapján tudják vagy amelyekről állatokon végzett kísérletek alapján feltételezhető, hogy viszonylag csekély mennyiségben, egyszeri vagy rövid ideig tartó behatással, belélegzés, bőrrel való érintkezés vagy lenyelés útján károsíthatják az emberi egészséget vagy halált okozhatnak.

**2.2.61.1.2**      A 6.1 osztály anyagai a következők szerint vannak csoportosítva:

T      Mérgező anyagok járulékos veszély nélkül:

- T1 Szerves folyékony anyagok
- T2 Szerves szilárd anyagok
- T3 Szerves fémvegyületek
- T4 Szervetlen folyékony anyagok
- T5 Szervetlen szilárd anyagok
- T6 Peszticidként használt folyékony anyagok
- T7 Peszticidként használt szilárd anyagok
- T8 Minták
- T9 Egyéb mérgező anyagok

TF      Mérgező, gyúlékony anyagok:

- TF1 Folyékony anyagok
- TF2 Peszticidként használt folyékony anyagok
- TF3 Szilárd anyagok

TS      Mérgező, önmelegedő, szilárd anyagok

TW      Mérgező anyagok, amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek:

- TW1 Folyékony anyagok
- TW2 Szilárd anyagok

TO      Mérgező, gyújtó hatású anyagok:

- TO1 Folyékony anyagok
- TO2 Szilárd anyagok

TC      Mérgező, maró anyagok:

- TC1 Szerves folyékony anyagok
- TC2 Szerves szilárd anyagok
- TC3 Szervetlen folyékony anyagok
- TC4 Szervetlen szilárd anyagok

TFC      Mérgező, gyúlékony, maró anyagok.

*Fogalommeghatározások***2.2.61.1.3** Az ADR alkalmazásában

A *heveny mérgezőképesség LD<sub>50</sub> (közepes halálos dózis) értéke lenyelés esetén* az anyag statisztikailag számított egyszeri dózisa, amely lenyelés esetén várhatóan a fiatal, felnőtt, fehér patkányok 50%-ánál okoz 14 napon belüli halált. Az LD<sub>50</sub> értéket a vizsgált anyag beadott mennyiségének a vizsgált állatok testtömegére vonatkoztatott arányával (mg/kg) fejezik ki.

A *heveny mérgezőképesség LD<sub>50</sub> értéke bőrön át való felszívódás esetén* az a dózis, amely ha fehér nyulak csupasz bőrével 24 órán át folyamatosan érintkezésbe került, nagy valószínűséggel 14 napon belül halált okoz a kísérleti állatok felénél. A kísérleti állatok számának elegendőnek kell lenni ahhoz, hogy az eredmény statisztikailag szignifikáns legyen és megfeleljen a jó gyógyszerészeti gyakorlatnak. Az eredményt testtömegre vonatkoztatva mg/kg-ban fejezik ki.

A *heveny mérgezőképesség LC<sub>50</sub> értéke belélegzés esetén* az a gőz, köd vagy por-koncentráció, amely egy órán át tartó folyamatos belélegzés esetén fiatal, felnőtt, hím és nőstény, fehér patkányok csoportjának egyaránt felénél nagy valószínűséggel 14 napon belüli halált okoz. Szilárd anyagot akkor kell így vizsgálni, ha az anyag összmennyiségének legalább 10 tömeg%-a belélegezhető por, azaz ezen részecskefrakció aerodinamikai átmérője 10 µm vagy ennél kisebb. Folyékony anyagot akkor kell így vizsgálni, ha a szállított anyag szivárgása esetén fennáll a ködképződés lehetősége. Mind szilárd, mind folyékony anyag esetén a belélegzési mérgezőképesség vizsgálatára előkészített minta több mint 90 tömeg%-ának az előzőekben meghatározott belélegezhető tartományban kell lennie. Az eredményt egységnyi térfogatú levegőre vonatkoztatva adják meg, por és köd esetén mg/liter-ben, gőz esetén milliliter/m<sup>3</sup>-ben (ppm-ben).

*Besorolás és csomagolási csoporthoz való hozzárendelés***2.2.61.1.4** A 6.1 osztály anyagait a szállítás során általuk képviselt veszély mértéke szerint a következő három csomagolási csoport valamelyikéhez kell hozzárendelni:

- I csomagolási csoport:            nagyon mérgező anyagok;
- II csomagolási csoport:        mérgező anyagok;
- III csomagolási csoport:       enyhén mérgező anyagok.

**2.2.61.1.5** A 6.1 osztályba sorolt anyagokat, keverékeket, oldatokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett anyagokat, keverékeket és oldatokat a 2.1 fejezet szerinti a 2.2.61.3 bekezdés megfelelő tétele alá és a megfelelő csomagolási csoportba a 2.2.61.1.6 – 2.2.61.1.11 pontban található kritériumok alapján kell besorolni.**2.2.61.1.6** A mérgezési veszély megállapításához számításba kell venni az embereken bekövetkezett véletlen mérgezési esetek tapasztalatait, valamint az egyes anyagok különleges tulajdonságait, mint a folyékony halmazállapotot, nagymértékű illékonyságot, a bőrön át való felszívódás valószínűségét, különleges biológiai hatásokat.**2.2.61.1.7** Embereken történt megfigyelések hiányában a mérgezési veszélyt állatokon végzett kísérletekből származó, rendelkezésre álló adatok segítségével a következő táblázatnak megfelelően kell meghatározni:

|                | Csomagolási csoport | Mérgezőképesség lenyelés esetén, $LD_{50}$ (mg/kg) | Mérgezőképesség bőrön át való felszívódás esetén, $LD_{50}$ (mg/kg) | Mérgezőképesség por és köd belélegzése esetén, $LC_{50}$ (mg/l) |
|----------------|---------------------|--|---|---|
| Nagyon mérgező | I                   | $LD_{50} \leq 5$                                   | $LD_{50} \leq 50$   | $LC_{50} \leq 0,2$  |
| Mérgező        | II                  | $5 < LD_{50} \leq 50$                              | $50 < LD_{50} \leq 200$   | $0,2 < LC_{50} \leq 2$  |
| Enyhén mérgező | III <sup>a)</sup>   | $50 < LD_{50} \leq 300$                            | $200 < LD_{50} \leq 1000$   | $2 < LC_{50} \leq 4$  |

a) A könnygáz anyagokat a II csomagolási csoportba kell sorolni, még ha mérgezőképességük a III csomagolási csoport értékeinek felel is meg.

**2.2.61.1.7.1** Ha egy anyag két vagy több mérgezési mód esetén különböző mérgezőképességű, a legnagyobb mérgezőképesség szerint kell besorolni.

**2.2.61.1.7.2** A 8 osztály kritériumait kielégítő anyagok az I csomagolási csoportnak megfelelő por és köd belélegzési mérgezőképességgel ( $LC_{50}$ ) csak akkor fogadhatók el a 6.1 osztályba történő besoroláshoz, ha lenyelés vagy bőrön át való felszívódás esetére vonatkozó mérgezőképességük alapján legalább az I vagy a II csomagolási csoportba tartoznak. Ellenkező esetben a 8 osztályba történő besorolást kell végezni, ha az lehetséges (lásd a 2.2.8.1.5 pontot).

**2.2.61.1.7.3** Por és köd belélegzése esetén a mérgezőképesség kritériuma az 1 órán át tartó belélegzés  $LC_{50}$  adatain alapul. Ahol ezek az adatok rendelkezésre állnak, ezeket kell használni. Amennyiben csak a 4 órán át tartó belélegzés  $LC_{50}$  adatai állnak rendelkezésre, ezek négyszeresével lehet helyettesíteni az előző értéket, vagyis a 4 órás  $LC_{50}$  négyszerese egyenlőnek tekinthető az 1 órás  $LC_{50}$ -nel.

*Mérgezőképesség gőz belélegzése esetén*

**2.2.61.1.8** A mérgező gőzöket kibocsátó folyadékokat a következő csoportok alá kell besorolni, ahol „V” jelenti a telített gőz koncentrációját ( $\text{ml/m}^3$  levegő egységben) (illékonyság) 20 °C-on és normál atmoszferikus nyomáson.

| A mérgező hatás fokozata | Csomagolási csoport | Feltétel   |
|--------------------------|---------------------|--|
| Nagyon mérgező           | I                   | ha $V \geq 10LC_{50}$ és $LC_{50} \leq 1000 \text{ ml/m}^3$  |
| Mérgező                  | II                  | ha $V \geq LC_{50}$ és $LC_{50} \leq 3000 \text{ ml/m}^3$ és az I csomagolási csoport kritériumai nem teljesülnek                  |
| Enyhén mérgező           | III <sup>a)</sup>   | ha $V \geq 0,2LC_{50}$ és $LC_{50} \leq 5000 \text{ ml/m}^3$ és sem az I, sem a II csomagolási csoport kritériumai nem teljesülnek |

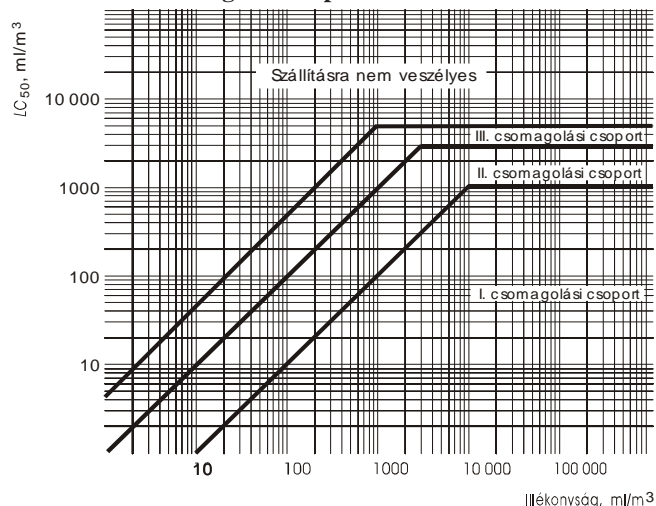
a) A könnygáz anyagokat a II csomagolási csoportba kell sorolni, még ha mérgezőképességük a III csomagolási csoport értékeinek felel is meg.

Gőz belélegzése esetén a mérgezőképesség kritériuma az 1 órán át tartó belélegzés  $LC_{50}$  adatain alapul. Ahol ezek az adatok rendelkezésre állnak, ezeket kell használni.

Amennyiben csak a 4 órán át tartó belélegzés  $LC_{50}$  adatai állnak rendelkezésre, ezek kétszeresével lehet helyettesíteni az előző értéket, vagyis a 4 órás  $LC_{50}$  kétszerese egyenlőnek tekinthető az 1 órás  $LC_{50}$ -nel.



**Mérgezőképesség a gőzök belélegzésekor  
A csomagolási csoportok határvonalai**



Az ábra a besorolás megkönnyítésére grafikusán ábrázolja a mérgezési kritériumokat. Mivel a grafikus ábrázolás közelítő pontosságú, az egyes csomagolási csoportok határvonalára vagy azok közelébe eső anyagokat a számszerű kritériumok alapján kell ellenőrizni.

*Folyékony anyagok keverékei*

**2.2.61.1.9** A folyékony anyagok olyan keverékeit, amelyek a belélegzési mérgezés veszélyével bírnak, a következő kritériumok szerint kell a veszélyességi kategóriák alá besorolni:

**2.2.61.1.9.1** Ha a keveréket alkotó minden egyes mérgező anyagra az  $LC_{50}$  értéke ismeretes, a csomagolási csoportot a következők szerint kell meghatározni:

a) a keverék  $LC_{50}$  értékének kiszámítása:

$$LC_{50}(\text{keverék}) = \frac{1}{\sum_{i=1}^n \frac{f_i}{LC_{50i}}}, \text{ ahol}$$

$f_i$  = a keverék i-edik alkotórészének molaránya;

$LC_{50i}$  = az i-edik alkotórész átlagos halálos koncentrációja  $\text{ml/m}^3$ -ben;

b) az egyes alkotórészek illékonyságának kiszámítása:

$$V_i = P_i \times \frac{10^6}{101,3} \text{ ml/m}^3, \text{ ahol}$$

$P_i$  = az i-edik alkotórész parciális nyomása kPa-ban 20 °C-on és normál atmoszférikus nyomáson;

c) az illékonyági arány kiszámítása  $LC_{50}$ -re:

$$R = \sum_{i=1}^n \frac{V_i}{LC_{50i}};$$

d) felhasználva az  $LC_{50}$  (keverék) és  $R$  kiszámított értékét, a keverékére meghatározható a csoport:

I csomagolási csoport  $R \geq 10$  és  $LC_{50}(\text{keverék}) \leq 1000 \text{ ml/m}^3$ ;

II csomagolási csoport  $R \geq 1$  és  $LC_{50}$  (keverék)  $\leq 3000 \text{ ml/m}^3$ , ha a keverék az I csomagolási csoport kritériumainak nem felel meg;

III csomagolási csoport  $R \geq 1/5$  és  $LC_{50}$  (keverék)  $\leq 5000 \text{ ml/m}^3$ , ha a keverék sem az I, sem a II csomagolási csoport kritériumainak nem felel meg.

**2.2.61.1.9.2** A mérgező alkotórészekre vonatkozó  $LC_{50}$  értékek hiányában a keverék a következő egyszerűsített mérgezési küszöb próbák alapján rendelhető valamely csoporthoz. Ha ilyen mérgezési küszöb vizsgálatokat használunk, meg kell határozni a leginkább korlátozó csoportot és ezt kell használni a keverék szállításához.

**2.2.61.1.9.3** Valamely keverék csak akkor sorolható a I csomagolási csoportba, ha mindkét következő kritériumot teljesíti:

- a) A folyékony keverék mintáját elpárologatjuk és levegővel hígítjuk  $1000 \text{ ml/m}^3$  elpárologatott keverék vizsgálati atmoszférát alakítva ki a levegőben. Tíz fehér patkányt (öt hím és öt nőstény) egy órán át kiteszünk a vizsgálati atmoszférának és tizennégy napon keresztül megfigyeljük azokat. Ha a tizennégy napos megfigyelési időszak alatt öt vagy több állat hullik el, a keverék feltételezetten  $1000 \text{ ml/m}^3$  vagy ennél kisebb  $LC_{50}$  értékkel rendelkezik.
- b) A folyékony keverékkel egyensúlyban levő gőzmintát 9-szeres levegőtérfogattal hígítjuk a vizsgálati atmoszféra kialakításához. Tíz fehér patkányt (öt hím és öt nőstény) egy órán át kiteszünk a vizsgálati atmoszférának és tizennégy napon keresztül megfigyeljük azokat. Ha a tizennégy napos megfigyelési időszak alatt öt vagy több állat hullik el, a keverék feltételezetten a keverék  $LC_{50}$  értékének 10-szeresével egyenlő vagy nagyobb illékonysággal rendelkezik.

**2.2.61.1.9.4** Valamely keverék csak akkor sorolható a II csomagolási csoportba, ha mindkét következő kritériumot teljesíti és a keverék nem elégti ki az I csomagolási csoportra vonatkozó kritériumokat:

- a) A folyékony keverék mintáját elpárologatjuk és levegővel hígítjuk  $3000 \text{ ml/m}^3$  elpárologatott keverék vizsgálati atmoszférát alakítva ki a levegőben. Tíz fehér patkányt (öt hím és öt nőstény) egy órán át kiteszünk a vizsgálati atmoszférának és tizennégy napon keresztül megfigyeljük azokat. Ha a tizennégy napos megfigyelési időszak alatt öt vagy több állat hullik el, a keverék feltételezetten  $3000 \text{ ml/m}^3$  vagy ennél kisebb  $LC_{50}$  értékkel rendelkezik.
- b) A folyékony keverékkel egyensúlyban levő gőzmintát használjuk a vizsgálati atmoszféra kialakításához. Tíz fehér patkányt (öt hím és öt nőstény) egy órán át kiteszünk a vizsgálati atmoszférának és tizennégy napon keresztül megfigyeljük azokat. Ha a tizennégy napos megfigyelési időszak alatt öt vagy több állat hullik el, a keverék feltételezetten a keverék  $LC_{50}$  értékével egyenlő vagy nagyobb illékonysággal rendelkezik.

**2.2.61.1.9.5** Valamely keverék csak akkor sorolható a III csomagolási csoportba, ha mindkét következő kritériumot teljesíti és a keverék nem elégti ki sem az I, sem a II csomagolási csoportra vonatkozó kritériumokat:

- a) A folyékony keverék mintáját elpárologatjuk és levegővel hígítjuk  $5000 \text{ ml/m}^3$  elpárologatott keverék vizsgálati atmoszférát alakítva ki a levegőben. Tíz fehér patkányt (öt hím és öt nőstény) egy órán át kiteszünk a vizsgálati atmoszférának és tizennégy napon keresztül megfigyeljük azokat. Ha a tizennégy napos megfigyelési időszak alatt öt vagy több állat hullik el, a keverék feltételezetten  $5000 \text{ ml/m}^3$  vagy ennél kisebb  $LC_{50}$  értékkel rendelkezik.
- b) A folyékony keverék gőzkoncentrációját megmérjük és ha a gőzkoncentráció 1000

ml/m<sup>3</sup>-rel egyenlő vagy annál nagyobb, az illékonyság feltételezeten a keverék  $LC_{50}$  értékének 1/5-ével egyenlő vagy annál nagyobb.

*A keverékek lenyelési és bőrön keresztüli mérgezőképességének meghatározására szolgáló módszerek*

**2.2.61.1.10** A keverékek 6.1 osztályba történő besorolásához és a megfelelő csomagolási csoport meghatározásához a lenyelési és bőrön keresztüli mérgezőképesség alapján (lásd a 2.2.61.1.3 pontot) meg kell határozni a keverék heveny  $LD_{50}$  értékét.

**2.2.61.1.10.1** Ha a keverék csak egy hatóanyagot tartalmaz, és ennek az  $LD_{50}$  értéke ismeretes, a szállítandó keverékre megbízható lenyelési vagy bőrön keresztüli heveny mérgezőképességi adatok hiányában a lenyelési  $LD_{50}$  érték a következő képlettel határozható meg:

$$a \text{ készítmény } LD_{50} \text{ értéke} = \frac{a \text{ hatóanyag } LD_{50} \text{ értéke} \times 100}{a \text{ hatóanyag tömegszázaléka}}.$$

**2.2.61.1.10.2** Ha a keverék egynél több hatóanyagot tartalmaz, három módszer lehetséges a keverék lenyelési vagy bőrön keresztüli  $LD_{50}$  értékének meghatározására. A legalkalmasabb módszer a szállítandó keverékre megbízható lenyelési vagy bőrön keresztüli mérgezőképességi adatok beszerzése. Ha megbízható, pontos adatok nem állnak rendelkezésre, akkor a következő módszerek valamelyike használható:

- A készítményt a keverék legveszélyesebb alkotórésze alapján soroljuk be, mintha ez az alkotórész olyan koncentrációban lenne jelen, mint az összes hatóanyag együttesen; vagy
- A következő képletet alkalmazzuk:

$$\frac{C_A}{T_A} + \frac{C_B}{T_B} + \dots + \frac{C_Z}{T_Z} = \frac{100}{T_M}$$

ahol:

$C$  = a keverékben az A, B, ... Z alkotórész %-os koncentrációja;

$T$  = az A, B, ... Z alkotórész lenyelési  $LD_{50}$  értéke;

$T_M$  = a keverék lenyelési  $LD_{50}$  értéke.

**Megjegyzés:** Ez a képlet használható a bőrön keresztüli mérgezőképesség meghatározásához is, amennyiben ez az információ ugyanarra a fajra vonatkozóan minden alkotórészre rendelkezésre áll. E képlet használata nem veszi figyelembe az erősítő vagy védő hatásokat.

*Peszticidek besorolása*

**2.2.61.1.11** Minden peszticid hatóanyagot és ezek készítményeit, amelyekre az  $LC_{50}$  és/vagy az  $LD_{50}$  érték ismeretes és amelyek a 6.1 osztályba vannak besorolva, a 2.2.61.1.6 – 2.2.61.1.9 pontban található kritériumok szerint kell a megfelelő csomagolási csoporthoz hozzárendelni. Azokat az anyagokat és készítményeket, amelyeknek járulékos veszélye van, a 2.1.3.10 bekezdésben található veszélyességi rangsor táblázat alapján kell besorolni és a megfelelő csomagolási csoporthoz hozzárendelni.

**2.2.61.1.11.1** Ha a peszticid készítmény lenyelési vagy bőrön keresztüli mérgezőképesség  $LD_{50}$  értéke nem ismeretes, de hatóanyagainak  $LD_{50}$  értéke ismeretes, akkor a készítmény  $LD_{50}$  értéke a 2.2.61.1.10 pontban leírt eljárás alkalmazásával határozható meg.

**Megjegyzés:** A használatos peszticidekre vonatkozóan  $LD_{50}$  mérgezőképességi adatok találhatóak a „WHO Ajánlás a peszticidek osztályozására veszélyességük alapján és az osztályozási irányelvek” kiadványban, amely az International

*Programme on Chemical Safety, World Health Organization (WHO), CH-1211 Geneva 27, Switzerland címen szerezhető be. Bár ez a dokumentum felhasználható a peszticidek LD<sub>50</sub> értékeinek forrásaként, ennek osztályozási rendszere nem használható a peszticidek szállítási besorolásához és a csomagolási csoportokhoz történő hozzárendeléséhez, azt az ADR előírásai szerint kell elvégezni.*

**2.2.61.1.11.2** A peszticid szállításánál használt helyes szállítási megnevezést a hatóanyag, a peszticid halmazállapota és a lehetséges járulékos veszélyek alapján kell megválasztani (lásd a 3.1.2 szakaszt).

**2.2.61.1.12** Ha a 6.1 osztály anyagai valamilyen adalékanyag hozzáadása révén eltérő veszélyességi kategóriákba kerülnek át, mint ahová 3.2 fejezet „A” táblázatában név szerint említett anyagok, ezeket a keverékeket vagy oldatokat azok alá a tételek alá kell besorolni, ahová tényleges veszélyességük mértéke alapján tartoznak.

*Megjegyzés: Az oldatok és keverékek (készítmények és hulladékok) besorolására lásd a 2.1.3 szakaszt is.*

**2.2.61.1.13** A 2.2.61.1.6 – 2.2.61.1.11 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett anyag vagy név szerint feltüntetett anyagot tartalmazó oldat vagy keverék természete olyan, hogy az oldat vagy keverék nem esik ezen osztály előírásainak hatálya alá.

**2.2.61.1.14** Azok az anyagok, oldatok és keverékek – kivéve a peszticidként használt anyagokat és készítményeket –, amelyek a módosított 67/548/EGK<sup>4)</sup> vagy az 1999/45/EK<sup>5)</sup> Irányelv kritériumai alapján, ezen irányelvek szerint nem számítanak nagyon mérgezőnek, mérgezőnek vagy ártalmasnak, a 6.1 osztályba nem tartozó anyagoknak tekinthetők.

**2.2.61.2** *A szállításból kizárt anyagok*

**2.2.61.2.1** A 6.1 osztály vegyileg nem állandó anyagai csak akkor adhatók át szállításra, ha megtették a szükséges intézkedéseket, hogy megakadályozzák a szállítás alatti veszélyes bomlásukat vagy polimerizációjukat. Ennek elérésére különösen azt kell biztosítani, hogy a tartályok, ill. tartányok ne tartsanak olyan anyag(ka)t, amelyek ilyen reakciókat okozhatnak.

**2.2.61.2.2** A következő anyagok a szállításból ki vannak zárva:

- azok a vízmentes vagy oldatban levő hidrogén-cianidok, amelyek nem felelnek meg az UN 1051, 1613, 1614 vagy 3294 tétel leírásának;
- a fém-karbonilok, amelyek lobbanáspontja 23 °C alatt van, az UN 1259 nikkel-tetra-karbonil és az UN 1994 vas-pentakarbonil kivételével;
- a 2,3,7,8-tetraklór-dibenzo-p-dioxin (TCDD) olyan koncentrációban, amely a 2.2.61.1.7 pontban foglalt feltételek alapján nagyon mérgező;
- az UN 2249 diklór-dimetil-éter, szimmetrikus;
- a foszfid készítmények a mérgező, gyúlékony gázok fejlődését gátló adalékok nélkül.

4) Az Európai Közösségek Tanácsának 1967. június 27-i 67/548/EGK Irányelve a tagállamok veszélyes anyagok osztályozására, csomagolására és címkézésére vonatkozó jogszabályainak és közigazgatási előírásainak közelítéséről (lásd az EK Hivatalos Lapja, L 196. szám, 1967.08.16.).

5) Az Európai Parlament és a Tanács 1999. május 31-i 1999/45/EK Irányelve a tagállamok veszélyes készítmények osztályozására, csomagolására és címkézésére vonatkozó jogszabályainak és közigazgatási előírásainak közelítéséről (lásd az EK Hivatalos Lapja, L 200. szám, 1999.07.30., p. 1-68.).

## 2.2.61.3 A gyűjtőmegnevezések felsorolása

| Járulékos veszély                        | Osztályozási kód                      | UN szám | Az anyag vagy tárgy megnevezése  |
|--|---------------------------------------|---------|--|
| Mérgező anyagok járulékos veszély nélkül |                                       |         |  |
| Szerves anyagok                          | folyékony T1<br>anyagok <sup>a)</sup> | 1583    | KLÓRPIKRIN KEVERÉK, M.N.N.   |
|  |                                       | 1602    | FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK, M.N.N. vagy   |
|  |                                       | 1602    | FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK INTERMEDIER, M.N.N.  |
|  |                                       | 1693    | FOLYÉKONY KÖNNYGÁZ ANYAG, M.N.N.   |
|  |                                       | 1851    | FOLYÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.   |
|  |                                       | 2206    | MÉRGEZŐ IZOCIANÁTOK, M.N.N. vagy   |
|  |                                       | 2206    | MÉRGEZŐ IZOCIANÁT OLDATOK, M.N.N.  |
|  |                                       | 3140    | FOLYÉKONY ALKALOIDÁK, M.N.N. vagy  |
|  |                                       | 3140    | FOLYÉKONY ALKALOIDA SÓK, M.N.N.  |
|  |                                       | 3142    | MÉRGEZŐ, FOLYÉKONY FERTŐTLENÍTŐSZER, M.N.N.  |
|  |                                       | 3144    | FOLYÉKONY NIKOTINVEGYÜLET, M.N.N. vagy   |
|  |                                       | 3144    | FOLYÉKONY NIKOTIN KÉSZÍTMÉNY, M.N.N.   |
|  |                                       | 3172    | ÉLŐ SZERVEZETEKBŐL KIVONT FOLYÉKONY TOXINOK, M.N.N.  |
|  |                                       | 3276    | FOLYÉKONY, MÉRGEZŐ NITRILEK, M.N.N.  |
|  |                                       | 3278    | FOLYÉKONY, MÉRGEZŐ, SZERVES FOSZFORVEGYÜLET, M.N.N.  |
|  |                                       | 3381    | BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa |
|  |                                       | 3382    | BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese |
|  |                                       | 2810    | SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   |
| Szerves szilárd anyagok <sup>a, b)</sup> | szilárd T2                            | 1544    | SZILÁRD ALKALOIDOK, M.N.N. vagy  |
|  |                                       | 1544    | SZILÁRD ALKALOIDA SÓK, M.N.N.  |
|  |                                       | 1601    | SZILÁRD, MÉRGEZŐ FERTŐTLENÍTŐSZER, M.N.N.  |
|  |                                       | 1655    | SZILÁRD NIKOTINVEGYÜLET, M.N.N. vagy   |
|  |                                       | 1655    | SZILÁRD NIKOTIN KÉSZÍTMÉNY, M.N.N.   |
|  |                                       | 3143    | MÉRGEZŐ, SZILÁRD SZÍNEZÉK, M.N.N. vagy   |
|  |                                       | 3143    | MÉRGEZŐ, SZILÁRD SZÍNEZÉK INTERMEDIER, M.N.N.  |
|  |                                       | 3249    | SZILÁRD, MÉRGEZŐ GYÓGYSZER, M.N.N.   |
|  |                                       | 3439    | SZILÁRD, MÉRGEZŐ NITRILEK, M.N.N.  |
|  |                                       | 3448    | SZILÁRD KÖNNYGÁZ ANYAG, M.N.N.   |
|  |                                       | 3462    | ÉLŐ SZERVEZETEKBŐL KIVONT SZILÁRD TOXINOK, M.N.N.  |
|  |                                       | 3464    | SZILÁRD, MÉRGEZŐ, SZERVES FOSZFORVEGYÜLET, M.N.N.  |
|  |                                       | 2811    | SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
| Szerves fémvegyületek <sup>c, d)</sup>   | T3                                    | 2026    | FENIL-HIGANY VEGYÜLET, M.N.N.  |
|  |                                       | 2788    | FOLYÉKONY, SZERVES ÓNVEGYÜLET, M.N.N.  |
|  |                                       | 3146    | SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N.  |
|  |                                       | 3280    | FOLYÉKONY, SZERVES ARZÉNVEGYÜLET, M.N.N.   |
|  |                                       | 3281    | FOLYÉKONY, FÉM-KARBONILEK, M.N.N.  |
|  |                                       | 3465    | SZILÁRD, SZERVES ARZÉNVEGYÜLET, M.N.N.   |
|  |                                       | 3466    | SZILÁRD, FÉM-KARBONILEK, M.N.N.  |
|  |                                       | 3282    | FOLYÉKONY, MÉRGEZŐ, SZERVES FÉMVEGYÜLET, M.N.N.  |
|  |                                       | 3467    | SZILÁRD, MÉRGEZŐ, SZERVES FÉMVEGYÜLET, M.N.N.  |
| Szervetlen anyagok                       | folyékony T4<br>anyagok <sup>e)</sup> | 1556    | FOLYÉKONY ARZÉNVEGYÜLET, M.N.N., szervetlen, beleértve: arzénátok, m.n.n.; arzenitek, m.n.n.; arzén-szulfidok, m.n.n.  |
|  |                                       | 1935    | CIANID OLDAT, M.N.N.   |
|  |                                       | 2024    | FOLYÉKONY HIGANYVEGYÜLET, M.N.N.   |
|  |                                       | 3141    | SZERVETLEN, FOLYÉKONY ANTIMONVEGYÜLET, M.N.N.  |
|  |                                       | 3440    | FOLYÉKONY SZELÉNVEGYÜLET, M.N.N.   |
|  |                                       | 3287    | SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.  |
|  |                                       | 3381    | BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa |
|  |                                       | 3382    | BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese |

| Járálekos veszély                                 | Osztályozási kód                 | UN szám                 | Az anyag vagy tárgy megnevezése  |  |   |  |
|---|----------------------------------|-------------------------|--|--|---|--|
| Mérgező anyagok járálekos veszély nélkül (folyt.) |                                  |                         |  |  |   |  |
|   | szilárd anyagok <sup>(f,g)</sup> | T5                      | 2570 KADMIUMVEGYÜLET<br>2630 SZELENÁTOK vagy<br>2630 SZELENITEK<br>1549 SZERVETLEN, SZILÁRD ANTIMONVEGYÜLET, M.N.N.<br>1557 SZILÁRD ARZÉNVEGYÜLET, M.N.N., szervetlen, beleértve: arzenátok, m.n.n.; arzenitek, m.n.n.; arzén-szulfidok, m.n.n.<br>1564 BÁRIUMVEGYÜLET, M.N.N.<br>1566 BERILLIUMVEGYÜLET, M.N.N.<br>1588 SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.<br>1707 TALLIUMVEGYÜLET, M.N.N.<br>2025 SZILÁRD HIGANYVEGYÜLET, M.N.N.<br>2291 OLDHATÓ ÓLOMVEGYÜLET, M.N.N.<br>2856 FLUORO-SZILIKÁTOK, M.N.N.<br>3283 SZILÁRD SZELENVEGYÜLET, M.N.N.<br>3284 TELLÚRVEGYÜLET, M.N.N.<br>3285 VANÁDIUMVEGYÜLET, M.N.N.<br>3288 SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N. |  |   |  |
|   |                                  | folyékony <sup>h)</sup> | T6   | 2992 FOLYÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID<br>2994 FOLYÉKONY, MÉRGEZŐ ARZÉN PESZTICID<br>2996 FOLYÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID<br>2998 FOLYÉKONY, MÉRGEZŐ TRIAZIN PESZTICID<br>3006 FOLYÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID<br>3010 FOLYÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID<br>3012 FOLYÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID<br>3014 FOLYÉKONY, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID<br>3016 FOLYÉKONY, MÉRGEZŐ BIPIRIDILIUM PESZTICID<br>3018 FOLYÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID<br>3020 FOLYÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID<br>3026 FOLYÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID<br>3348 FOLYÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID<br>3352 FOLYÉKONY, MÉRGEZŐ PIRETROID PESZTICID<br>2902 FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N. |   |  |
|   |                                  |                         | szilárd <sup>h)</sup>  | T7   | 2757 SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID<br>2759 SZILÁRD, MÉRGEZŐ ARZÉN PESZTICID<br>2761 SZILÁRD, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID<br>2763 SZILÁRD, MÉRGEZŐ TRIAZIN PESZTICID<br>2771 SZILÁRD, MÉRGEZŐ TIOKARBAMÁT PESZTICID<br>2775 SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ PESZTICID<br>2777 SZILÁRD, MÉRGEZŐ HIGANY ALAPÚ PESZTICID<br>2779 SZILÁRD, MÉRGEZŐ HELYETTESÍTETT NITROFENOL PESZTICID<br>2781 SZILÁRD, MÉRGEZŐ BIPIRIDILIUM PESZTICID<br>2783 SZILÁRD, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID<br>2786 SZILÁRD, MÉRGEZŐ SZERVES ÓN PESZTICID<br>3027 SZILÁRD, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID<br>3048 ALUMÍNÍUM-FOSZFID PESZTICID<br>3345 SZILÁRD, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID<br>3349 SZILÁRD, MÉRGEZŐ PIRETROID PESZTICID<br>2588 SZILÁRD, MÉRGEZŐ PESZTICID, M.N.N. |  |
|   |                                  |                         |  | Minták   | T8  | 3315 MÉRGEZŐ VEGYIANYAG MINTA                        |
|   |                                  |                         |  | Egyéb mérgező anyagok <sup>h)</sup>  | T9  | 3243 MÉRGEZŐ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N. |



**2.2.61.3 A gyűjtőmegnevezések felsorolása (folyt.)**

| Járáulékos veszély                    | Osztályozási kód          | UN szám | Az anyag vagy tárgy megnevezése  |   |                       |  |  |
|---------------------------------------|---------------------------|---------|--|---|-----------------------|--|--|
| Mérgező anyagok járáulékos veszéllyel |                           |         |  |   |                       |  |  |
| Gyúlékony                             | folyékony <sup>i,k)</sup> | TF1     | 3071 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy<br>3071 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N.<br>3080 MÉRGEZŐ, GYÚLÉKONY IZOCIANÁTOK, M.N.N. vagy<br>3080 MÉRGEZŐ, GYÚLÉKONY IZOCIANÁT OLDAT, M.N.N.<br>3275 MÉRGEZŐ, GYÚLÉKONY NITRILEK, M.N.N.<br>3279 MÉRGEZŐ, GYÚLÉKONY SZERVES FOSZFORVEGYÜLET, M.N.N.<br>3383 BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa<br>3384 BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese<br>2929 MÉRGEZŐ, FOLYÉKONY, GYÚLÉKONY, SZERVES ANYAG, M.N.N. |   |                       |  |  |
|                                       |                           | TF      | 2991 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KARBAMÁT PESZTICID<br>2993 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY ARZÉN PESZTICID<br>2995 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES KLÓRTARTALMÚ PESZTICID<br>2997 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TRIAZIN PESZTICID<br>3005 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TIOKARBAMÁT PESZTICID<br>3009 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY RÉZ ALAPÚ PESZTICID<br>3011 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HIGANY ALAPÚ PESZTICID<br>3013 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HELYETTESÍTETT NITRO-FENOL PESZTICID   |   |                       |  |  |
|                                       |                           |         | peszticidek (lobbanáspont legalább 23 °C)  | 3015 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY BIPYRIDILIUM PESZTICID<br>3017 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES FOSZFORTARTALMÚ PESZTICID<br>3019 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES ÓN PESZTICID<br>3025 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KUMARIN SZÁRMAZÉK PESZTICID<br>3347 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY FENOXI-ECETSAV SZÁRMAZÉK PESZTICID<br>3351 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PIRETROID PESZTICID<br>2903 FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PESZTICID, M.N.N. |                       |  |  |
|                                       |                           |         |  | szilárd   | TF3                   | 1700 KÖNNYŰGÁZ GYERTYÁK<br>2930 MÉRGEZŐ SZILÁRD, GYÚLÉKONY SZERVES ANYAG, M.N.N. |  |
|                                       |                           |         |  |   |                       |  |  |
|                                       |                           |         |  | Önmelegedő  |                       | TS   | 3124 ÖNMELEGEDŐ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
|                                       |                           |         |  | szilárd <sup>c)</sup>   |                       |  |  |
|                                       |                           |         |  | Vízrel reaktív <sup>d)</sup>  | folyékony             | TW1  | 3385 BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa<br>3386 BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese |
|                                       |                           |         |  |   |                       | TW   | 3123 VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   |
|                                       |                           |         |  |   | szilárd <sup>n)</sup> | TW2  | 3125 VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
|                                       |                           |         |  |   |                       |  |  |
| Gyújtó hatású <sup>i)</sup>           | folyékony                 | TO1     |  | 3387 BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa<br>3388 BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese    |                       |  |  |
|                                       |                           | TO      | 3122 GYÚJTÓ HATÁSÚ, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.  |   |                       |  |  |
|                                       | Szilárd                   | TO2     | 3086 GYÚJTÓ HATÁSÚ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.  |   |                       |  |  |
|                                       |                           |         |  |   |                       |  |  |

**2.2.61.3 A gyűjtőmegnevezések felsorolása (folyt.)**

| Járulékos veszély                             | Osztályozási kód | UN szám       | Az anyag vagy tárgy megnevezése  |
|---|------------------|---------------|--|
| Mérgező anyagok járulékos veszéllyel (folyt.) |                  |               |  |
| Maró <sup>(m)</sup>                           | szerves          | folyékony TC1 | 3277 MÉRGEZŐ, MARÓ KLÓR-FORMIÁTOK, M.N.N.  |
|   |                  |               | 3361 MÉRGEZŐ, MARÓ KLÓR-SZILÁNOK, M.N.N.   |
|   |                  |               | 3389 BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa   |
|   |                  |               | 3390 BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese   |
|   |                  |               | 2927 MARÓ, SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.  |
|   | szilárd TC2      |               | 2928 MARÓ, SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.  |
|   |                  |               |  |
|   | szervetlen       | folyékony TC3 | 3389 BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa   |
|   |                  |               | 3390 BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese   |
|   |                  |               | 3289 MARÓ, SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   |
|   |                  | szilárd TC4   | 3290 MARÓ, SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
| Gyúlékony, maró                               | TFC              |               | 2742 MÉRGEZŐ, MARÓ, GYÚLÉKONY KLÓR-FORMIÁTOK, M.N.N.   |
|   |                  |               | 3362 MÉRGEZŐ, MARÓ, GYÚLÉKONY KLÓR-SZILÁNOK, M.N.N.<br>(Ilyen osztályozási kóddal nincs más gyűjtőmegnevezés. Ha szükséges, a 2.1.3.10 bekezdés veszélyességi rangsor táblázata alapján meghatározandó, másik osztályozási kód valamely gyűjtőmegnevezése alá kell sorolni.) |

**Megjegyzés:**

- A peszticidként használt, alkaloidokat vagy nikotint tartalmazó anyagokat és készítményeket az UN 2588 szilárd, mérgező peszticid, m.n.n., a 2902 folyékony, mérgező peszticid, m.n.n. vagy a 2903 folyékony, mérgező, gyúlékony peszticid, m.n.n. tétel alá kell besorolni.
- A laboratóriumi vagy kísérleti célokra, valamint gyógyszerészeti termékek gyártására használt hatóanyagokat, ill. ezek más anyagokkal alkotott finom porát (tritúrátumát) és keverékét mérgezőképességük alapján kell besorolni (lásd 2.2.61.1.7 – 2.2.61.1.11).
- Az enyhén mérgező, önmelegedő anyagok és az öngyulladó szerves fémvegyületek a 4.2 osztály anyagai.
- Az enyhén mérgező, vízzel reaktív anyagok és a vízzel reaktív szerves fémvegyületek a 4.3 osztály anyagai.
- A higany-fulminát legalább 20 tömeg% vízzel (vagy víz és alkohol keverékével) nedvesítve az 1 osztály UN 0135 számú anyaga.
- A ferri-cianidok, a ferro-cianidok és az alkáli-tiocianátok nem esnek az ADR előírásainak hatálya alá.
- Azok az ólomsók és ólompigmentek, amelyek a 0,07 M sósavoldattal 1:1000 arányban vegyítve, 23 °C ± 2 °C-on történő, egy órán keresztül tartó keverés után legfeljebb 5%-ban oldódnak, nem tartoznak az ADR előírásainak hatálya alá.
- Az ilyen peszticiddal átitatott tárgyak, mint pl. papírtányérok, papírszalagok, vattacsomók, műanyag lapok stb. légmentesen zárt burkolatban nem tartoznak az ADR előírásainak hatálya alá.
- Az ADR előírásainak hatálya alá nem tartozó szilárd anyagok és mérgező folyékony anyagok keverékei az UN 3243 tétel alatt szállíthatók anélkül, hogy a 6.1 osztály besorolási kritériumait alkalmazni kellene, amennyiben az anyag berakodása során, ill. a csomagolóeszköz, a konténer vagy a jármű lezárása során szabad folyadék



*szemmel nem látható. Minden csomagolóeszköznek meg kell felelni a gyártási mintának, ami sikeresen elviselte a II csomagolási csoportra vonatkozó tömörségi próbát. Ez a tétel nem használható az I csomagolási csoportba tartozó folyadékot tartalmazó szilárd anyagokhoz.*

- j) A nagyon mérgező vagy mérgező, gyúlékony, folyékony anyagok 23 °C alatti lobbanásponttal – az UN 1051, 1092, 1098, 1143, 1163, 1182, 1185, 1238, 1239, 1244, 1251, 1259, 1613, 1614, 1695, 1994, 2334, 2382, 2407, 2438, 2480, 2482, 2484, 2485, 2606, 2929, 3279 és 3294 szám alá tartozó, belélegzés esetén nagyon mérgező anyagok kivételével – a 3 osztály anyagai.*
- k) Azok a gyúlékony folyékony anyagok, amelyek enyhén mérgezőek, a peszticidként használt anyagok és készítmények kivételével, 23 °C és 60 °C közötti lobbanásponttal a 3 osztály anyagai.*
- l) Az enyhén mérgező, gyújtó hatású anyagok az 5.1 osztály anyagai.*
- m) Az enyhén mérgező és gyengén maró anyagok a 8 osztály anyagai.*
- n) Az UN 1360, 1397, 1432, 1714, 2011 és 2013 szám alá besorolt fémfoszfidok a 4.3 osztály anyagai.*

**2.2.62 6.2 osztály Fertőző anyagok****2.2.62.1 Kritériumok**

**2.2.62.1.1** A 6.2 osztály fogalmkörébe a fertőző anyagok tartoznak. Az ADR értelmében a fertőző anyagok olyan anyagok, amelyekről ismert vagy okkal feltételezhető, hogy kórokozókat tartalmaznak. A kórokozók olyan mikroorganizmusok (beleértve a baktériumokat, vírusokat, rickettsiákat, parazitákat, gombákat) és más hatóanyagok, pl. a prionok, amelyek képesek ember vagy állat megbetegedését okozni.

**Megjegyzés:** 1. A géntechnológiával módosított mikroorganizmusokat és élő szervezeteket, biológiai termékeket, diagnosztikai mintákat és fertőzött élő állatokat ebbe az osztályba kell besorolni, ha kielégítik ennek az osztálynak a feltételeit.

2. Azok a növényi, állati vagy baktérium forrásokból származó toxinok, amelyek nem tartalmaznak semmiféle fertőző anyagot vagy élő szervezetet, vagy nem fertőző anyagban vagy élő szervezetben vannak, a 6.1 osztály UN 3172 vagy UN 3462 szám alá tartozó anyagok.

**2.2.62.1.2** A 6.2 osztály anyagai a következők szerint vannak csoportosítva:

- I1 Emberekre ártalmas, fertőző anyagok
- I2 Csak állatokra ártalmas, fertőző anyagok
- I3 Kórházi hulladék
- I4 Biológiai anyagok.

**Fogalm meghatározások**

**2.2.62.1.3** Az ADR alkalmazásában:

*Biológiai termékek* azok a termékek, amelyeket élő szervezetekből az illetékes nemzeti közegészségügyi hatóságok előírásai szerint – szükség esetén az ilyen hatóságok speciális engedélyével – gyártanak és forgalmazznak, és a humán- vagy állatgyógyászatban megelőzésre, kezelésre vagy diagnosztizálásra vagy ezekkel kapcsolatos kutatásra, kísérleti vagy vizsgálati célokra szolgálnak. A teljesség igénye nélkül ide tartoznak a félkész vagy kész termékek, pl. a vakcinák.

A *tenyészet* olyan eljárás eredménye, amely által a kórokozókat szándékosan szaporítják. Ez a meghatározás nem terjed ki az e pontban meghatározott, betegtől származó mintára.

A *géntechnológiával módosított mikroorganizmusok és élő szervezetek* olyan mikroorganizmusok és élő szervezetek, amelyek genetikai anyagát szándékosan, gén-sebészeti beavatkozással úgy változtatták meg, ami a természetben nem fordul elő.

A *gyógyászati vagy kórházi hulladékok* az állatok vagy emberek gyógykezeléséből vagy biológiai kísérletekből származó hulladékok.

A *betegtől származó minta* olyan, közvetlenül emberből vagy állatból levett anyag, beleértve többek között a váladékot, székletet, vért és alkotóelemeit, szövetmintákat, testnedveket, keneteket, valamint testrészeket, amelyet kutatás, vizsgálat, kórmeghatározás, gyógykezelés vagy kórmegelőzés céljából szállítanak.

**Besorolás**

**2.2.62.1.4** A fertőző anyagokat a 6.2 osztályba, az UN 2814, az UN 2900, az UN 3291, ill. az UN 3373 tételekhez kell sorolni.

A fertőző anyagok a következő kategóriákra vannak felosztva:

**2.2.62.1.4.1** „A” kategória: Olyan fertőző anyag, amelyet olyan formában szállítanak, hogy kitétel esetén képes – egyébként egészséges – emberben vagy állatban tartós

egészségkárosodást, életveszélyes vagy halálos megbetegedést okozni. Az e kritériumot kielégítő anyagokra\* tájékoztató példák találhatóak az ebben a bekezdésben levő táblázatban.

**Megjegyzés:** *Kitétel az, ha egy fertőző anyag a védőcsomagolásból kiszabadul és ennek eredményeként emberrel vagy állattal fizikai kapcsolatba kerül.*

- a) Azokat a fertőző anyagokat, amelyek ezeket a kritériumokat kielégítik és csak emberi, vagy emberi és állati megbetegedést okoznak, az UN 2814 tételhez kell besorolni. Azokat a fertőző anyagokat, amelyek csak állati megbetegedést okoznak, az UN 2900 tételhez kell besorolni;
- b) Az UN 2814, ill. az UN 2900 tételhez történő besorolást a páciens, ill. az állat ismert kórtörténetére, a helyi járvány körülményekre, a páciens, ill. az állat tüneteire vagy a páciens, ill. az állat egyedi körülményeinek szakszerű megítélésére kell alapozni.

**Megjegyzés: 1.** *Az UN 2814 tétel esetében a helyes szállítási megnevezés „EMBEREKRE ÁRTALMAS FERTŐZŐ ANYAG”. Az UN 2900 tétel esetében a helyes szállítási megnevezés „csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG”.*

2. *A következő táblázat felsorolása nem teljes. Azokat a fertőző anyagokat, beleértve az új vagy kialakult patogéneket, amelyek nem szerepelnek a táblázatban, de ugyanazon kritériumoknak megfelelnek, szintén az „A” kategóriába kell besorolni. Ezenkívül, ha egy anyag esetében kétséges, hogy kielégíti-e a kritériumokat, akkor az „A” kategóriába kell besorolni.*
3. *A következő táblázatban a dőlt betűvel szedett mikroorganizmusok baktériumok, mikoplazmák, rickettsiák vagy gombák.*

Tájékoztató példák az „A” kategóriába tartozó anyagokra, amelyek minden formájukban ebbe a kategóriába tartoznak – kivéve, ha másként van jelölve (lásd 2.2.62.1.4.1)

| UN szám és megnevezés                       | Mikroorganizmus   |
|---|---|
| UN 2814<br>Emberekre ártalmas fertőző anyag | <i>Bacillus anthracis</i> (csak ha tenyészet)<br><i>Brucella abortus</i> (csak ha tenyészet)<br><i>Brucella melitensis</i> (csak ha tenyészet)<br><i>Brucella suis</i> (csak ha tenyészet)<br><i>Burkholderia mallei</i> - <i>Pseudomonas mallei</i> - takonykór (csak ha tenyészet)<br><i>Burkholderia pseudomallei</i> - <i>Pseudomonas pseudomallei</i> (csak ha tenyészet)<br><i>Chlamydia psittaci</i> - madár törzsek (csak ha tenyészet)<br><i>Clostridium botulinum</i> (csak ha tenyészet)<br><i>Coccidioides immitis</i> (csak ha tenyészet)<br><i>Coxiella burnetii</i> (csak ha tenyészet)<br>Krími-kongói haemorrhagiás láz vírus<br>Dengue vírus (csak ha tenyészet)<br>Keleti ló encephalitis vírus (csak ha tenyészet)<br><i>Escherichia coli</i> , verotoxigén (csak ha tenyészet) <sup>a)</sup> |

\* Magyarországon lásd még a 61/1999.(XII.1.)EüM rendelet 3. számú mellékletét.

| UN szám és megnevezés   | Mikroorganizmus  |
|---|--|
| UN 2814<br>Emberekre<br>ártalmas<br>fertőző anyag<br>(folyt.) | <p>Ebola vírus</p> <p>Flexal vírus</p> <p><i>Francisella tularensis</i> (csak ha tenyészet)</p> <p>Guanarito vírus</p> <p>Hantaan vírus</p> <p>Hantavírus, amely vesetünetekkel járó haemorrhagiás lázat okoz</p> <p>Hendra vírus</p> <p>Hepatitis B vírus (csak ha tenyészet)</p> <p>Herpes B vírus (csak ha tenyészet)</p> <p>Humán immunhiány vírus (csak ha tenyészet)</p> <p>Erősen patogén madárinfluenza vírus (csak ha tenyészet)</p> <p>Japán encephalitis vírus (csak ha tenyészet)</p> <p>Junin vírus</p> <p>Kyasanur erdei betegség vírus</p> <p>Lassa vírus</p> <p>Machupo vírus</p> <p>Marburg vírus</p> <p>Majomhimlő vírus</p> <p><i>Mycobacterium tuberculosis</i> (csak ha tenyészet)<sup>a)</sup></p> <p>Nipah vírus</p> <p>Omszki haemorrhagiás láz vírus</p> <p>Poliovírus (csak ha tenyészet)</p> <p>Veszétség vírus (csak ha tenyészet)</p> <p><i>Rickettsia prowazekii</i> (csak ha tenyészet)</p> <p><i>Rickettsia rickettsii</i> (csak ha tenyészet)</p> <p>Rift-völgyi láz vírus (csak ha tenyészet)</p> <p>Orosz tavaszi-nyári encephalitis vírus (csak ha tenyészet)</p> <p>Sabia vírus</p> <p><i>Shigella dysenteriae</i> 1 típus (csak ha tenyészet)<sup>a)</sup></p> <p>Kullancs hordozta encephalitis vírus (csak ha tenyészet)</p> <p>Himlő vírus</p> <p>Venezuelai ló encephalitis vírus (csak ha tenyészet)</p> <p>Nyugat-nílusi vírus (csak ha tenyészet)</p> <p>Sárgaláz vírus (csak ha tenyészet)</p> <p><i>Yersinia pestis</i> (csak ha tenyészet)</p> |
| UN 2900<br>Csak állatokra<br>ártalmas<br>fertőző anyag        | <p>Afrikai sertésláz vírus (csak ha tenyészet)</p> <p>Madár paramyxovírus 1 típus - velogén Newcastle-betegség (baromfipestis) vírus (csak ha tenyészet)</p> <p>Klasszikus sertésláz vírus (csak ha tenyészet)</p> <p>Száj- és körömfájás vírus (csak ha tenyészet)</p> <p>Lumpy skin disease vírus (csak ha tenyészet)</p> <p><i>Mycoplasma mycoides</i> - fertőző szarvasmarha tüdő- és mellhártyagyulladás (csak ha tenyészet)</p> <p>Kis termetű kórödző pestis vírus (csak ha tenyészet)</p> <p>Marhavész vírus (csak ha tenyészet)</p>   |

| UN szám és megnevezés  | Mikroorganizmus   |
|--|---|
| UN 2900<br>Csak állatokra ártalmas fertőző anyag<br>(folyt.) | Juhhimlő vírus (csak ha tenyészet)<br>Kecskehimlő vírus (csak ha tenyészet)<br>Sertés hólyaggyulladás vírus (csak ha tenyészet)<br>Hólyagos szájgyulladás vírus (csak ha tenyészet) |

a) A diagnosztikai és a klinikai célú tenyészeteket „B” kategóriájú fertőző anyagnak is be lehet sorolni.

**2.2.62.1.4.2 „B” kategória:** Olyan fertőző anyag, amely nem elégíti ki az „A” kategóriába történő besorolás kritériumait. A „B” kategóriába tartozó fertőző anyagokat az UN 3373 tételhez kell besorolni.

**Megjegyzés:** Az UN 3373 tétel esetében a helyes szállítási megnevezés: „B” KATEGÓRIÁJÚ BIOLÓGIAI ANYAG.

**2.2.62.1.5 Kivételek**

**2.2.62.1.5.1** Azok az anyagok, amelyek nem tartalmaznak fertőző anyagokat, vagy amelyek nem valószínű, hogy emberi vagy állati megbetegedést okoznak, nem tartoznak az ADR előírásainak hatálya alá, ha egyetlen más osztályba sorolás feltételeit sem elégítik ki.

**2.2.62.1.5.2** Az emberi vagy állati megbetegedést nem okozó mikroorganizmust tartalmazó anyagok nem tartoznak az ADR előírásainak hatálya alá, ha egyetlen más osztályba sorolás feltételeit sem elégítik ki.

**2.2.62.1.5.3** Azok az anyagok, amelyekben a bennük lévő kórokozók olyan módon vannak semlegesítve vagy inaktíválva, hogy már nem jelentenek egészségi kockázatot, nem tartoznak az ADR előírásainak hatálya alá, ha egyetlen más osztályba sorolás feltételeit sem elégítik ki.

**2.2.62.1.5.4** Azok az anyagok (ideértve az élelmiszer- és a vízmintákat is), amelyekben a kórokozók koncentrációja természetesen előforduló szinten van és a fertőzési kockázatuk nem tekinthető jelentősnek, nem tartoznak az ADR előírásainak hatálya alá, ha egyetlen más osztályba sorolás feltételeit sem elégítik ki.

**2.2.62.1.5.5** A felszívóanyagra csöppentett, megszáradt vér, a belső vérzés megállapítására szolgáló székletminta, a vérátömlesztés céljából vagy szervátültetéshez, ill. vérátömlesztéshez használt vérkészítmények előállítás céljából gyűjtött vér és vér alkotórészek, valamint a szervátültetésre szolgáló szövetek és szervek nem tartoznak az ADR előírásainak hatálya alá.

**2.2.62.1.5.6** Azok az emberi, ill. állati minták, amelyeknél elenyésző annak a valószínűsége, hogy kórokozókat tartalmaznak, nem tartoznak az ADR előírásainak hatálya alá, ha olyan csomagolásban szállítják, amely megakadályozza, hogy kiszivárognak, és az **„emberi minta, az ADR/RID egyéb előírásainak betartása nélkül szállítható”, ill. „állati minta, az ADR/RID egyéb előírásainak betartása nélkül szállítható”** felirattal meg vannak jelölve.

A csomagolás akkor elégíti ki az előző követelményt, ha megfelel a következőknek:

- a) A csomagolásnak három részből kell állnia:
- szivárgásmentes elsődleges tartály(ok)ból;
  - szivárgásmentes másodlagos csomagolásból; és
  - olyan külső csomagolásból, amely úrtartalmának, tömegének és rendeltetésének megfelelően erős, és legalább egy oldalfelületének mérete legalább 100 mm × 100 mm;

- b) Folyadékok esetén az elsődleges tartály(ok) és a másodlagos csomagolás közé az elsődleges tartály(ok) teljes tartalmának felszívására elegendő nedvszívó párnázóanyagot kell helyezni, hogy a folyékony anyag a szállítás során történő kiszabadulása vagy kiszivárgása esetén ne érhesse el a külső csomagolást, ill. ne okozza sem a párnázóanyag, sem a külső csomagolás sérülését;
- c) Amennyiben több törékeny elsődleges tartály van elhelyezve egyetlen másodlagos csomagolásban, úgy ezeket egyenként be kell burkolni vagy úgy kell elválasztani egymástól, hogy ne érintkezessenek egymással.

**Megjegyzés:1.** *Annak eldöntését, hogy valamely anyag ezen alpont alapján kivételnek számít-e a páciens, ill. az állat ismert kórtörténetének, tüneteinek, egyedi körülményeinek és a helyi járvány körülményeknek a szakszerű megítélésére kell alapozni. Az ezen alpont szerint szállítható minta lehet pl.*

- a koleszterinszint, vércukorszint, hormonszint, prosztata specifikus antitestek (PSA) meghatározására szolgáló vér- és vizeletminta;
- a nemfertőző emberi vagy állati betegségekben a szív-, máj-, vesefunkció vagy terápiás célú gyógyszer szint meghatározásához szükséges minta;
- a biztosítás körénél vagy foglalkoztatáskor szükséges, kábítószer vagy alkohol kimutatására szolgáló minta
- a terhesség kimutatására szolgáló minta;
- a rák kimutatása céljából vett szövettani minta; és
- emberben vagy állatban lévő antitestek kimutatására szolgáló minta fertőzésre utaló gyanú nélkül (pl. oltóanyaggal létrehozott immunitás értékelése, autoimmun betegségek kórmeghatározása, stb).

**2.** *Légi szállítás esetén az e pont szerint kivételnek számító minták csomagolóeszközeinek meg kell felelniük az a) – c) pontok feltételeinek.*

#### 2.2.62.1.6 –

#### 2.2.62.1.8 (fenntartva)

#### 2.2.62.1.9 *Biológiai termékek*

Az ADR alkalmazásában a biológiai termékek a következő csoportokra vannak osztva:

- a) olyan termékek, amelyeket az illetékes hatóságok követelményei szerint állítanak elő és csomagolnak be, és végső csomagolás (kiszerezés), illetve elosztás céljából szállítanak, hivatásos egészségügyi személyzet vagy magánszemély által történő egyéni gyógykezelés céljára. Az ebbe a csoportba tartozó anyagok nem tartoznak az ADR előírásainak hatálya alá;
- b) olyan termékek, amelyek nem elégitik ki előző a) pont kritériumait, és amelyekről ismert vagy okkal feltételezhető, hogy fertőző anyagot tartalmaznak, és az „A” vagy a „B” kategóriába való feltételeknek megfelelnek. Az ebbe a csoportba tartozó anyagokat az UN 2814, az UN 2900, ill. az UN 3373 tételhez kell besorolni.

**Megjegyzés:** *Egyes engedélyezett biológiai termékek csak a világ egyes részein képezhetnek biológiai veszélyt. Ilyen esetben az illetékes hatóság előírhatja, hogy ezek a biológiai termékek feleljenek meg a fertőző anyagokra vonatkozó követelményeknek vagy egyéb korlátozásokat foganatosíthat.*

#### 2.2.62.1.10 *Génteknológiával módosított mikroorganizmusok és élő szervezetek*

Azokat a génteknológiával módosított mikroorganizmusokat, amelyek nem elégitik ki a fertőző anyagok meghatározását, a 2.2.9 szakasz szerint kell besorolni.

#### 2.2.62.1.11 *Gyógyászati vagy kórházi hulladék*

#### 2.2.62.1.11.1 *Azokat a gyógyászati vagy kórházi hulladékokat, amelyek az „A” kategóriába tartozó fertőző anyagot tartalmaznak, az UN 2814, ill. az UN 2900 tételhez kell besorolni. Azokat a gyógyá-*



szati vagy kórházi hulladékokat, amelyek a „B” kategóriába tartozó fertőző anyagot tartalmaznak, az UN 3291 tételhez kell besorolni.

**Megjegyzés:** Ezen előírások szerint kell besorolni a Bizottság 2000/532/EK<sup>6)</sup> módosított határozata mellékletét képező hulladékjegyzék szerinti 18 01 03 számú (Emberek, illetve állatok egészségügyi ellátásból és/vagy az azzal kapcsolatos kutatásból származó hulladékok – szülészeti, illetve az emberi betegségek diagnosztizálásából, kezeléséből, illetve megelőzéséből származó hulladékok – egyéb hulladékok, amelyek gyűjtése és ártalmatlanítása speciális követelményekhez kötött a fertőzések elkerülése érdekében) és a 18 02 02 számú (Emberek, illetve állatok egészségügyi ellátásból és/vagy az azzal kapcsolatos kutatásból származó hulladékok – állatbetegségek kutatásából, diagnosztizálásából, kezeléséből, illetve megelőzéséből származó hulladékok – egyéb hulladékok, amelyek gyűjtése és ártalmatlanítása speciális követelményekhez kötött a fertőzések elkerülése érdekében) gyógyászati vagy klinikai hulladékokat a páciens, ill. az állat orvosi, ill. állatorvosi diagnózisa alapján.

- 2.2.62.1.11.2** Azokat a gyógyászati vagy kórházi hulladékokat, amelyekről okkal feltételezhető, hogy csekély annak a valószínűsége, hogy fertőző anyag(ka)t tartalmaznak, az UN 3291 tételhez kell besorolni. A besoroláshoz a nemzetközi, regionális vagy belföldi hulladék jegyzékek is figyelembe vehetők.

**Megjegyzés:** 1. Az UN 3291 szám esetében a helyes szállítási megnevezés:

„NEM SPECIFIKÁLT KÓRHÁZI HULLADÉK M.N.N.” vagy „(BIO)GYÓGYÁSZATI HULLADÉK, M.N.N.” vagy „SZABÁLYOZOTT GYÓGYÁSZATI HULLADÉK, M.N.N.”

2. Az előző besorolási kritériumokkal ellentétben nem tartoznak az ADR hatálya alá a Bizottság 2000/532/EK<sup>6)</sup> módosított határozata mellékletét képező hulladékjegyzék szerinti 18 01 04 számú (Emberek, illetve állatok egészségügyi ellátásból és/vagy az azzal kapcsolatos kutatásból származó hulladékok – szülészeti, illetve az emberi betegségek diagnosztizálásából, kezeléséből, illetve megelőzéséből származó hulladékok – hulladékok, amelyek gyűjtése és ártalmatlanítása nem kötött speciális követelményekhez a fertőzések elkerülése érdekében) és a 18 02 03 számú (Emberek, illetve állatok egészségügyi ellátásból és/vagy az azzal kapcsolatos kutatásból származó hulladékok – állatbetegségek kutatásából, diagnosztizálásából, kezeléséből, illetve megelőzéséből származó hulladékok – hulladékok, amelyek gyűjtése és ártalmatlanítása nem kötött speciális követelményekhez a fertőzések elkerülése érdekében) gyógyászati vagy klinikai hulladékok.

- 2.2.62.1.11.3** Azok a fertőtlenített gyógyászati vagy kórházi hulladékok, amelyek korábban fertőző anyag(ka)t tartalmaztak, nem tartoznak az ADR előírásainak hatálya alá, ha egyetlen más osztályba való besorolás kritériumát sem elégtik ki.

- 2.2.62.1.11.4** Az UN 3291 szám alá besorolt gyógyászati vagy kórházi hulladékok a II csomagolási csoporthoz vannak hozzárendelve.

6) A Bizottság 2000/532/EK határozata (2000. május 3.) a hulladékjegyzéknek a hulladékokról szóló 75/442/EGK tanácsi irányelv [felváltotta a 2006/12/EK parlamenti és tanácsi irányelv (az EK Hivatalos Lapja L 114 szám, 2006. 04. 27., 9. oldal)] 1. cikkének a) pontja értelmében történő meghatározásáról szóló 94/3/EK határozat, valamint a veszélyes hulladékok jegyzékének a veszélyes hulladékokról szóló 91/689/EGK tanácsi irányelv 1. cikkének (4) bekezdése értelmében történő meghatározásáról szóló 94/904/EK tanácsi határozat felváltásáról (az EK Hivatalos Lapja, L 226 szám, 2000. 09. 06., 3. o.) Magyarországon lásd még a 16/2001. (VII. 18.) KöM rendeletet a hulladékok jegyzékéről.

**2.2.62.1.12 Fertőzőtt állatok**

**2.2.62.1.12.1** Élő állatok fertőző anyag szállítására nem használhatók, kivéve, ha az anyag más módon nem szállítható. Azokat az élő állatokat, amelyeket szándékosan megfertőztek vagy amelyekről ismert vagy gyanítható, hogy fertőző anyagot tartalmaznak, csak az illetékes hatóság által előírt feltételek<sup>7)</sup> szerint lehet szállítani.

**2.2.62.1.12.2** Az „A” kategóriájú kórokozókkal, ill. a csak tenyészet esetén „A” kategóriába sorolandó kórokozókkal fertőzőtt állati eredetű anyagokat az UN 2814, ill. az UN 2900 tétel alá kell sorolni. A „B” kategóriájú kórokozókkal – kivéve azokat a kórokozókat, amelyek tenyészet esetén „A” kategóriába sorolandók – fertőzőtt állati eredetű anyagokat az UN 3373 tétel alá kell sorolni.

**2.2.62.2 A szállításból kizárt anyagok**

Gerinces vagy gerinctelen élő állatok fertőző anyagok szállítására nem használhatók, hacsak az anyag más módon nem szállítható, ill. a szállítást az illetékes hatóság jóvá nem hagyta (lásd a 2.2.62.1.12.1 pontot).

**2.2.62.3 A gyűjtőmegnevezések felsorolása**

|                                 | Osztályozási kód | UN szám | Az anyag vagy tárgy megnevezése               |
|---------------------------------|------------------|---------|---|
| Fertőző anyagok                 |                  |         |   |
| Emberekre ártalmas anyagok      | I1               | 2814    | EMBEREKRE ÁRTALMAS FERTŐZŐ ANYAG              |
| Csak állatokra ártalmas anyagok | I2               | 2900    | csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG         |
| Kórházi hulladék                | I3               | 3291    | NEM SPECIFIKÁLT KÓRHÁZI HULLADÉK, M.N.N. vagy |
|                                 |                  | 3291    | (BIO)GYÓGYÁSZATI HULLADÉK, M.N.N. vagy        |
|                                 |                  | 3291    | SZABÁLYOZOTT GYÓGYÁSZATI HULLADÉK, M.N.N,     |
| Biológiai anyagok               | I4               | 3373    | „B” KATEGÓRIÁJÚ BIOLÓGIAI ANYAG               |

7) Az élő állatok szállítását szabályozó előírásokat tartalmaz pl. a 91/628/EGK irányelv az állatok szállítás közbeni védelméről (az EK Hivatalos Lapja L 340. szám, 1991. 12. 11., 17. old.) és az Európa Tanács (Miniszteri Bizottság) Ajánlásai egyes állatfajok szállítására. Magyarországon lásd még a 52/2003. (VIII. 15.) GKM-FVM együttes rendeletet.



**2.2.7 7 osztály Radioaktív anyagok****2.2.7.1 Fogalommeghatározás**

**2.2.7.1.1** **Radioaktív anyag** minden olyan anyag, amely radionuklidokat tartalmaz és mind az aktivitás koncentráció, mind a küldemény teljes aktivitása nagyobb, mint a 2.2.7.2.2.1 – 2.2.7.2.2.6 pontban meghatározott érték.

**2.2.7.1.2 Szennyezettség**

**Szennyezettségen** értendő valamely radioaktív anyag jelenléte egy felületen  $0,4 \text{ Bq/cm}^2$ -nél nagyobb mennyiségben béta-, gamma-sugárzók és csekély toxicitású alfa-sugárzók esetén, vagy  $0,04 \text{ Bq/cm}^2$ -nél nagyobb mennyiségben minden más alfa-sugárzó esetén.

**Nem tapadó szennyezettség** az olyan szennyezettség, amely rendes kezelési feltételek között a felületről eltávolítható.

**Tapadó szennyezettség** a nem tapadó szennyezettség kivételével minden más szennyezettség.

**2.2.7.1.3 Különleges fogalmak meghatározása** **$A_1$  és  $A_2$** 

$A_1$ -en a különleges formájú radioaktív anyagok azon aktivitása értendő, amely a 2.2.7.2.2.1 táblázatban fel van tüntetve vagy a 2.2.7.2.2.2 pont szerint van levezetve és az ADR előírásaihoz az aktivitás határok megállapítására használatos.

$A_2$ -n a különleges formájú radioaktív anyagoktól eltérő, más radioaktív anyagok azon aktivitása értendő, amely a 2.2.7.2.2.1 táblázatban fel van tüntetve vagy a 2.2.7.2.2.2 pont szerint van levezetve, és az ADR előírásaihoz az aktivitás határok megállapítására használatos.

**A besugárzatlan tórium** olyan tórium, amely 232-tórium grammonként legfeljebb  $10^{-7} \text{ g}$  233-uránt tartalmaz.

**A besugárzatlan urán** olyan urán, amely 235-urán grammonként legfeljebb  $2 \cdot 10^3 \text{ Bq}$  plutóniumot, 235-urán grammonként legfeljebb  $9 \cdot 10^6 \text{ Bq}$  hasadási terméket és 235-urán grammonként legfeljebb  $5 \cdot 10^{-3} \text{ g}$  236-uránt tartalmaz.

**Csekély toxicitású alfa-sugárzók:** természetes urán, szegényített urán, természetes tórium, 235-urán vagy 238-urán, 232-tórium, 228-tórium és 230-tórium, ha ezeket ércet vagy fizikai vagy kémiai koncentrátumok tartalmazzák; és a 10 napnál rövidebb felezési idejű alfa-sugárzók.

**Hasadóanyagok** a következők: 233-urán, 235-urán, 239-plutónium, 241-plutónium és ezen radionuklidok minden keveréke. Nem tartozik e meghatározás alá:

- a besugárzatlan természetes urán vagy szegényített urán, és
- az olyan természetes vagy szegényített urán, amit csak termikus reaktorokban sugároztak be.

**Kis fajlagos aktivitású (LSA) anyag:** Olyan radioaktív anyag, amelynek fajlagos aktivitása természeténél fogva korlátozott, vagy olyan radioaktív anyag, amelyre becsült közepes fajlagos aktivitás határérték vonatkozik. Az LSA anyagot körülvevő árnyékoló anyagot a becsült közepes fajlagos aktivitás meghatározásánál nem szabad figyelembe venni.

**A kis mértékben diszpergálódó radioaktív anyag** olyan szilárd radioaktív anyag vagy kapszulába zárt szilárd radioaktív anyag, amelynek diszpergálódási képessége korlátozott és nem por formájú.

**Különleges formájú (special form) radioaktív anyag:**

- a) szétterjedésre nem képes szilárd radioaktív anyagot; vagy
- b) radioaktív anyagot tartalmazó, tömören lezárt kapszulát jelent.

**Low specific activity (LSA):** lásd **kis fajlagos aktivitású (LSA) anyag.**

Egy **radionuklid fajlagos aktivitása** a nuklid egységnyi tömegére jutó aktivitás. Egy anyag fajlagos aktivitását úgy kell tekinteni, mint egy olyan anyagnak az egységnyi tömegére jutó aktivitását, amelyben a radionuklidok lényegében egyenletesen vannak eloszlva.

**Surface contaminated object (SCO):** lásd **szennyezett felületű tárgy (SCO).**

**Szennyezett felületű tárgy (SCO):** A szennyezett felületű tárgy (SCO) olyan szilárd tárgy, amely önmagában nem radioaktív, de amelynek felületén radioaktív anyag van eloszlva (radioaktív anyaggal van szennyezve).

**Az urán (természetes, szegényített, dúsított)** a következőket jelenti:

A **természetes urán** olyan urán, amelyben az uránizotópok természetben előforduló eloszlásúak (kb. 99,28 tömeg% 238-urán és 0,72 tömeg% 235-urán). Ez lehet kémiaiilag elkülönített urán is.

A **szegényített urán** olyan urán, amelynek százalékos 235-urán tartalma kisebb, mint a természetes uráné.

A **dúsított urán** olyan urán, amelynek százalékos 235-urán tartalma nagyobb, mint 0,72%.

Mind a természetes, mind a dúsított, mind a szegényített uránban kis százalékban 234-urán is jelen van.

**2.2.7.2 Besorolás****2.2.7.2.1 Általános előírások**

**2.2.7.2.1.1** A radioaktív anyagokat a 2.2.7.2.2 – 2.2.7.2.5 pontok előírásai szerint, a küldeménydarabban lévő radionuklidok aktivitás szintje és hasadó, ill. nem hasadó volta, a szállítandó küldeménydarab típusa, a küldeménydarab tartalmának természete, ill. formája, valamint a szállításra vonatkozó külön megegyezés figyelembevételével kell a 2.2.7.2.1.1 táblázatban meghatározott valamely UN számhoz rendelni.

**2.2.7.2.1.1 táblázat – UN számhoz való hozzárendelés**

| <b>Engedményes küldeménydarabok</b><br>(1.7.1.5)                 |  |
|--|--|
| UN 2908  | RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – ÜRES CSOMAGOLÓESZKÖZ   |
| UN 2909  | RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – TERMÉSZETES URÁNBÓL vagy SZEGÉNYÍTETT URÁNBÓL vagy TERMÉSZETES TÓRIUMBÓL KÉSZÜLT GYÁRTMÁNYOK |
| UN 2910  | RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – KORLÁTOZOTT ANYAGMENNYISÉG   |
| UN 2911  | RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – KÉSZÜLÉKEK vagy GYÁRTMÁNYOK  |
| <b>Kis fajlagos aktivitású radioaktív anyag</b><br>(2.2.7.2.3.1) |  |
| UN 2912  | KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-I), nem hasadó vagy hasadó-engedményes   |
| UN 3321  | KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), nem hasadó vagy hasadó-engedményes  |
| UN 3322  | KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), nem hasadó vagy hasadó-engedményes   |
| UN 3324  | KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), HASADÓ  |
| UN 3325  | KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), HASADÓ   |

|  |   |  |
|--|---|--|
| <b>Szennyezett felületű tárgyak</b><br>(2.2.7.2.3.2) |   |  |
| UN 2913  | RADIOAKTÍV ANYAG, SZENNYEZETT FELÜLETŰ TÁRGYAK (SCO-I vagy SCO-II), nem hasadó vagy hasadó-engedményes    |  |
| UN 3326  | RADIOAKTÍV ANYAG, HASADÓ, SZENNYEZETT FELÜLETŰ TÁRGYAK (SCO-I vagy SCO-II)                                |  |
| <b>A típusú küldeménydarabok</b><br>(2.2.7.2.4.4)    |   |  |
| UN 2915  | RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNYDARABBAN, nem különleges formában, nem hasadó vagy hasadó-engedményes |  |
| UN 3327  | RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ KÜLDEMÉNYDARABBAN, nem különleges formában                             |  |
| UN 3332  | RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNYDARABBAN, KÜLÖNLEGES FORMÁBAN, nem hasadó vagy hasadó-engedményes     |  |
| UN 3333  | RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ KÜLDEMÉNYDARABBAN, KÜLÖNLEGES FORMÁBAN                                 |  |
| <b>B(U) típusú küldeménydarabok</b><br>(2.2.7.2.4.6) |   |  |
| UN 2916  | RADIOAKTÍV ANYAG, B(U) TÍPUSÚ KÜLDEMÉNYDARABBAN nem hasadó vagy hasadó-engedményes                        |  |
| UN 3328  | RADIOAKTÍV ANYAG, HASADÓ, B(U) TÍPUSÚ KÜLDEMÉNYDARABBAN   |  |
| <b>B(M) típusú küldeménydarabok</b><br>(2.2.7.2.4.6) |   |  |
| UN 2917  | RADIOAKTÍV ANYAG, B(M) TÍPUSÚ KÜLDEMÉNYDARABBAN nem hasadó vagy hasadó-engedményes                        |  |
| UN 3329  | RADIOAKTÍV ANYAG, HASADÓ, B(M) TÍPUSÚ KÜLDEMÉNYDARABBAN   |  |
| <b>C típusú küldeménydarabok</b><br>(2.2.7.2.4.6)    |   |  |
| UN 3323  | RADIOAKTÍV ANYAG, C TÍPUSÚ KÜLDEMÉNYDARABBAN nem hasadó vagy hasadó-engedményes                           |  |
| UN 3330  | RADIOAKTÍV ANYAG, HASADÓ, C TÍPUSÚ KÜLDEMÉNYDARABBAN  |  |
| <b>Külön megegyezés</b><br>(2.2.7.2.5)               |   |  |
| UN 2919  | RADIOAKTÍV ANYAG, KÜLÖN MEGEGYEZÉS ALAPJÁN SZÁLLÍTOTT, nem hasadó vagy hasadó-engedményes                 |  |
| UN 3331  | RADIOAKTÍV ANYAG, HASADÓ, KÜLÖN MEGEGYEZÉS ALAPJÁN SZÁLLÍTOTT   |  |
| <b>Urán-hexafluorid</b><br>(2.2.7.2.4.5)             |   |  |
| UN 2977  | RADIOAKTÍV ANYAG, HASADÓ URÁN-HEXAFLUORID   |  |
| UN 2978  | RADIOAKTÍV ANYAG, URÁN-HEXAFLUORID, nem hasadó vagy hasadó-engedményes                                    |  |

### 2.2.7.2.2 Az aktivitás szintek meghatározása

2.2.7.2.2.1 Az egyedi radionuklidokra a 2.2.7.2.2.1 táblázat a következő alapértékeket tartalmazza:

- $A_1$  és  $A_2$  TBq-ben;
- mentességi aktivitás koncentráció az anyagra Bq/g-ban; és
- mentességi aktivitás határ a küldeményre Bq-ben.

2.2.7.2.2.1 táblázat – Radionuklid alapértékek az egyes radionuklidokra

| Radionuklid<br>(rendsám) | $A_1$<br><br>(TBq) | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|--------------------------|--------------------|--------------------|--|--|
| <b>Aktínium (89)</b>     |                    |                    |  |  |
| Ac-225 <sup>a)</sup>     | $8 \times 10^{-1}$ | $6 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| Ac-227 <sup>a)</sup>     | $9 \times 10^{-1}$ | $9 \times 10^{-5}$ | $1 \times 10^{-1}$   | $1 \times 10^3$                                |
| Ac-228                   | $6 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| <b>Ezüst (47)</b>        |                    |                    |  |  |
| Ag-105                   | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Ag-108m <sup>a)</sup>    | $7 \times 10^{-1}$ | $7 \times 10^{-1}$ | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^6$ <sup>b)</sup>                  |
| Ag-110m <sup>a)</sup>    | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Ag-111                   | $2 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| <b>Alumínium (13)</b>    |                    |                    |  |  |
| Al-26                    | $1 \times 10^{-1}$ | $1 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| <b>Amerícium (95)</b>    |                    |                    |  |  |
| Am-241                   | $1 \times 10^1$    | $1 \times 10^{-3}$ | $1 \times 10^0$  | $1 \times 10^4$                                |
| Am-242m <sup>a)</sup>    | $1 \times 10^1$    | $1 \times 10^{-3}$ | $1 \times 10^0$ <sup>b)</sup>                                | $1 \times 10^4$ <sup>b)</sup>                  |
| Am-243 <sup>a)</sup>     | $5 \times 10^0$    | $1 \times 10^{-3}$ | $1 \times 10^0$ <sup>b)</sup>                                | $1 \times 10^3$ <sup>b)</sup>                  |
| <b>Argon (18)</b>        |                    |                    |  |  |
| Ar-37                    | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^6$  | $1 \times 10^8$                                |
| Ar-39                    | $4 \times 10^1$    | $2 \times 10^1$    | $1 \times 10^7$  | $1 \times 10^4$                                |
| Ar-41                    | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^9$                                |
| <b>Arzén (33)</b>        |                    |                    |  |  |
| As-72                    | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| As-73                    | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| As-74                    | $1 \times 10^0$    | $9 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| As-76                    | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| As-77                    | $2 \times 10^1$    | $7 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| <b>Asztácium (85)</b>    |                    |                    |  |  |
| At-211 <sup>a)</sup>     | $2 \times 10^1$    | $5 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^7$                                |
| <b>Arany (79)</b>        |                    |                    |  |  |
| Au-193                   | $7 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Au-194                   | $1 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Au-195                   | $1 \times 10^1$    | $6 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Au-198                   | $1 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Au-199                   | $1 \times 10^1$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| <b>Bárium (56)</b>       |                    |                    |  |  |
| Ba-131 <sup>a)</sup>     | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Ba-133                   | $3 \times 10^0$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Ba-133m                  | $2 \times 10^1$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Ba-140 <sup>a)</sup>     | $5 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^5$ <sup>b)</sup>                  |

| Radionuklid<br>(rendsám) | $A_1$<br><br>(TBq) | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|--------------------------|--------------------|--------------------|--|--|
| Berillium (4)            |                    |                    |  |  |
| Be-7                     | $2 \times 10^1$    | $2 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| Be-10                    | $4 \times 10^1$    | $6 \times 10^{-1}$ | $1 \times 10^4$  | $1 \times 10^6$                                |
| Bizmut (83)              |                    |                    |  |  |
| Bi-205                   | $7 \times 10^{-1}$ | $7 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Bi-206                   | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Bi-207                   | $7 \times 10^{-1}$ | $7 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Bi-210                   | $1 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Bi-210m <sup>a)</sup>    | $6 \times 10^{-1}$ | $2 \times 10^{-2}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Bi-212 <sup>a)</sup>     | $7 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^5$ <sup>b)</sup>                  |
| Berkélium (97)           |                    |                    |  |  |
| Bk-247                   | $8 \times 10^0$    | $8 \times 10^{-4}$ | $1 \times 10^0$  | $1 \times 10^4$                                |
| Bk-249 <sup>a)</sup>     | $4 \times 10^1$    | $3 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Bróm (35)                |                    |                    |  |  |
| Br-76                    | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Br-77                    | $3 \times 10^0$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Br-82                    | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Szén (6)                 |                    |                    |  |  |
| C-11                     | $1 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| C-14                     | $4 \times 10^1$    | $3 \times 10^0$    | $1 \times 10^4$  | $1 \times 10^7$                                |
| Kalcium (20)             |                    |                    |  |  |
| Ca-41                    | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^5$  | $1 \times 10^7$                                |
| Ca-45                    | $4 \times 10^1$    | $1 \times 10^0$    | $1 \times 10^4$  | $1 \times 10^7$                                |
| Ca-47 <sup>a)</sup>      | $3 \times 10^0$    | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Kadmium (48)             |                    |                    |  |  |
| Cd-109                   | $3 \times 10^1$    | $2 \times 10^0$    | $1 \times 10^4$  | $1 \times 10^6$                                |
| Cd-113m                  | $4 \times 10^1$    | $5 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Cd-115 <sup>a)</sup>     | $3 \times 10^0$    | $4 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Cd-115m                  | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Cérium (58)              |                    |                    |  |  |
| Ce-139                   | $7 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Ce-141                   | $2 \times 10^1$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^7$                                |
| Ce-143                   | $9 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Ce-144 <sup>a)</sup>     | $2 \times 10^{-1}$ | $2 \times 10^{-1}$ | $1 \times 10^2$ <sup>b)</sup>                                | $1 \times 10^5$ <sup>b)</sup>                  |
| Kalifornium (98)         |                    |                    |  |  |
| Cf-248                   | $4 \times 10^1$    | $6 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| Cf-249                   | $3 \times 10^0$    | $8 \times 10^{-4}$ | $1 \times 10^0$  | $1 \times 10^3$                                |
| Cf-250                   | $2 \times 10^1$    | $2 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| Cf-251                   | $7 \times 10^0$    | $7 \times 10^{-4}$ | $1 \times 10^0$  | $1 \times 10^3$                                |
| Cf-252                   | $1 \times 10^{-1}$ | $3 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |

| Radionuklid<br>(rendszer) | $A_1$<br><br>(TBq) | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|---------------------------|--------------------|--------------------|--|--|
| Cf-253 <sup>a)</sup>      | $4 \times 10^1$    | $4 \times 10^{-2}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Cf-254                    | $1 \times 10^{-3}$ | $1 \times 10^{-3}$ | $1 \times 10^0$  | $1 \times 10^3$                                |
| Klór (17)                 |                    |                    |  |  |
| Cl-36                     | $1 \times 10^1$    | $6 \times 10^{-1}$ | $1 \times 10^4$  | $1 \times 10^6$                                |
| Cl-38                     | $2 \times 10^{-1}$ | $2 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Kúrium (96)               |                    |                    |  |  |
| Cm-240                    | $4 \times 10^1$    | $2 \times 10^{-2}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Cm-241                    | $2 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Cm-242                    | $4 \times 10^1$    | $1 \times 10^{-2}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Cm-243                    | $9 \times 10^0$    | $1 \times 10^{-3}$ | $1 \times 10^0$  | $1 \times 10^4$                                |
| Cm-244                    | $2 \times 10^1$    | $2 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| Cm-245                    | $9 \times 10^0$    | $9 \times 10^{-4}$ | $1 \times 10^0$  | $1 \times 10^3$                                |
| Cm-246                    | $9 \times 10^0$    | $9 \times 10^{-4}$ | $1 \times 10^0$  | $1 \times 10^3$                                |
| Cm-247 <sup>a)</sup>      | $3 \times 10^0$    | $1 \times 10^{-3}$ | $1 \times 10^0$  | $1 \times 10^4$                                |
| Cm-248                    | $2 \times 10^{-2}$ | $3 \times 10^{-4}$ | $1 \times 10^0$  | $1 \times 10^3$                                |
| Kobalt (27)               |                    |                    |  |  |
| Co-55                     | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Co-56                     | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Co-57                     | $1 \times 10^1$    | $1 \times 10^1$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Co-58                     | $1 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Co-58m                    | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^4$  | $1 \times 10^7$                                |
| Co-60                     | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Króom (24)                |                    |                    |  |  |
| Cr-51                     | $3 \times 10^1$    | $3 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| Cézium (55)               |                    |                    |  |  |
| Cs-129                    | $4 \times 10^0$    | $4 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^5$                                |
| Cs-131                    | $3 \times 10^1$    | $3 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^6$                                |
| Cs-132                    | $1 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^5$                                |
| Cs-134                    | $7 \times 10^{-1}$ | $7 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| Cs-134m                   | $4 \times 10^1$    | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^5$                                |
| Cs-135                    | $4 \times 10^1$    | $1 \times 10^0$    | $1 \times 10^4$  | $1 \times 10^7$                                |
| Cs-136                    | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Cs-137 <sup>a)</sup>      | $2 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^4$ <sup>b)</sup>                  |
| Réz (29)                  |                    |                    |  |  |
| Cu-64                     | $6 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Cu-67                     | $1 \times 10^1$    | $7 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Diszprózium (66)          |                    |                    |  |  |
| Dy-159                    | $2 \times 10^1$    | $2 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| Dy-165                    | $9 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Dy-166 <sup>a)</sup>      | $9 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |

| Radionuklid<br>(rendsám)          | $A_1$<br><br>(TBq) | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|-----------------------------------|--------------------|--------------------|--|--|
| Erbium (68)                       |                    |                    |  |  |
| Er-169                            | $4 \times 10^1$    | $1 \times 10^0$    | $1 \times 10^4$  | $1 \times 10^7$                                |
| Er-171                            | $8 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Európium (63)                     |                    |                    |  |  |
| Eu-147                            | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Eu-148                            | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Eu-149                            | $2 \times 10^1$    | $2 \times 10^1$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Eu-150 (rövid felezési<br>idejű)  | $2 \times 10^0$    | $7 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Eu-150 (hosszú felezési<br>idejű) | $7 \times 10^{-1}$ | $7 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Eu-152                            | $1 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Eu-152m                           | $8 \times 10^{-1}$ | $8 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Eu-154                            | $9 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Eu-155                            | $2 \times 10^1$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Eu-156                            | $7 \times 10^{-1}$ | $7 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Fluor (9)                         |                    |                    |  |  |
| F-18                              | $1 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Vas (26)                          |                    |                    |  |  |
| Fe-52 <sup>a)</sup>               | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Fe-55                             | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^4$  | $1 \times 10^6$                                |
| Fe-59                             | $9 \times 10^{-1}$ | $9 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Fe-60 <sup>a)</sup>               | $4 \times 10^1$    | $2 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Gallium (31)                      |                    |                    |  |  |
| Ga-67                             | $7 \times 10^0$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Ga-68                             | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Ga-72                             | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Gadolínium (64)                   |                    |                    |  |  |
| Gd-146 <sup>a)</sup>              | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Gd-148                            | $2 \times 10^1$    | $2 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| Gd-153                            | $1 \times 10^1$    | $9 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Gd-159                            | $3 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Germánium (32)                    |                    |                    |  |  |
| Ge-68 <sup>a)</sup>               | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Ge-71                             | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^4$  | $1 \times 10^8$                                |
| Ge-77                             | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Hafnium (72)                      |                    |                    |  |  |
| Hf-172 <sup>a)</sup>              | $6 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Hf-175                            | $3 \times 10^0$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Hf-181                            | $2 \times 10^0$    | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |

| Radionuklid<br>(rendszer) | $A_1$<br><br>(TBq)            | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|---------------------------|-------------------------------|--------------------|--|--|
| Hf-182                    | Nincs korlátozva              | Nincs korlátozva   | $1 \times 10^2$  | $1 \times 10^6$                                |
| Higany (80)               |                               |                    |  |  |
| Hg-194 <sup>a)</sup>      | $1 \times 10^0$               | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Hg-195m <sup>a)</sup>     | $3 \times 10^0$               | $7 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Hg-197                    | $2 \times 10^1$               | $1 \times 10^1$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Hg-197m                   | $1 \times 10^1$               | $4 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Hg-203                    | $5 \times 10^0$               | $1 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^5$                                |
| Holmium (67)              |                               |                    |  |  |
| Ho-166                    | $4 \times 10^{-1}$            | $4 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^5$                                |
| Ho-166m                   | $6 \times 10^{-1}$            | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Jód (53)                  |                               |                    |  |  |
| I-123                     | $6 \times 10^0$               | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| I-124                     | $1 \times 10^0$               | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| I-125                     | $2 \times 10^1$               | $3 \times 10^0$    | $1 \times 10^3$  | $1 \times 10^6$                                |
| I-126                     | $2 \times 10^0$               | $1 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| I-129                     | Nincs korlátozva              | Nincs korlátozva   | $1 \times 10^2$  | $1 \times 10^5$                                |
| I-131                     | $3 \times 10^0$               | $7 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| I-132                     | $4 \times 10^{-1}$            | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| I-133                     | $7 \times 10^{-1}$            | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| I-134                     | $3 \times 10^{-1}$            | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| I-135 <sup>a)</sup>       | $6 \times 10^{-1}$            | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Indium (49)               |                               |                    |  |  |
| In-111                    | $3 \times 10^0$               | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| In-113m                   | $4 \times 10^0$               | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| In-114m <sup>a)</sup>     | $1 \times 10^1$               | $5 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| In-115m                   | $7 \times 10^0$               | $1 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Íridium (77)              |                               |                    |  |  |
| Ir-189 <sup>a)</sup>      | $1 \times 10^1$               | $1 \times 10^1$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Ir-190                    | $7 \times 10^{-1}$            | $7 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Ir-192                    | $1 \times 10^0$ <sup>c)</sup> | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| Ir-194                    | $3 \times 10^{-1}$            | $3 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Kálium(19)                |                               |                    |  |  |
| K-40                      | $9 \times 10^{-1}$            | $9 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| K-42                      | $2 \times 10^{-1}$            | $2 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| K-43                      | $7 \times 10^{-1}$            | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Kripton (36)              |                               |                    |  |  |
| Kr-79                     | $4 \times 10^0$               | $1 \times 10^0$    | $1 \times 10^3$  | $1 \times 10^5$                                |
| Kr-81                     | $4 \times 10^1$               | $4 \times 10^1$    | $1 \times 10^4$  | $1 \times 10^7$                                |
| Kr-85                     | $1 \times 10^1$               | $1 \times 10^1$    | $1 \times 10^5$  | $1 \times 10^4$                                |
| Kr-85m                    | $8 \times 10^0$               | $3 \times 10^0$    | $1 \times 10^3$  | $1 \times 10^{10}$                             |



| Radionuklid<br>(rendszer) | $A_1$<br><br>(TBq) | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|---------------------------|--------------------|--------------------|--|--|
| Kr-87                     | $2 \times 10^{-1}$ | $2 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^9$                                |
| Lantán (57)               |                    |                    |  |  |
| La-137                    | $3 \times 10^1$    | $6 \times 10^0$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| La-140                    | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Lutécium (71)             |                    |                    |  |  |
| Lu-172                    | $6 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Lu-173                    | $8 \times 10^0$    | $8 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Lu-174                    | $9 \times 10^0$    | $9 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Lu-174m                   | $2 \times 10^1$    | $1 \times 10^1$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Lu-177                    | $3 \times 10^1$    | $7 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^7$                                |
| Magnézium (12)            |                    |                    |  |  |
| Mg-28 <sup>a)</sup>       | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Mangán (25)               |                    |                    |  |  |
| Mn-52                     | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Mn-53                     | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^4$  | $1 \times 10^9$                                |
| Mn-54                     | $1 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Mn-56                     | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Molibdén (42)             |                    |                    |  |  |
| Mo-93                     | $4 \times 10^1$    | $2 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^8$                                |
| Mo-99 <sup>a)</sup>       | $1 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Nitrogén (7)              |                    |                    |  |  |
| N-13                      | $9 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^9$                                |
| Nátrium (11)              |                    |                    |  |  |
| Na-22                     | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Na-24                     | $2 \times 10^{-1}$ | $2 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Nióbium (41)              |                    |                    |  |  |
| Nb-93m                    | $4 \times 10^1$    | $3 \times 10^1$    | $1 \times 10^4$  | $1 \times 10^7$                                |
| Nb-94                     | $7 \times 10^{-1}$ | $7 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Nb-95                     | $1 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Nb-97                     | $9 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Neodímium (60)            |                    |                    |  |  |
| Nd-147                    | $6 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Nd-149                    | $6 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Nikkel (28)               |                    |                    |  |  |
| Ni-59                     | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^4$  | $1 \times 10^8$                                |
| Ni-63                     | $4 \times 10^1$    | $3 \times 10^1$    | $1 \times 10^5$  | $1 \times 10^8$                                |
| Ni-65                     | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Neptúnium (93)            |                    |                    |  |  |
| Np-235                    | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^7$                                |

| Radionuklid<br>(rendsám)       | $A_1$<br><br>(TBq) | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|--------------------------------|--------------------|--------------------|--|--|
| Np-236 (rövid felezési idejű)  | $2 \times 10^1$    | $2 \times 10^0$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| Np-236 (hosszú felezési idejű) | $9 \times 10^0$    | $2 \times 10^{-2}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Np-237                         | $2 \times 10^1$    | $2 \times 10^{-3}$ | $1 \times 10^0$ <sup>b)</sup>                                | $1 \times 10^3$ <sup>b)</sup>                  |
| Np-239                         | $7 \times 10^0$    | $4 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^7$                                |
| Ozmium (76)                    |                    |                    |  |  |
| Os-185                         | $1 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Os-191                         | $1 \times 10^1$    | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Os-191m                        | $4 \times 10^1$    | $3 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| Os-193                         | $2 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Os-194 <sup>a)</sup>           | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Foszfor (15)                   |                    |                    |  |  |
| P-32                           | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^5$                                |
| P-33                           | $4 \times 10^1$    | $1 \times 10^0$    | $1 \times 10^5$  | $1 \times 10^8$                                |
| Protaktínium (91)              |                    |                    |  |  |
| Pa-230 <sup>a)</sup>           | $2 \times 10^0$    | $7 \times 10^{-2}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Pa-231                         | $4 \times 10^0$    | $4 \times 10^{-4}$ | $1 \times 10^0$  | $1 \times 10^3$                                |
| Pa-233                         | $5 \times 10^0$    | $7 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^7$                                |
| Ólom (82)                      |                    |                    |  |  |
| Pb-201                         | $1 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Pb-202                         | $4 \times 10^1$    | $2 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^6$                                |
| Pb-203                         | $4 \times 10^0$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Pb-205                         | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^4$  | $1 \times 10^7$                                |
| Pb-210 <sup>a)</sup>           | $1 \times 10^0$    | $5 \times 10^{-2}$ | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^4$ <sup>b)</sup>                  |
| Pb-212 <sup>a)</sup>           | $7 \times 10^{-1}$ | $2 \times 10^{-1}$ | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^5$ <sup>b)</sup>                  |
| Palládium (46)                 |                    |                    |  |  |
| Pd-103 <sup>a)</sup>           | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^8$                                |
| Pd-107                         | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^5$  | $1 \times 10^8$                                |
| Pd-109                         | $2 \times 10^0$    | $5 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Prométium (61)                 |                    |                    |  |  |
| Pm-143                         | $3 \times 10^0$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Pm-144                         | $7 \times 10^{-1}$ | $7 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Pm-145                         | $3 \times 10^1$    | $1 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| Pm-147                         | $4 \times 10^1$    | $2 \times 10^0$    | $1 \times 10^4$  | $1 \times 10^7$                                |
| Pm-148m <sup>a)</sup>          | $8 \times 10^{-1}$ | $7 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Pm-149                         | $2 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Pm-151                         | $2 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Polónium (84)                  |                    |                    |  |  |
| Po-210                         | $4 \times 10^1$    | $2 \times 10^{-2}$ | $1 \times 10^1$  | $1 \times 10^4$                                |

| Radionuklid<br>(rendszer) | $A_1$<br><br>(TBq) | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|---------------------------|--------------------|--------------------|--|--|
| Prazeodímium (59)         |                    |                    |  |  |
| Pr-142                    | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Pr-143                    | $3 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^4$  | $1 \times 10^6$                                |
| Platina (78)              |                    |                    |  |  |
| Pt-188 <sup>a)</sup>      | $1 \times 10^0$    | $8 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Pt-191                    | $4 \times 10^0$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Pt-193                    | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^4$  | $1 \times 10^7$                                |
| Pt-193m                   | $4 \times 10^1$    | $5 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^7$                                |
| Pt-195m                   | $1 \times 10^1$    | $5 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Pt-197                    | $2 \times 10^1$    | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Pt-197m                   | $1 \times 10^1$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Plutónium (94)            |                    |                    |  |  |
| Pu-236                    | $3 \times 10^1$    | $3 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| Pu-237                    | $2 \times 10^1$    | $2 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| Pu-238                    | $1 \times 10^1$    | $1 \times 10^{-3}$ | $1 \times 10^0$  | $1 \times 10^4$                                |
| Pu-239                    | $1 \times 10^1$    | $1 \times 10^{-3}$ | $1 \times 10^0$  | $1 \times 10^4$                                |
| Pu-240                    | $1 \times 10^1$    | $1 \times 10^{-3}$ | $1 \times 10^0$  | $1 \times 10^3$                                |
| Pu-241 <sup>a)</sup>      | $4 \times 10^1$    | $6 \times 10^{-2}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Pu-242                    | $1 \times 10^1$    | $1 \times 10^{-3}$ | $1 \times 10^0$  | $1 \times 10^4$                                |
| Pu-244 <sup>a)</sup>      | $4 \times 10^{-1}$ | $1 \times 10^{-3}$ | $1 \times 10^0$  | $1 \times 10^4$                                |
| Rádium (88)               |                    |                    |  |  |
| Ra-223 <sup>a)</sup>      | $4 \times 10^{-1}$ | $7 \times 10^{-3}$ | $1 \times 10^2$ <sup>b)</sup>                                | $1 \times 10^5$ <sup>b)</sup>                  |
| Ra-224 <sup>a)</sup>      | $4 \times 10^{-1}$ | $2 \times 10^{-2}$ | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^5$ <sup>b)</sup>                  |
| Ra-225 <sup>a)</sup>      | $2 \times 10^{-1}$ | $4 \times 10^{-3}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Ra-226 <sup>a)</sup>      | $2 \times 10^{-1}$ | $3 \times 10^{-3}$ | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^4$ <sup>b)</sup>                  |
| Ra-228 <sup>a)</sup>      | $6 \times 10^{-1}$ | $2 \times 10^{-2}$ | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^5$ <sup>b)</sup>                  |
| Rubídium (37)             |                    |                    |  |  |
| Rb-81                     | $2 \times 10^0$    | $8 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Rb-83 <sup>a)</sup>       | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Rb-84                     | $1 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Rb-86                     | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Rb-87                     | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^4$  | $1 \times 10^7$                                |
| Rb (természetes)          | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^4$  | $1 \times 10^7$                                |
| Rénium (75)               |                    |                    |  |  |
| Re-184                    | $1 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Re-184m                   | $3 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Re-186                    | $2 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Re-187                    | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^6$  | $1 \times 10^9$                                |
| Re-188                    | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Re-189 <sup>a)</sup>      | $3 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |

| Radionuklid<br>(rendszer) | $A_1$<br><br>(TBq) | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|---------------------------|--------------------|--------------------|--|--|
| Re (természetes)          | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^6$  | $1 \times 10^9$                                |
| Ródium (45)               |                    |                    |  |  |
| Rh-99                     | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Rh-101                    | $4 \times 10^0$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Rh-102                    | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Rh-102m                   | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Rh-103m                   | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^4$  | $1 \times 10^8$                                |
| Rh-105                    | $1 \times 10^1$    | $8 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^7$                                |
| Radon (86)                |                    |                    |  |  |
| Ra-222 <sup>a)</sup>      | $3 \times 10^{-1}$ | $4 \times 10^{-3}$ | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^8$ <sup>b)</sup>                  |
| Ruténium (44)             |                    |                    |  |  |
| Ru-97                     | $5 \times 10^0$    | $5 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Ru-103 <sup>a)</sup>      | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Ru-105                    | $1 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Ru-106 <sup>a)</sup>      | $2 \times 10^{-1}$ | $2 \times 10^{-1}$ | $1 \times 10^2$ <sup>b)</sup>                                | $1 \times 10^5$ <sup>b)</sup>                  |
| Kén (16)                  |                    |                    |  |  |
| S-35                      | $4 \times 10^1$    | $3 \times 10^0$    | $1 \times 10^5$  | $1 \times 10^8$                                |
| Antimon (51)              |                    |                    |  |  |
| Sb-122                    | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^4$                                |
| Sb-124                    | $6 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Sb-125                    | $2 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Sb-126                    | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Szkandium (21)            |                    |                    |  |  |
| Sc-44                     | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Sc-46                     | $5 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Sc-47                     | $1 \times 10^1$    | $7 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Sc-48                     | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Szelén (34)               |                    |                    |  |  |
| Se-75                     | $3 \times 10^0$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Se-79                     | $4 \times 10^1$    | $2 \times 10^0$    | $1 \times 10^4$  | $1 \times 10^7$                                |
| Szilícium (14)            |                    |                    |  |  |
| Si-31                     | $6 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Si-32                     | $4 \times 10^1$    | $5 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Szamárium (62)            |                    |                    |  |  |
| Sm-145                    | $1 \times 10^1$    | $1 \times 10^1$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Sm-147                    | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^1$  | $1 \times 10^4$                                |
| Sm-151                    | $4 \times 10^1$    | $1 \times 10^1$    | $1 \times 10^4$  | $1 \times 10^8$                                |
| Sm-153                    | $9 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Ón (50)                   |                    |                    |  |  |
| Sn-113 <sup>a)</sup>      | $4 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^3$  | $1 \times 10^7$                                |

| Radionuklid<br>(rendsám)       | $A_1$<br><br>(TBq) | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|--------------------------------|--------------------|--------------------|--|--|
| Sn-117m                        | $7 \times 10^0$    | $4 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Sn-119m                        | $4 \times 10^1$    | $3 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| Sn-121m <sup>a)</sup>          | $4 \times 10^1$    | $9 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^7$                                |
| Sn-123                         | $8 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Sn-125                         | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Sn-126 <sup>a)</sup>           | $6 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Stroncium (38)                 |                    |                    |  |  |
| Sr-82 <sup>a)</sup>            | $2 \times 10^{-1}$ | $2 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Sr-85                          | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Sr-85m                         | $5 \times 10^0$    | $5 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Sr-87m                         | $3 \times 10^0$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Sr-89                          | $6 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Sr-90 <sup>a)</sup>            | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^2$ <sup>b)</sup>                                | $1 \times 10^4$ <sup>b)</sup>                  |
| Sr-91 <sup>a)</sup>            | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Sr-92 <sup>a)</sup>            | $1 \times 10^0$    | $3 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Trícium (1)                    |                    |                    |  |  |
| T (H-3)                        | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^6$  | $1 \times 10^9$                                |
| Tantál (73)                    |                    |                    |  |  |
| Ta-178 (hosszú felezési idejű) | $1 \times 10^0$    | $8 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Ta-179                         | $3 \times 10^1$    | $3 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| Ta-182                         | $9 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| Terbium (65)                   |                    |                    |  |  |
| Tb-157                         | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^4$  | $1 \times 10^7$                                |
| Tb-158                         | $1 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Tb-160                         | $1 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Technécium (43)                |                    |                    |  |  |
| Tc-95m <sup>a)</sup>           | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Tc-96                          | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Tc-96m <sup>a)</sup>           | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^7$                                |
| Tc-97                          | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^3$  | $1 \times 10^8$                                |
| Tc-97m                         | $4 \times 10^1$    | $1 \times 10^0$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| Tc-98                          | $8 \times 10^{-1}$ | $7 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Tc-99                          | $4 \times 10^1$    | $9 \times 10^{-1}$ | $1 \times 10^4$  | $1 \times 10^7$                                |
| Tc-99m                         | $1 \times 10^1$    | $4 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Tellúr (52)                    |                    |                    |  |  |
| Te-121                         | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Te-121m                        | $5 \times 10^0$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Te-123m                        | $8 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Te-125m                        | $2 \times 10^1$    | $9 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^7$                                |

| Radionuklid<br>(rendsám)                             | $A_1$<br><br>(TBq) | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|--|--------------------|--------------------|--|--|
| Te-127   | $2 \times 10^1$    | $7 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Te-127m <sup>a)</sup>                                | $2 \times 10^1$    | $5 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^7$                                |
| Te-129   | $7 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Te-129m <sup>a)</sup>                                | $8 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Te-131m <sup>a)</sup>                                | $7 \times 10^{-1}$ | $5 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Te-132m <sup>a)</sup>                                | $5 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^7$                                |
| Tórium (90)  |                    |                    |  |  |
| Th-227   | $1 \times 10^1$    | $5 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| Th-228 <sup>a)</sup>                                 | $5 \times 10^{-1}$ | $1 \times 10^{-3}$ | $1 \times 10^0$ <sup>b)</sup>                                | $1 \times 10^4$ <sup>b)</sup>                  |
| Th-229   | $5 \times 10^0$    | $5 \times 10^{-4}$ | $1 \times 10^0$ <sup>b)</sup>                                | $1 \times 10^3$ <sup>b)</sup>                  |
| Th-230   | $1 \times 10^1$    | $1 \times 10^{-3}$ | $1 \times 10^0$  | $1 \times 10^4$                                |
| Th-231   | $4 \times 10^1$    | $2 \times 10^{-2}$ | $1 \times 10^3$  | $1 \times 10^7$                                |
| Th-232   | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^1$  | $1 \times 10^4$                                |
| Th-234 <sup>a)</sup>                                 | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^3$ <sup>b)</sup>                                | $1 \times 10^5$ <sup>b)</sup>                  |
| Th (természetes)                                     | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^0$ <sup>b)</sup>                                | $1 \times 10^3$ <sup>b)</sup>                  |
| Titán (22)   |                    |                    |  |  |
| Ti-44 <sup>a)</sup>                                  | $5 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| Tallium (81)   |                    |                    |  |  |
| Tl-200   | $9 \times 10^{-1}$ | $9 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Tl-201   | $1 \times 10^1$    | $4 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Tl-202   | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Tl-204   | $1 \times 10^1$    | $7 \times 10^{-1}$ | $1 \times 10^4$  | $1 \times 10^4$                                |
| Túlius (69)  |                    |                    |  |  |
| Tm-167   | $7 \times 10^0$    | $8 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Tm-170   | $3 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Tm-171   | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^4$  | $1 \times 10^8$                                |
| Urán (92)  |                    |                    |  |  |
| U-230 (gyors tüdő-<br>abszorpció) <sup>a, d)</sup>   | $4 \times 10^1$    | $1 \times 10^{-1}$ | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^5$ <sup>b)</sup>                  |
| U-230 (közepes tüdő-<br>abszorpció) <sup>a, e)</sup> | $4 \times 10^1$    | $4 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| U-230 (lassú tüdő-<br>abszorpció) <sup>a, f)</sup>   | $3 \times 10^1$    | $3 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| U-232 (gyors tüdő-<br>abszorpció) <sup>d)</sup>      | $4 \times 10^1$    | $1 \times 10^{-2}$ | $1 \times 10^0$ <sup>b)</sup>                                | $1 \times 10^3$ <sup>b)</sup>                  |
| U-232 (közepes tüdő-<br>abszorpció) <sup>e)</sup>    | $4 \times 10^1$    | $7 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| U-232 (lassú tüdő-<br>abszorpció) <sup>f)</sup>      | $1 \times 10^1$    | $1 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| U-233 (gyors tüdő-<br>abszorpció) <sup>d)</sup>      | $4 \times 10^1$    | $9 \times 10^{-2}$ | $1 \times 10^1$  | $1 \times 10^4$                                |

| Radionuklid<br>(rendsám)                                      | $A_1$<br><br>(TBq) | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|---|--------------------|--------------------|--|--|
| U-233 (közepes tüdő-<br>abszorpció) <sup>e)</sup>             | $4 \times 10^1$    | $2 \times 10^{-2}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| U-233 (lassú tüdő-<br>abszorpció) <sup>f)</sup>               | $4 \times 10^1$    | $6 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| U-234 (gyors<br>tüdőabszorpció) <sup>d)</sup>                 | $4 \times 10^1$    | $9 \times 10^{-2}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| U-234 (közepes tüdő-<br>abszorpció) <sup>e)</sup>             | $4 \times 10^1$    | $2 \times 10^{-2}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| U-234 (lassú tüdő-<br>abszorpció) <sup>f)</sup>               | $4 \times 10^1$    | $6 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| U-235 (minden tüdő-<br>abszorpciós típus) <sup>a,d,e,f)</sup> | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^4$ <sup>b)</sup>                  |
| U-236 (gyors tüdő-<br>abszorpció) <sup>d)</sup>               | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^1$  | $1 \times 10^4$                                |
| U-236 (közepes tüdő-<br>abszorpció) <sup>e)</sup>             | $4 \times 10^1$    | $2 \times 10^{-2}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| U-236 (lassú tüdő-<br>abszorpció) <sup>f)</sup>               | $4 \times 10^1$    | $6 \times 10^{-3}$ | $1 \times 10^1$  | $1 \times 10^4$                                |
| U-238 (minden tüdő-<br>abszorpciós típus) <sup>d,e,f)</sup>   | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^4$ <sup>b)</sup>                  |
| U (természetes)   | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^0$ <sup>b)</sup>                                | $1 \times 10^3$ <sup>b)</sup>                  |
| U (20%-ig vagy<br>kevésbé dúsított) <sup>g)</sup>             | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^0$  | $1 \times 10^3$                                |
| U (szegényített)  | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^0$  | $1 \times 10^3$                                |
| Vanádium (23)   |                    |                    |  |  |
| V-48  | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^5$                                |
| V-49  | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^4$  | $1 \times 10^7$                                |
| Volfrám (74)  |                    |                    |  |  |
| W-178 <sup>a)</sup>   | $9 \times 10^0$    | $5 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| W-181   | $3 \times 10^1$    | $3 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^7$                                |
| W-185   | $4 \times 10^1$    | $8 \times 10^{-1}$ | $1 \times 10^4$  | $1 \times 10^7$                                |
| W-187   | $2 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| W-188 <sup>a)</sup>   | $4 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Xenon (54)  |                    |                    |  |  |
| Xe-122 <sup>a)</sup>  | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^9$                                |
| Xe-123  | $2 \times 10^0$    | $7 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^9$                                |
| Xe-127  | $4 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^3$  | $1 \times 10^5$                                |
| Xe-131m   | $4 \times 10^1$    | $4 \times 10^1$    | $1 \times 10^4$  | $1 \times 10^4$                                |
| Xe-133  | $2 \times 10^1$    | $1 \times 10^1$    | $1 \times 10^3$  | $1 \times 10^4$                                |
| Xe-135  | $3 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^3$  | $1 \times 10^{10}$                             |
| Ittrium (39)  |                    |                    |  |  |
| Y-87 <sup>a)</sup>  | $1 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Y-88  | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |

| Radionuklid<br>(rendszer) | $A_1$<br><br>(TBq) | $A_2$<br><br>(TBq) | Mentességi<br>aktivitás<br>koncentráció<br>anyagra<br>(Bq/g) | Mentességi<br>aktivitás<br>küldeményre<br>(Bq) |
|---------------------------|--------------------|--------------------|--|--|
| Y-90                      | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^5$                                |
| Y-91                      | $6 \times 10^{-1}$ | $6 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^6$                                |
| Y-91m                     | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Y-92                      | $2 \times 10^{-1}$ | $2 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Y-93                      | $3 \times 10^{-1}$ | $3 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^5$                                |
| Itterbium (70)            |                    |                    |  |  |
| Yb-169                    | $4 \times 10^0$    | $1 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^7$                                |
| Yb-175                    | $3 \times 10^1$    | $9 \times 10^{-1}$ | $1 \times 10^3$  | $1 \times 10^7$                                |
| Cink (30)                 |                    |                    |  |  |
| Zn-65                     | $2 \times 10^0$    | $2 \times 10^0$    | $1 \times 10^1$  | $1 \times 10^6$                                |
| Zn-69                     | $3 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^4$  | $1 \times 10^6$                                |
| Zn-69m <sup>a)</sup>      | $3 \times 10^0$    | $6 \times 10^{-1}$ | $1 \times 10^2$  | $1 \times 10^6$                                |
| Cirkónium (40)            |                    |                    |  |  |
| Zr-88                     | $3 \times 10^0$    | $3 \times 10^0$    | $1 \times 10^2$  | $1 \times 10^6$                                |
| Zr-93                     | Nincs korlátozva   | Nincs korlátozva   | $1 \times 10^3$ <sup>b)</sup>                                | $1 \times 10^7$ <sup>b)</sup>                  |
| Zr-95 <sup>a)</sup>       | $2 \times 10^0$    | $8 \times 10^{-1}$ | $1 \times 10^1$  | $1 \times 10^6$                                |
| Zr-97 <sup>a)</sup>       | $4 \times 10^{-1}$ | $4 \times 10^{-1}$ | $1 \times 10^1$ <sup>b)</sup>                                | $1 \times 10^5$ <sup>b)</sup>                  |

a) A következő anyaelemeknél az  $A_1$  és/vagy az  $A_2$  értékek tartalmazzák a 10 napnál rövidebb felezési idejű leányelemek hozzájárulását az alábbiak szerint:

|         |               |
|---------|---------------|
| Mg-28   | Al-28         |
| Ar-42   | K-42          |
| Ca-47   | Sc-47         |
| Ti-44   | Sc-44         |
| Fe-52   | Mn-52m        |
| Fe-60   | Co-60m        |
| Zn-69m  | Zn-69         |
| Ge-68   | Ga-68         |
| Rb-83   | Kr-83m        |
| Sr-82   | Rb-82         |
| Sr-90   | Y-90          |
| Sr-91   | Y-91m         |
| Sr-92   | Y-92          |
| Y-87    | Sr-87m        |
| Zr-95   | Nb-95m        |
| Zr-97   | Nb-97m, Nb-97 |
| Mo-99   | Tc-99m        |
| Tc-95m  | Tc-95         |
| Tc-96m  | Tc-96         |
| Ru-103  | Rh-103m       |
| Ru-106  | Rh-106        |
| Pd-103  | Rh-103m       |
| Ag-108m | Ag-108        |
| Ag-110m | Ag-110        |
| Cd-115  | In-115m       |
| In-114m | In-114        |
| Sn-113  | In-113m       |



|                |   |
|----------------|---|
| <i>Sn-121m</i> | <i>Sn-121</i>   |
| <i>Sn-126</i>  | <i>Sb-126m</i>  |
| <i>Te-118</i>  | <i>Sb-118</i>   |
| <i>Te-127m</i> | <i>Te-127</i>   |
| <i>Te-129m</i> | <i>Te-129</i>   |
| <i>Te-131m</i> | <i>Te-131</i>   |
| <i>Te-132</i>  | <i>I-132</i>  |
| <i>I-135</i>   | <i>Xe-135m</i>  |
| <i>Xe-122</i>  | <i>I-122</i>  |
| <i>Cs-137</i>  | <i>Ba-137m</i>  |
| <i>Ba-131</i>  | <i>Cs-131</i>   |
| <i>Ba-140</i>  | <i>La-140</i>   |
| <i>Ce-144</i>  | <i>Pr-144m, Pr-144</i>  |
| <i>Pm-148m</i> | <i>Pm-148</i>   |
| <i>Gd-146</i>  | <i>Eu-146</i>   |
| <i>Dy-166</i>  | <i>Ho-166</i>   |
| <i>Hf-172</i>  | <i>Lu-172</i>   |
| <i>W-178</i>   | <i>Ta-178</i>   |
| <i>W-188</i>   | <i>Re-188</i>   |
| <i>Re-189</i>  | <i>Os-189m</i>  |
| <i>Os-194</i>  | <i>Ir-194</i>   |
| <i>Ir-189</i>  | <i>Os-189m</i>  |
| <i>Pt-188</i>  | <i>Ir-188</i>   |
| <i>Hg-194</i>  | <i>Au-194</i>   |
| <i>Hg-195m</i> | <i>Hg-195</i>   |
| <i>Pb-210</i>  | <i>Bi-210</i>   |
| <i>Pb-212</i>  | <i>Bi-212, Tl-208, Po-212</i>                                 |
| <i>Bi-210m</i> | <i>Tl-206</i>   |
| <i>Bi-212</i>  | <i>Tl-208, Po-212</i>   |
| <i>At-211</i>  | <i>Po-211</i>   |
| <i>Rn-222</i>  | <i>Po-218, Pb-214, At-218, Bi-214, Po-214</i>                 |
| <i>Ra-223</i>  | <i>Rn-219, Po-215, Pb-211, Bi-211, Po-211, Tl-207</i>         |
| <i>Ra-224</i>  | <i>Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212</i>         |
| <i>Ra-225</i>  | <i>Ac-225, Fr-221, At-217, Bi-213, Tl-209, Po-213, Pb-209</i> |
| <i>Ra-226</i>  | <i>Rn-222, Po-218, Pb-214, At-218, Bi-214, Po-214</i>         |
| <i>Ra-228</i>  | <i>Ac-228</i>   |
| <i>Ac-225</i>  | <i>Fr-221, At-217, Bi-213, Tl-209, Po-213, Pb-209</i>         |
| <i>Ac-227</i>  | <i>Fr-223</i>   |
| <i>Th-228</i>  | <i>Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212</i> |
| <i>Th-234</i>  | <i>Pa-234m, Pa-234</i>  |
| <i>Pa-230</i>  | <i>Ac-226, Th-226, Fr-222, Ra-222, Rn-218, Po-214</i>         |
| <i>U-230</i>   | <i>Th-226, Ra-222, Rn-218, Po-214</i>                         |
| <i>U-235</i>   | <i>Th-231</i>   |
| <i>Pu-241</i>  | <i>U-237</i>  |
| <i>Pu-244</i>  | <i>U-240, Np-240m</i>   |
| <i>Am-242m</i> | <i>Am-242, Np-238</i>   |
| <i>Am-243</i>  | <i>Np-239</i>   |
| <i>Cm-247</i>  | <i>Pu-243</i>   |
| <i>Bk-249</i>  | <i>Am-245</i>   |
| <i>Cf-253</i>  | <i>Cm-249</i>   |

b) Az anyaelemeket és a velük szekuláris egyensúlyban levő bomlástermékeiket a következő felsorolás tartalmazza:

|                |               |
|----------------|---------------|
| <i>Sr-90</i>   | <i>Y-90</i>   |
| <i>Zr-93</i>   | <i>Nb-93m</i> |
| <i>Zr-97</i>   | <i>Nb-97</i>  |
| <i>Ru-106</i>  | <i>Rh-106</i> |
| <i>Ag-108m</i> | <i>Ag-108</i> |

|          |  |
|----------|--|
| Cs-137   | Ba-137m  |
| Ce-144   | Pr-144   |
| Ba-140   | La-140   |
| Bi-212   | Tl-208 (0,36), Po-212 (0,64)   |
| Pb-210   | Bi-210, Po-210   |
| Pb-212   | Bi-212, Tl-208 (0,36), Po-212 (0,64)   |
| Rn-222   | Po-218, Pb-214, Bi-214, Po-214   |
| Ra-223   | Rn-219, Po-215, Pb-211, Bi-211, Tl-207   |
| Ra-224   | Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0,36), Po-212 (0,64)   |
| Ra-226   | Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210   |
| Ra-228   | Ac-228   |
| Th-228   | Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0,36), Po-212 (0,64)                                   |
| Th-229   | Ra-225, Ac-225, Fr-221, At-217, Bi-213, Po-213, Pb-209   |
| Th-term. | Ra-228, Ac-228, Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0,36), Po-212 (0,64)           |
| Th-234   | Pa-234m  |
| U-230    | Th-226, Ra-222, Rn-218, Po-214   |
| U-232    | Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0,36), Po-212 (0,64)                           |
| U-235    | Th-231   |
| U-238    | Th-234, Pa-234m  |
| U-term.  | Th-234, Pa-234m, U-234, Th-230, Ra-226, Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210 |
| Np-237   | Pa-233   |
| Am-242m  | Am-242   |
| Am-243   | Np-239   |

- c) A mennyiség a bomlási sebesség mérésével vagy a forrástól előírt távolságban a sugárzási szint mérésével határozható meg.
- d) Ezek az értékek csak olyan uránvegyületekre vonatkoznak, amelyek kémiai alakja normális szállítási körülmények között és baleset esetén is  $UF_6$ ,  $UO_2F_2$  vagy  $UO_2(NO_3)_2$ .
- e) Ezek az értékek csak olyan uránvegyületekre vonatkoznak, amelyek kémiai alakja normális szállítási körülmények között és baleset esetén is  $UO_3$ ,  $UF_4$ ,  $UCl_4$  vagy hatvegyértékű uránvegyület.
- f) Ezek az értékek az előző d) és e) pont alatt meghatározottakon kívüli egyéb más uránvegyületekre vonatkoznak.
- g) Ezek az értékek csak a besugárzatlan uránra vonatkoznak.

**2.2.7.2.2.2** Azokra az egyedi radionuklidokra, amelyek nincsenek a 2.2.7.2.2.1 táblázatban felsorolva, a 2.2.7.2.2.1 pont szerinti radionuklid alapértékek meghatározásához többoldalú engedély szükséges. A Nemzetközi Sugárvédelmi Bizottság (ICRP) ajánlása szerint, a tödőabszorpciós típusnak megfelelő dózis tényezővel számított  $A_2$  érték használata is megengedett, ha mind a normális szállítási körülmények között, mind a baleset esetén lévő kémiai alakokat figyelembe veszik. Alternatívaként a 2.2.7.2.2.2 táblázatban található radionuklid alapértékek az illetékes hatóság engedélye nélkül használhatók.

**2.2.7.2.2.2 táblázat – Radionuklid alapértékek ismeretlen radionuklidokra vagy keverékekre**

| Radioaktív tartalom   | $A_1$              | $A_2$              | Mentességi aktivitás koncentráció anyagra<br>(Bq/g) | Mentességi aktivitás küldeményre<br>(Bq) |
|---|--------------------|--------------------|---|--|
|   | (TBq)              | (TBq)              |   |  |
| Csak béta- vagy gamma-sugarakat kibocsátó nuklidok jelenléte ismert                 | $1 \times 10^{-1}$ | $2 \times 10^{-2}$ | $1 \times 10^1$                                     | $1 \times 10^4$                          |
| Alfa-sugarakat kibocsátó nuklidok jelenléte ismert, de neutron sugárzóké nem        | $2 \times 10^{-1}$ | $9 \times 10^{-5}$ | $1 \times 10^{-1}$                                  | $1 \times 10^3$                          |
| Neutron sugárzó nuklidok jelenléte ismert vagy nem áll tényleges adat rendelkezésre | $1 \times 10^{-3}$ | $9 \times 10^{-5}$ | $1 \times 10^{-1}$                                  | $1 \times 10^3$                          |

**2.2.7.2.2.3** A 2.2.7.2.2.1 táblázatban nem szereplő radionuklidokra az  $A_1$  és  $A_2$  számításakor az olyan radioaktív bomlási lánc, amelyben a radionuklidok a természetben előforduló arányban szerepelnek, és sem tíz napnál nagyobb, sem a kiindulási radionuklid felezési idejénél nagyobb felezési idejű leánynuklid nem szerepel, egy radionuklidnak tekintendő. Ekkor a figyelembe veendő aktivitás és az alkalmazandó  $A_1$  vagy  $A_2$  érték a kiindulási radionuklidra érvényes érték. Az olyan radioaktív bomlási láncban, amelyben a leánynuklidok felezési ideje nagyobb mint tíz nap, vagy nagyobb, mint a kiindulási radionuklid felezési ideje, a kiindulási nuklidot és az ilyen leánynuklidokat úgy kell kezelni, mint különböző nuklidok keverékét.

**2.2.7.2.2.4** Radionuklid keverékekre a 2.2.7.2.2.1 pont szerinti radionuklid alapértékek a következők szerint határozhatók meg:

$$X_m = \frac{1}{\sum_i \frac{f(i)}{X(i)}}, \text{ ahol}$$

$f(i)$  – a keverékben az  $i$ -edik radionuklid aktivitásának vagy aktivitás koncentrációjának részaránya;

$X(i)$  – az  $i$ -edik radionuklidra vonatkozó  $A_1$  vagy  $A_2$  érték, ill. az anyagra vonatkozó mentességi aktivitás koncentráció vagy a küldeményre vonatkozó mentességi aktivitás érték;

$X_m$  – keverék esetén a származtatott  $A_1$  vagy  $A_2$  érték, ill. az anyagra vonatkozó mentességi aktivitás koncentráció vagy a küldeményre vonatkozó mentességi aktivitás érték.

**2.2.7.2.2.5** Amennyiben minden egyes radionuklid azonossága ismert, azonban néhány radionuklid aktivitása ismeretlen, a radionuklidok csoportokba foglalhatók. Az egyes radionuklid csoportokra azután a 2.2.7.2.2.4 és a 2.2.7.2.4.4 pont szerinti képlet alkalmazása során a megfelelő legkisebb vonatkozó radionuklid értéket lehet alkalmazni. A csoportba sorolás alapja az összes alfa-aktivitás és az összes béta/gamma-aktivitás lehet, amennyiben ezek ismeretesek, amikor is az alfa-sugárzókra illetve béta/gamma-sugárzókra a legkisebb radionuklid értéket kell alkalmazni.

**2.2.7.2.2.6** Azokra az egyedi radionuklidokra vagy radionuklid-keverékekre, amelyeknél tényleges adatok nem állnak rendelkezésre, a 2.2.7.2.2.2 táblázat értékeit kell alkalmazni.

**2.2.7.2.3** *Egyéb anyagjellemzők meghatározása*

**2.2.7.2.3.1** Kis fajlagos aktivitású ( $LSA$ ) anyag

**2.2.7.2.3.1.1** (fenntartva)

**2.2.7.2.3.1.2** Az  $LSA$  anyagok az alábbi három csoport egyikéhez tartoznak:

a)  $LSA-I$

- i) urán- és tóriumércék és ezen ércék koncentrációi és természetes radionuklidokat tartalmazó egyéb ércék, amelyeket ezen radionuklidok felhasználására kívánnak feldolgozni;
- ii) természetes urán vagy szegényített urán, vagy természetes tórium, vagy ezek vegyületei vagy keverékei, ha nincsenek besugározva és szilárdak vagy folyékonyak;
- iii) radioaktív anyagok, amelyek  $A_2$  értéke nincs korlátozva, kivéve a 2.2.7.2.3.5 pont szerint hasadónak besorolt anyagokat; vagy

- iv) egyéb radioaktív anyag, amelyben az aktivitás egyenletesen oszlik meg és a becsült közepes fajlagos aktivitás nem haladja meg a 2.2.7.2.2.1 – 2.2.7.2.2.6 pontban az aktivitás koncentrációra meghatározott érték 30-szorosát, kivéve a 2.2.7.2.3.5 pont szerint hasadónak besorolt anyagokat;

b) *LSA-II*

- i) a víz, legfeljebb 0,8 TBq/l trícium koncentrációval; vagy
- ii) egyéb anyagok, amelyekben az aktivitás egyenletesen oszlik meg, és amelyekben a becsült közepes fajlagos aktivitás szilárd anyagok és gázok esetében  $10^{-4} A_2/g$  értéket, folyadékok esetében a  $10^{-5} A_2/g$  értéket nem haladja meg;

c) *LSA-III*

Szilárd anyagok (pl. szilárdított hulladékok vagy felaktivált anyagok) a porok kivételével, amelyeknél

- i) a radioaktív anyagok szilárd anyagban vagy szilárd tárgyak együttesében vagy szilárd, tömör kötőanyagban (mint beton, bitumen, kerámia stb.) lényegében egyenletesen vannak eloszlva;
- ii) a radioaktív anyagok viszonylag oldhatatlanok, vagy azokat viszonylag oldhatatlan közeg tartalmazza úgy, hogy az egy küldeménydarabra jutó kilúgozódásból adódó radioaktív anyag veszteség a 7 napig tartó, vízben való áztatás során még a csomagolás elveszése esetén sem haladja meg a  $0,1 A_2$  értéket; és
- iii) a szilárd anyagok becsült közepes fajlagos aktivitása az árnyékolóanyagok figyelembevétele nélkül a  $2 \cdot 10^{-3} A_2/g$  értéket nem haladja meg.

**2.2.7.2.3.1.3** Az *LSA-III* anyagnak olyan szilárd anyagnak kell lennie, hogy ha egy küldeménydarab teljes tartalmát alávetnék a 2.2.7.2.3.1.4 pont szerinti vizsgálatnak, a vízben mérhető aktivitás a  $0,1 A_2$  értéket nem haladná meg.

**2.2.7.2.3.1.4** Az *LSA-III* anyagot a következők szerint kell vizsgálni:

A küldeménydarab teljes tartalmát reprezentáló szilárd anyag mintát hét napig környezeti hőmérsékletű vízbe kell meríteni. A vizsgálathoz használt víz mennyisége annyi legyen, hogy a hétnapos vizsgálati idő végén megmaradó el nem nyelt és hatástalan szabad vízmennyiség a szilárd vizsgálati minta térfogatának legkevesebb 10%-a legyen. A víz kezdeti pH-értéke 6...8 között kell legyen, miközben vezetőképessége 20 °C-on legfeljebb 1 mS/m lehet. A vizsgált minta 7 napig tartó bemerülését követően kell megmérni a szabad vízmennyiség teljes aktivitását.

**2.2.7.2.3.1.5** A 2.2.7.2.3.1.4 pontban meghatározott teljesítményszintnek való megfelelést a 6.4.12.1 és a 6.4.12.2 bekezdés szerint kell bizonyítani.

**2.2.7.2.3.2** Szennyezett felületű tárgyak (*SCO*)

A szennyezett felületű tárgyak (*SCO*) a következő két csoport egyikébe tartoznak:

a) *SCO-I*: olyan szilárd tárgy, amelyen

- i) a nem tapadó radioaktív szennyezettség aktivitása a hozzáférhető felületek  $300 \text{ cm}^2$ -nyi részén (vagy a teljes felületen, ha az kisebb  $300 \text{ cm}^2$ -nél) meghatározva, nem haladja meg a  $4 \text{ Bq/cm}^2$  értéket béta- és gamma-sugárzók, valamint csekély toxicitású alfa-sugárzók esetén, ill. a  $0,4 \text{ Bq/cm}^2$  értéket egyéb alfa-sugárzók esetén; és
- ii) a tapadó radioaktív szennyezettség aktivitása a hozzáférhető felületek  $300 \text{ cm}^2$ -nyi részén (vagy a teljes felületen, ha az kisebb  $300 \text{ cm}^2$ -nél)

meghatározva, nem haladja meg a  $4 \cdot 10^4$  Bq/cm<sup>2</sup> értéket béta- és gamma-sugárzók, valamint csekély toxicitású alfa-sugárzók esetén, ill. a  $4 \cdot 10^3$  Bq/cm<sup>2</sup> értéket egyéb alfa-sugárzók esetén; és

- iii) a nem tapadó és a tapadó radioaktív szennyezettség aktivitásának összege a nem hozzáférhető felületek 300 cm<sup>2</sup>-nyi részén (vagy a teljes felületen, ha az kisebb 300 cm<sup>2</sup>-nél) meghatározva, nem haladja meg a  $4 \cdot 10^4$  Bq/cm<sup>2</sup> értéket béta- és gamma-sugárzók, valamint csekély toxicitású alfa-sugárzók esetén, ill. a  $4 \cdot 10^3$  Bq/cm<sup>2</sup> értéket egyéb alfa-sugárzók esetén.
- b) *SCO-II*: olyan szilárd tárgy, amelynek felületén olyan tapadó vagy nem tapadó radioaktív szennyezettség található, amely az a) pontban az *SCO-I*-re vonatkozó határokat meghaladja, és amelyen
- i) a nem tapadó radioaktív szennyezettség aktivitása a hozzáférhető felületek 300 cm<sup>2</sup>-nyi részén (vagy a teljes felületen, ha az kisebb 300 cm<sup>2</sup>-nél) meghatározva, nem haladja meg a 400 Bq/cm<sup>2</sup> értéket béta- és gamma-sugárzók, valamint csekély toxicitású alfa-sugárzók esetén, ill. a 40 Bq/cm<sup>2</sup> értéket egyéb alfa-sugárzók esetén; és
  - ii) a tapadó radioaktív szennyezettség aktivitása a hozzáférhető felületek 300 cm<sup>2</sup>-nyi részén (vagy a teljes felületen, ha az kisebb 300 cm<sup>2</sup>-nél) meghatározva, nem haladja meg a  $8 \cdot 10^5$  Bq/cm<sup>2</sup> értéket béta- és gamma-sugárzók, valamint csekély toxicitású alfa-sugárzók esetén, vagy a  $8 \cdot 10^4$  Bq/cm<sup>2</sup> értéket egyéb alfa-sugárzók esetén; és
  - iii) a nem tapadó és a tapadó radioaktív szennyezettség aktivitásának összege a nem hozzáférhető felületek 300 cm<sup>2</sup>-nyi részén (vagy a teljes felületen, ha az kisebb 300 cm<sup>2</sup>-nél) meghatározva, nem haladja meg a  $8 \cdot 10^5$  Bq/cm<sup>2</sup> értéket béta- és gamma-sugárzók, valamint csekély toxicitású alfa-sugárzók esetén, vagy a  $8 \cdot 10^4$  Bq/cm<sup>2</sup> értéket egyéb alfa-sugárzók esetén.

#### 2.2.7.2.3.3 A különleges formájú radioaktív anyag

**2.2.7.2.3.3.1** A különleges formájú radioaktív anyag legalább egyik méretének el kell érnie az 5 mm-t. Ha egy tömören lezárt kapszula a különleges formájú radioaktív anyag részét képezi, azt úgy kell kialakítani, hogy csak a kapszula széttronsolásával lehessen kinyitni. A különleges formájú radioaktív anyag mintához egyoldalú engedély szükséges.

**2.2.7.2.3.3.2** A különleges formájú anyagnak olyan természetűnek vagy olyan szerkezetűnek kell lenni, hogy ha alávethetné a 2.2.7.2.3.3.4 – 2.2.7.2.3.3.8 pontban meghatározott vizsgálatoknak, kielégítené a következő előírásokat:

- a) nem szakad fel vagy nem törik össze a 2.2.7.2.3.3.5 a), b), c), és a 2.2.7.2.3.3.6 a) pontban ismertetett ejtési, ütési és hajlítási vizsgálat hatására (amelyik alkalmazható);
- b) nem olvad meg és nem diszpergálódik a 2.2.7.2.3.3.5 d) vagy a 2.2.7.2.3.3.6 b) pont szerinti hőpróba hatására (ha az alkalmazható); és
- c) a vízben mérhető aktivitás a 2.2.7.2.3.3.7 és a 2.2.7.2.3.3.8 pont szerinti kioldhatóság-vizsgálat során nem haladja meg a 2 kBq értéket; vagy helyette a zárt sugárforrásoknál az ISO 9978:1992 „Sugárzás elleni védelem – Zárt radioaktív sugárforrások – Zártságvizsgálati eljárások” szabvány alapján, a zártság mértékének megállapítására végzendő térfogati szivárgást meghatározó vizsgálat hatására nem lépi túl az elfogadott küszöböt, amely az illetékes hatóság számára elfogadható.

**2.2.7.2.3.3.3** A 2.2.7.2.3.3.2 pontban meghatározott teljesítményszintnek való megfelelést a 6.4.12.1 és a 6.4.12.2 bekezdés szerint kell bizonyítani.

**2.2.7.2.3.3.4** A különleges formájú radioaktív anyagból álló vagy azt modellező mintadarabokat a 2.2.7.2.3.3.5 pontban meghatározott ejtési, ütési, hajlítási és hőpróbanak vagy a 2.2.7.2.3.3.6

pontban engedélyezett alternatív próbáknak kell kitenni. Minden vizsgálathoz használható másik mintadarab. Mindegyik vizsgálat után egy kioldhatóság- vagy térfogatvesztés-vizsgálatot kell végezni a mintán olyan eljárással, amely legalább olyan pontos, mint a nem diszpergálódó szilárd anyagra a 2.2.7.2.3.3.7 pontban megadott, ill. kapszulázott (tokozott) anyagra a 2.2.7.2.3.3.8 pontban megadott próbák.

**2.2.7.2.3.3.5** A megfelelő vizsgálati eljárások a következők:

- a) *Ejtési próba:* A mintát 9 m magasból ütközőlapra kell ejteni. Az ütközőlapnak a 6.4.14 szakaszban meghatározott kivitelűnek kell lennie.
- b) *Ütési próba:* A mintadarabot egy ólomlapra kell helyezni, amelyik sima, szilárd felületen nyugszik, és egy acélrúd lapos végével akkora ütést kell rá mérni, amely 1,4 kg tömeg 1 m magasból való függőleges ráejtésének felel meg. A rúd végének 25 mm átmérőjűnek kell lennie, a szélét  $3 \pm 0,3$  mm-es sugárral le kell kerekíteni. Az ólom 3,5...4,5 Vickers-keménységű és max. 25 mm vastagságú legyen; a felülete pedig nagyobb legyen, mint a próbatest által befedett felület. Minden ütéshez új ólomfelületet kell használni. A bélyeg (acélrúd) úgy üsse meg a mintát, hogy azon a legnagyobb sérülést okozza.
- c) *Hajlítási próba:* A próbát csak hosszú, vékony forrásokra kell alkalmazni, amelyeknek legkisebb hosszúsága 10 cm, és a hosszúságnak a legkisebb szélességhez viszonyított aránya legalább 10. A mintadarabot mereven, vízszintesen úgy kell befogni, hogy hosszúságának a fele nyúljon ki a befogásból. A mintadarabot úgy kell elhelyezni, hogy a mintadarab a legnagyobb sérülést szenvedje el, ha a szabad végét egy acélrúd lapos végével megütik. A rúdnak olyan erővel kell megütni a mintadarabot, hogy az egyenértékű legyen 1,4 kg tömeg 1 m-ről való függőleges ráejtésével. A rúd végének 25 mm átmérőjűnek kell lennie, a szélét  $3 \pm 0,3$  mm-es sugárral le kell kerekíteni.
- d) *Hőpróba:* A mintadarabot levegőn 800 °C-ra kell felhevíteni, és tíz percen át ezen a hőmérsékleten tartani, majd hagyni kell kihűlni.

**2.2.7.2.3.3.6** A zárt kapszulába tokozott radioaktív anyagból álló vagy azt modellező mintadarabokat a következők alól lehet mentesíteni:

- a) a 2.2.7.2.3.3.5 a) és b) pontban leírt próbák alól, feltéve, hogy a különleges formájú radioaktív anyag tömege:
  - i) 200 g-nál kevesebb, és az ISO 2919:1999 „Sugárvédelem. Zárt radioaktív sugárforrások. Általános követelmények és osztályozás” szabványban meghatározott 4. osztályszámozású ütési próbát elvégezték; vagy
  - ii) 500 g-nál kevesebb, és az ISO 2919:1999 „Sugárvédelem. Zárt radioaktív sugárforrások. Általános követelmények és osztályozás” szabványban meghatározott 5. osztályszámozású ütési próbát elvégezték; és
- b) a 2.2.7.2.3.3.5 d) pontban leírt próba alól, feltéve, hogy helyette az ISO 2919:1999 „Sugárvédelem. Zárt radioaktív sugárforrások. Általános követelmények és osztályozás” szabványban meghatározott 6. osztályszámozású hőmérsékletpróbát elvégezték.

**2.2.7.2.3.3.7** A nem diszpergálódó, szilárd anyagokból álló vagy azt modellező mintadaraboknál kioldhatóság-vizsgálatot kell végezni a következők szerint:

- a) A mintadarabot hét napig környezeti hőmérsékletű vízbe kell meríteni. A vizsgálathoz felhasznált víz mennyiségének elegendőnek kell lenni ahhoz, hogy a hétnapos vizsgálati idő végén megmaradó, el nem nyelt és hatástalan szabad vízmennyiség a szilárd vizsgálati minta térfogatának legkevesebb 10%-a legyen. A víz kezdeti pH-értéke 6...8 között legyen, miközben vezetőképessége 20 °C-on legfeljebb 1 mS/m lehet.



- b) A vizet a mintadarabbal együtt  $50\text{ °C} \pm 5\text{ °C}$  hőmérsékletre kell hevíteni, és négy órán át ezen a hőmérsékleten kell tartani.
- c) Ezután a víz aktivitását meg kell határozni.
- d) Ezt követően a mintadarabot legalább hét napon át legalább 90% relatív nedvességtartalmú és  $30\text{ °C}$ -os mozdulatlan levegőn kell tárolni.
- e) Ezután a mintadarabot az a) pontban leírtakhoz hasonlóan vízbe kell meríteni, a vizet a mintadarabbal együtt ismét  $50\text{ °C} \pm 5\text{ °C}$ -ra fel kell melegíteni, és ezen a hőmérsékleten tartani négy órán át.
- f) Ezután a víz aktivitását meg kell határozni.

**2.2.7.2.3.3.8** A zárt kapszulába tokozott radioaktív anyagból álló vagy azt modellező mintadarabokon a minősítéshez vagy kioldhatóság- vagy térfogatveszteség-vizsgálatot kell végezni a következők szerint:

- a) A kioldhatóság-vizsgálatnak a következő lépéseket kell tartalmazni:
  - i) A mintadarabot környezeti hőmérsékletű vízbe kell meríteni. A víz kezdeti pH-értéke 6-8 között legyen, miközben vezetőképessége  $20\text{ °C}$ -on legfeljebb  $1\text{ mS/m}$  lehet.
  - ii) A vizet a mintadarabbal együtt  $50\text{ °C} \pm 5\text{ °C}$  hőmérsékletre kell hevíteni, és négy órán át ezen a hőmérsékleten tartani.
  - iii) Ezután meg kell határozni a víz aktivitását.
  - iv) Ezt követően a mintadarabot legalább hét napon át legalább 90% relatív páratartalmú és  $30\text{ °C}$ -os mozdulatlan levegőn kell tárolni.
  - v) Az i), ii), iii) alatti műveletet meg kell ismételni.
- b) A másik lehetőség szerinti térfogatveszteség megállapításához az ISO 9978:1992 „Sugárzás elleni védelem – Zárt radioaktív sugárforrások – Zártságvizsgálati eljárások” szabványban ismertetett azon próbákat kell alkalmazni, amelyek az illetékes hatóság számára elfogadhatók.

**2.2.7.2.3.4** Kis mértékben diszpergálódó radioaktív anyagok

**2.2.7.2.3.4.1** A kis mértékben diszpergálódó radioaktív anyag mintájához többoldalú engedély szükséges. A kis mértékben diszpergálódó radioaktív anyagnak olyannak kell lennie, hogy küldeménydarabban lévő összes radioaktív anyagra teljesüljenek a következő feltételek:

- a) a sugárzási szint a nem árnyékolt radioaktív anyagtól  $3\text{ m}$  távolságban nem haladja meg a  $10\text{ mSv/h}$  értéket;
- b) ha alávetnék a 6.4.20.3 és a 6.4.20.4 bekezdésben meghatározott próbáknak, a levegőbe történő gáz és legfeljebb  $100\text{ }\mu\text{m}$  ekvivalens aerodinamikai átmérőjű részecske kibocsátás nem haladná meg a  $100A_2$  értéket. Mindegyik próbához külön mintadarabot lehet használni;
- c) ha alávetnék a 2.2.7.2.3.1.4 pontban meghatározott próbának, a vízben mérhető aktivitás nem haladná meg a  $100A_2$  értéket. A próba végrehajtásánál az előző b) pontban meghatározott próbák károsító hatását figyelembe kell venni.

**2.2.7.2.3.4.2** A kis mértékben diszpergálódó radioaktív anyagokat a következők szerint kell vizsgálni:

A kis mértékben diszpergálódó radioaktív anyagból álló vagy azt modellező mintadarabokat a 6.4.20.3 bekezdésben meghatározott fokozott hőpróbának és a 6.4.20.4 bekezdésben meghatározott ütőpróbának kell alávetni. Mindegyik próbához külön mintadarabot lehet

használni. A mintadarabot minden próba után alá kell vetni a 2.2.7.2.3.1.4. pont szerinti kioldhatóság-vizsgálatnak. Minden próba után meg kell vizsgálni, hogy a 2.2.7.2.3.4.1 pont vonatkozó követelményei teljesülnek-e.

**2.2.7.2.3.4.3** A 2.2.7.2.3.4.1 és a 2.2.7.2.3.4.2 pontokban előírt követelményeknek való megfelelést a 6.4.12.1 és a 6.4.12.2 bekezdés szerint kell bizonyítani.

#### **2.2.7.2.3.5** Hasadóanyagok

A hasadó radionuklidot tartalmazó küldeménydarabot a 2.2.7.2.1.1 táblázat valamely hasadóanyag tételéhez kell sorolni, kivéve, ha a következő a) – d) alpontok valamelyikének megfelel. Küldeményként csak egyfajta mentesítés engedélyezhető.

a) A küldeményenkénti tömeghatár:

$$\frac{\text{a 235 – urán tömege (g)}}{X} + \frac{\text{az egyéb hasadóanyag tömege (g)}}{Y} < 1,$$

ahol X és Y a 2.2.7.2.3.5 táblázatban meghatározott tömeghatár, feltéve, hogy a küldeménydarabok legkisebb külső mérete legalább 10 cm, és amennyiben :

- i) vagy az egyes küldeménydarabok legfeljebb 15 g hasadóanyagot tartalmaznak; csomagolatlan anyagnál a mennyiségi korlát a járműben vagy a járművön szállított küldeményre vonatkozik; vagy
- ii) a hasadóanyag homogén hidrogéntartalmú oldat vagy keverék, amelyben a hasadó nuklid és a hidrogén aránya 5 tömeg%-nál kisebb; vagy
- iii) az anyag bármely 10 liternyi térfogatában nincs 5 g-nál több hasadóanyag.

A hidrogénben természetes koncentrációban lévő deutériumot kivéve, sem berillium, sem deutérium nem lehet jelen a 2.2.7.2.3.5 táblázatban a küldeményre megadott tömeghatárok 1%-át meghaladó mennyiségben.

- b) Legfeljebb 1 tömeg% 235-urán tartalmú dúsított urán olyan összes plutónium- és 233-urán tartalommal, amely nem haladja meg a 235-urán tömegének 1%-át, amennyiben a hasadóanyagok az anyagban lényegében egyenletesen vannak eloszlva. Ezenkívül a hasadóanyag a küldeménydarabon belül nem alkothat rácsszerű elrendeződést, ha a 235-urán mint fém, oxid vagy karbid van jelen.
- c) Uranil-nitrát folyékony oldata az urán tömegének legfeljebb 2%-át kitevő 235-urán dúsítással, olyan összes plutónium- és 233-urán tartalommal, amely a 235-urán tömegének 0,002%-át nem haladja meg; ezenkívül a nitrogén/urán atomarányának (N/U) legalább 2-nek kell lenni.
- d) Küldeménydarab, amely nem tartalmaz 1 kg-nál több plutóniumot, amely legfeljebb 20 tömeg% 239-plutóniumból, 241-plutóniumból vagy e két radionuklid bármilyen kombinációjából állhat.

#### **2.2.7.2.3.5 táblázat – Küldemény tömeghatárok a hasadóanyagot tartalmazó küldeménydarabokra vonatkozó előírások alóli mentességhez**

| Hasadóanyag           | A vízzel azonos vagy annál kisebb átlagos hidrogén-sűrűségű anyagokkal kevert hasadóanyag tömeg (g) | A víznél nagyobb átlagos hidrogén-sűrűségű anyagokkal kevert hasadóanyag tömeg (g) |
|-----------------------|---|--|
| 235-urán (X)          | 400   | 290  |
| Egyéb hasadóanyag (Y) | 250   | 180  |



**2.2.7.2.4** *A küldeménydarabok és a csomagolatlan anyagok besorolása*

Egy küldeménydarab radioaktív anyag tartalma nem haladhatja meg a küldeménydarab típusra a következőkben meghatározott határértékeket.

**2.2.7.2.4.1** Engedményes küldeménydarabok besorolása**2.2.7.2.4.1.1** Egy küldeménydarabot akkor lehet engedményes küldeménydarabnak besorolni, ha

- olyan üres csomagolóeszköz, amelyben radioaktív anyag volt;
- korlátozott mennyiségben tartalmaz készüléket vagy gyártmányt;
- természetes uránból, szegényített uránból vagy természetes tóriumból készült gyártmányt tartalmaz;
- korlátozott mennyiségű radioaktív anyagot tartalmaz.

**2.2.7.2.4.1.2** Egy radioaktív anyagot tartalmazó küldeménydarabot akkor lehet engedményes küldeménydarabnak besorolni, ha a sugárzási szint a külső felületének egyetlen pontján sem haladja meg az 5  $\mu\text{Sv/h}$  értéket.**2.2.7.2.4.1.2 táblázat – Aktivitáshatárok engedményes küldeménydarabokra**

| A tartalom halmazállapota | Készülékek és gyártmányok           |   | Anyagok                                       |
|---------------------------|-------------------------------------|---|---|
|                           | Határérték tárgyaként <sup>a)</sup> | Határérték küldeménydarabonként <sup>a)</sup> | Határérték küldeménydarabonként <sup>a)</sup> |
| <b>Szilárd anyagok</b>    |                                     |   |   |
| különleges formájúak      | $10^{-2} A_1$                       | $A_1$   | $10^{-3} A_1$                                 |
| egyéb formájúak           | $10^{-2} A_2$                       | $A_2$   | $10^{-3} A_2$                                 |
| <b>Folyékony anyagok</b>  | $10^{-3} A_2$                       | $10^{-1} A_2$                                 | $10^{-4} A_2$                                 |
| <b>Gázok</b>              |                                     |   |   |
| trícium                   | $2 \times 10^{-2} A_2$              | $2 \times 10^{-1} A_2$                        | $2 \times 10^{-2} A_2$                        |
| különleges formájúak      | $10^{-3} A_1$                       | $10^{-2} A_1$                                 | $10^{-3} A_1$                                 |
| egyéb formájúak           | $10^{-3} A_2$                       | $10^{-2} A_2$                                 | $10^{-3} A_2$                                 |

- a) A radionuklidokból álló keverékekre lásd a 2.2.7.2.2.4 – 2.2.7.2.2.6 pontot.

**2.2.7.2.4.1.3** Azokat a radioaktív anyagokat, amelyeket bizonyos készülék vagy bizonyos gyártmány tartalmaz vagy amelyek e tárgyak alkotórészét képezik, akkor lehet az UN 2911 RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – KÉSZÜLÉKEK vagy GYÁRTMÁNYOK tétel alá sorolni, ha:

- a sugárzási szint a csomagolatlan készülék vagy gyártmány bármely pontjától 10 cm távolságban nem haladja meg a 0,1 mSv/h értéket, és
- minden készülék vagy gyártmány el van látva a „RADIOACTIVE” felirattal, kivéve:
  - a radiolumineszcens világító kijelzőjű órákat és készülékeket;
  - azokat a fogyasztási cikkeket, amelyek vagy a 1.7.1.4 d) pont szerinti hatósági engedéllyel rendelkeznek, vagy amelyek aktivitása egyedileg nem haladja meg a 2.2.7.2.2.1 táblázatban a küldeményre vonatkozó mentességi aktivitás határát (5. oszlop), amennyiben az ilyen cikkeket olyan küldeménydarabban szállítják, amelynek valamely belső felülete el van látva a „RADIOACTIVE” felirattal úgy, hogy a küldeménydarab felnyitásakor a radioaktív anyag jelenlétére utaló figyelmeztetés láthatóvá válik; és
- az aktív anyagot a nem aktív komponensek teljesen bezárják (az olyan eszköz, amelynek kizárólagos funkciója a radioaktív anyag megtartása, nem tekinthető

készüléknek vagy gyártmánynak); és

- d) a 2.2.7.2.4.1.2 táblázatnak a 2. ill. 3 oszlopában feltüntetett határértékek minden egyes tárgyra és minden egyes küldeménydarabra teljesülnek.

**2.2.7.2.4.1.4** Azokat a radioaktív anyagokat, amelyek aktivitása nem haladja meg a 2.2.7.2.4.1.2 táblázatnak a 4 oszlopában feltüntetett határértéket, akkor lehet az UN 2910 RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – KORLÁTOZOTT ANYAG-MENNYISÉG tétel alá sorolni, ha:

- a) a küldeménydarab azon feltételek között, amelyek a normális szállítás során valószínűleg fennállnak, a tartalmat megtartja, és
- b) a küldeménydarab valamely belső felülete el van látva a „RADIOACTIVE” felirattal, úgy, hogy a küldeménydarab felnyitásakor a radioaktív anyag jelenlétére utaló figyelmeztetés láthatóvá válik.

**2.2.7.2.4.1.5** Valamely üres csomagolóeszközt, amely előzőleg radioaktív anyagot tartalmazott, és amelynek aktivitása nem haladja meg a 2.2.7.2.4.1.2 táblázatnak a 4 oszlopában feltüntetett határértéket, akkor lehet az UN 2908 RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – ÜRES CSOMAGOLÓESZKÖZ tétel alá sorolni, ha:

- a) jól karbantartott és biztonságosan zárva van;
- b) a szerkezetében levő urán vagy tórium külső felülete fémből vagy más szilárd anyagból álló inaktív burkolattal van ellátva;
- c) a belső, nem tapadó szennyezettség szintje a felület bármely 300 cm<sup>2</sup>-nyi részén képzett átlagra nem haladja meg
- i) a 400 Bq/cm<sup>2</sup>-t béta-, gamma -, valamint csekély toxicitású alfa-sugárzók esetén; ill.
- ii) a 40 Bq/cm<sup>2</sup>-t minden más alfa-sugárzó esetén, és
- d) az 5.2.2.1.11.1 pont szerint elhelyezett esetleges bárcák nem láthatóak.

**2.2.7.2.4.1.6** Az olyan gyártmányt, amelyben az egyetlen radioaktív anyag besugárzatlan természetes urán, besugárzatlan szegényített urán vagy besugárzatlan természetes tórium, akkor lehet az UN 2909 RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – TERMÉSZETES URÁNBÓL vagy SZEGÉNYÍTETT URÁNBÓL vagy TERMÉSZETES TÓRIUMBÓL KÉSZÜLT GYÁRTMÁNYOK tétel alá sorolni, ha az urán vagy a tórium külső felülete fémből vagy más szilárd anyagból álló inaktív burkolattal van ellátva.

**2.2.7.2.4.2** Kis fajlagos aktivitású (*LSA*) anyagok besorolása

Egy radioaktív anyag csak akkor sorolható be *LSA* anyagként, ha a 2.2.7.2.3.1 pont és a 4.1.9.2 bekezdés feltételei teljesülnek.

**2.2.7.2.4.3** Szennyezett felületű (*SCO*) tárgyak besorolása

Egy radioaktív anyag csak akkor sorolható be *SCO* tárgyként, ha a 2.2.7.2.3.2 pont és a 4.1.9.2 bekezdés feltételei teljesülnek.

**2.2.7.2.4.4** A típusú küldeménydarabok besorolása

Radioaktív anyagot tartalmazó küldeménydarabok akkor sorolhatók be A típusú küldeménydarabként, ha a következő feltételek teljesülnek:

Az A típusú küldeménydarabok nem tartalmazhatnak nagyobb aktivitást, mint a következő:

- a) különleges formájú radioaktív anyagból: *A<sub>1</sub>*, ill.

- b) minden más radioaktív anyagból:  $A_2$ .

Azoknál a radionuklid-keverékeknel, amelyeknél minden egyes radionuklid azonossága és aktivitása ismert, a következő feltételeket kell alkalmazni az  $A$  típusú küldeménydarabok radioaktív tartalmára:

$$\sum_i \frac{B(i)}{A_1(i)} + \sum_j \frac{C(j)}{A_2(j)} \leq 1, \text{ ahol}$$

$B(i)$  a különleges formájú radioaktív anyagként jelen levő  $i$ -edik radionuklid aktivitása;

$A_1(i)$  az  $i$ -edik radionuklid  $A_1$  értéke;

$C(j)$  a nem különleges formájú radioaktív anyagként jelen levő  $j$ -edik radionuklid aktivitása; és

$A_2(j)$  a  $j$ -edik radionuklid  $A_2$  értéke.

#### 2.2.7.2.4.5 Urán-hexafluorid besorolása

Az urán-hexafluoridot csak az UN 2977 RADIOAKTÍV ANYAG, HASADÓ URÁN-HEXAFLUORID vagy az UN 2978 RADIOAKTÍV ANYAG, URÁN-HEXAFLUORID, nem hasadó vagy hasadó-engedményes tétel alá lehet sorolni.

#### 2.2.7.2.4.5.1 Az urán-hexafluoridot tartalmazó küldeménydarabok:

- nem tartalmazhatnak a küldeménydarab-mintára engedélyezetttnél nagyobb tömegű urán-hexafluoridot;
- nem tartalmazhatnak annál nagyobb tömegű urán-hexafluoridot, mint ami 5%-nál kisebb üres teret eredményezne a küldeménydarabban azon a legnagyobb hőmérsékleten, amely arra az üzemi létesítményre van meghatározva, ahol a küldeménydarabot használni fogják; ill.
- csak szilárd urán-hexafluoridot tartalmazhatnak, és a szállításra való átadásakor a küldeménydarab belső nyomása nem lehet nagyobb az atmoszferikus nyomásnál.

#### 2.2.7.2.4.6 $B(U)$ , $B(M)$ és $C$ típusú küldeménydarabok besorolása

##### 2.2.7.2.4.6.1 A 2.2.7.2.4 pont (2.2.7.2.4.1 – 2.2.7.2.4.5 alpontok) szerint máshová nem sorolt küldeménydarabokat a származási ország illetékes hatósága által kiadott küldeménydarab-minta engedélynek megfelelően kell besorolni.

##### 2.2.7.2.4.6.2 Egy küldeménydarab csak akkor sorolható be $B(U)$ típusú küldeménydarabként, ha nem tartalmaz:

- nagyobb aktivitást, mint a küldeménydarab-mintára engedélyezett;
  - más radionuklidokat, mint a küldeménydarab-mintára engedélyezett; vagy
  - olyan anyagokat, amelyek alakjukban, fizikai vagy kémiai állapotukban a küldeménydarab-minta engedélyezett tartalmától eltérnek,
- amint a küldeménydarab-minta engedélyben meg van határozva.

##### 2.2.7.2.4.6.3 Egy küldeménydarab csak akkor sorolható be $B(M)$ típusú küldeménydarabként, ha nem tartalmaz:

- nagyobb aktivitást, mint a küldeménydarab-mintára engedélyezett;
- más radionuklidokat, mint a küldeménydarab-mintára engedélyezett; vagy
- olyan anyagokat, amelyek alakjukban, fizikai vagy kémiai állapotukban a

küldeménydarab-minta engedélyezett tartalmától eltérnek,  
amint a küldeménydarab-minta engedélyben meg van határozva.

**2.2.7.2.4.6.4** Egy küldeménydarab csak akkor sorolható be C típusú küldeménydarabként, ha nem tartalmaz

- a) nagyobb aktivitást, mint a küldeménydarab-mintára engedélyezett;
- b) más radionuklidokat, mint a küldeménydarab-mintára engedélyezett; vagy
- c) olyan anyagokat, amelyek alakjukban, fizikai vagy kémiai állapotukban a küldeménydarab-minta engedélyezett tartalmától eltérnek,

amint a küldeménydarab-minta engedélyben meg van határozva.

**2.2.7.2.5** *Külön megegyezés*

Egy radioaktív anyag akkor sorolható be külön megegyezés alapján szállított anyagként, ha az 1.7.4 szakasz szerint kívánják szállítani.

**2.2.8            8 osztály            Maró anyagok****2.2.8.1            *Kritériumok***

**2.2.8.1.1**            A 8 osztály fogalomkörébe azok az anyagok tartoznak, amelyek vegyi reakciójukkal a velük érintkezésbe kerülő hámszövetet – a bőr hámrétegét vagy a nyálkahártyát – megtámadják, vagy elfolyás esetén képesek megrongálni vagy tönkretenni más árukat vagy a szállítóeszközöket. Ugyancsak ezen osztály fogalomkörébe tartoznak azok az anyagok, amelyek csak víz jelenlétében képeznek maró anyagot, vagy amelyek a levegő természetes nedvességének jelenlétében maró gőzöket vagy ködöket fejlesztenek.

**2.2.8.1.2**            A 8 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

C1 – C10            Maró anyagok járulékos veszély nélkül

    C1 – C4            Savas anyagok:

        C1            Szervetlen, folyékony anyagok

        C2            Szervetlen, szilárd anyagok

        C3            Szerves, folyékony anyagok

        C4            Szerves, szilárd anyagok

    C5 – C8            Bázikus jellegű anyagok:

        C5            Szervetlen, folyékony anyagok

        C6            Szervetlen, szilárd anyagok

        C7            Szerves, folyékony anyagok

        C8            Szerves, szilárd anyagok

    C9 – C10          Egyéb maró anyagok:

        C9            Folyékony anyagok

        C10           Szilárd anyagok

        C11           Tárgyak

CF    Maró, gyúlékony anyagok:

        CF1           Folyékony anyagok

        CF2           Szilárd anyagok

CS    Maró, önmelegedő anyagok:

        CS1           Folyékony anyagok

        CS2           Szilárd anyagok

CW    Maró, vízzel érintkezve gyúlékony gázokat fejlesztő anyagok:

        CW1           Folyékony anyagok

        CW2           Szilárd anyagok

CO    Maró, gyújtó hatású anyagok:

        CO1           Folyékony anyagok

        CO2           Szilárd anyagok

CT Maró, mérgező anyagok:

CT1 Folyékony anyagok

CT2 Szilárd anyagok

CFT Maró, gyúlékony, mérgező, folyékony anyagok

COT Maró, gyújtó hatású, mérgező anyagok.

*Besorolás és a csomagolási csoportokhoz való hozzárendelés*

**2.2.8.1.3** A 8 osztály anyagait a szállítás során általuk képviselt veszély mértéke szerint a következő három csomagolási csoport valamelyikéhez kell hozzárendelni:

- |                          |                       |
|--------------------------|-----------------------|
| I csomagolási csoport:   | erősen maró anyagok   |
| II csomagolási csoport:  | maró anyagok          |
| III csomagolási csoport: | gyengén maró anyagok. |

**2.2.8.1.4** A 8 osztályba sorolt anyagokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. Az anyagok hozzárendelése az I, a II és a III csomagolási csoporthoz tapasztalati alapon történt, figyelembe véve olyan kiegészítő tényezőket is, mint a belélegzési veszély (lásd a 2.2.8.1.5 pontot) és a vízzel való reakció (beleértve a veszélyes bomlástermékek képződését).

**2.2.8.1.5** Azokat az anyagokat és készítményeket, amelyek kielégítik a 8 osztály feltételeit és az I csomagolási csoportnak megfelelő por és köd belélegzési mérgezőképességgel ( $LC_{50}$ ) rendelkeznek, de a lenyelés vagy bőrön át való felszívódás esetén a mérgezőképességük a III csomagolási csoportnak megfelelő vagy annál kevésbé mérgezőek, a 8 osztályba kell sorolni.

**2.2.8.1.6** A 3.2 fejezet „A” táblázatában név szerint nem említett anyagok, beleértve a keverékeket is, a 2.2.8.3 bekezdés megfelelő tétele alá és a megfelelő csomagolási csoporthoz a következő a) – c) pont kritériumai szerint, azon érintkezési időtartam alapján sorolhatók be, amely alatt az emberi bőr roncsolódása annak teljes vastagságában bekövetkezik.

A folyékony anyagoknál, ill. azoknál a szilárd anyagoknál, amelyek a szállítás alatt folyékonyvá válhatnak, ha feltételezhető, hogy nem okoznak az emberi bőrön, annak teljes vastagságában roncsolódást, figyelembe kell venni a fémfelületekre gyakorolt korróziós hatás lehetőségét. A csomagolási csoportba sorolás során figyelembe kell venni az emberen bekövetkezett balesetknél szerzett tapasztalatokat. Az emberen szerzett tapasztalatok hiányában a csomagolási csoportba sorolást kísérletek adatai alapján kell végezni, összhangban az OECD 404 Útmutatóval<sup>8)</sup>.

- a) azok az anyagok, amelyek a sértetlen bőrszövet teljes vastagságban bekövetkező roncsolódását okozzák legfeljebb 3 percig tartó érintkezés után 60 perces megfigyelési időtartamon belül, az I csomagolási csoport anyagai;
- b) azok az anyagok, amelyek a sértetlen bőrszövet teljes vastagságban bekövetkező roncsolódását okozzák 3 percnél hosszabb ideig, de legfeljebb 60 percig tartó érintkezés után 14 napos megfigyelési időtartamon belül, a II csomagolási csoport anyagai;
- c) a következő anyagok a III csomagolási csoport anyagai:
  - azok az anyagok, amelyek a sértetlen bőrszövet teljes vastagságban bekövetkező roncsolódását okozzák 60 percnél hosszabb ideig, de legfeljebb 4 óráig tartó érintkezés után 14 napos megfigyelési időtartamon belül; vagy
  - azok az anyagok, amelyek nem okozzák a sértetlen bőrszövet teljes vastagságban bekövetkező roncsolódását, de a korróziósebesség – ha mindkét fémen vizsgálják –

8) OECD Útmutató vegyszerek vizsgálatára, No. 404 „Akut bőrirritáció/maró hatás”, 1992.

akár az acél, akár az alumínium felületen 55 °C vizsgálati hőmérsékleten meghaladja az évi 6,25 mm-t. Az acélon végzett vizsgálatához S235JR+CR (1.0037, ill. St 37-2), S275J2G3+CR (1.0144, ill. St 44-3), ISO 3574, Unified Numbering System (UNS) G10200 vagy SAE 1020 minőségű acélt, az alumíniumon végzetthez nem eloxált 7075-T6 vagy AZ5GU-T6 minőségű alumíniumot kell használni. Elfogadott vizsgálat található a „Vizsgálatok és kritériumok kézikönyv”, III. rész 37. fejezetében.

**Megjegyzés:** *Ha az első vizsgálat (akár acélon, akár alumíniumon végzik) azt mutatja, hogy a vizsgált anyag korróziós hatású, a második vizsgálatot a másik fémen nem szükséges végrehajtani.*

**2.2.8.1.7** Ha a 8 osztály anyagai valamilyen anyag hozzáadása révén eltérő veszélyességi kategóriába kerülnek át, mint ahová a 3.2 fejezet „A” táblázatában név szerint említett anyagok tartoznak, ezeket a keverékeket azok alá a tételek alá kell besorolni, amelyekbe tényleges veszélyességük mértéke alapján tartoznak.

**Megjegyzés:** *Az oldatok és keverékek (készítmények és hulladékok) besorolására lásd még a 2.1.3 szakaszt.*

**2.2.8.1.8** A 2.2.8.1.6 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett vagy egy név szerint feltüntetett anyagot tartalmazó oldat vagy keverék természete olyan, az anyag nem esik ezen osztály előírásainak hatálya alá.

**2.2.8.1.9** Azok az anyagok, oldatok és keverékek, amelyek

- a módosított 67/548/EGK<sup>9)</sup> vagy az 1999/45/EK<sup>10)</sup> Irányelv kritériumai alapján, ezen irányelvek szerint nem számítanak marónak, és
  - nem mutatnak maró hatást az acélon és az alumíniumon
- a 8 osztályba nem tartozó anyagoknak tekinthetők.

**Megjegyzés:** *Az ENSZ Minta Szabályzatban felsorolt UN 1910 kalcium-oxid és UN 2812 nátrium-aluminát nem tartozik az ADR előírásainak hatálya alá.*

**2.2.8.2** *A szállításból kizárt anyagok*

**2.2.8.2.1** A 8 osztály vegyileg nem állandó anyagai csak akkor adhatók át szállításra, ha megtették a szükséges intézkedéseket, hogy megakadályozzák a szállítás alatti veszélyes bomlásukat vagy polimerizációjukat. Ennek elérésére különösen azt kell biztosítani, hogy a tartályok, ill. tartányok ne tartsanak olyan anyago(ka)t, amelyek ilyen reakciókat okozhatnak.

**2.2.8.2.2** A következő anyagok a szállításból ki vannak zárva:

- UN 1798 királyvíz (salétromsav és sósav keveréke);
- a vegyileg nem állandó, kimerült kénsavkeverékek;
- a nem denitrált, vegyileg nem állandó nitrálsav keverékek és az elhasznált kénsav és salétromsav keverékek;
- perklórsav vizes oldata 72 tömeg%-nál több tiszta savtartalommal és a perklórsav keverékei vízen kívül más folyadékkal.

9) Az Európai Közös Tanácsának 1967. június 27-i 67/548/EGK Irányelve a tagállamok veszélyes anyagok osztályozására, csomagolására és címkézésére vonatkozó jogszabályainak és közigazgatási előírásainak közelítéséről (Az EK Hivatalos Lapja, L 196. szám, 1967.08.16.).

10) Az Európai Parlament és a Tanács 1999. május 31-i 1999/45/EK Irányelve a tagállamok veszélyes készítmények osztályozására, csomagolására és címkézésére vonatkozó jogszabályainak és közigazgatási előírásainak közelítéséről (lásd az EK Hivatalos Lapja, L 200. szám, 1999.07.30., p. 1-68.).



### 2.2.8.3 A gyűjtőmegnevezések felsorolása

| Járulékos veszély                     | Osztályozási kód      | UN szám | Az anyag vagy tárgy megnevezése   |
|---------------------------------------|-----------------------|---------|---|
| Maró anyagok járulékos veszély nélkül |                       |         |   |
| Savas anyagok                         | szervetlen            | 2584    | FOLYÉKONY ALKIL-SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal vagy   |
|                                       |                       | 2584    | FOLYÉKONY ARIL-SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal   |
|                                       |                       | 2837    | BISZULFÁTOK VIZES OLDATAI   |
|                                       |                       | 2693    | BISZULFITOK, VIZES OLDAT, M.N.N.  |
|                                       | szilárd               | 3264    | MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.   |
|                                       |                       | 2583    | SZILÁRD ALKIL-SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal vagy   |
|                                       |                       | 2583    | SZILÁRD ARIL-SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal   |
|                                       |                       | 1740    | SZILÁRD HIDROGÉN-DIFLUORIDOK, M.N.N.  |
|                                       |                       | 3260    | MARÓ, SZILÁRD, SAVAS, SZERVETLEN ANYAG, M.N.N.  |
|                                       | szerves               | 2586    | FOLYÉKONY ALKIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal vagy   |
|                                       |                       | 2586    | FOLYÉKONY ARIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal   |
|                                       |                       | 2987    | MARÓ KLÓR-SZILÁNOK, M.N.N.  |
|                                       |                       | 3145    | FOLYÉKONY ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)   |
| Bázikus jellegű anyagok               | szervetlen            | 3265    | MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.  |
|                                       |                       | 2585    | SZILÁRD ALKIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal vagy   |
|                                       |                       | 2585    | SZILÁRD ARIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal   |
|                                       |                       | 2430    | SZILÁRD ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)   |
|                                       | szilárd               | 3261    | MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.  |
|                                       |                       | 2797    | LÚGOS AKKUMULÁTOR FOLYADÉK  |
|                                       |                       | 1719    | MARÓ, LÚGOS FOLYÉKONY ANYAG, M.N.N.   |
|                                       |                       | 3266    | MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.   |
|                                       | szerves               | 3262    | MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.   |
|                                       |                       | 2735    | FOLYÉKONY, MARÓ AMINOK, M.N.N. vagy   |
|                                       |                       | 2735    | FOLYÉKONY, MARÓ POLIAMINOK, M.N.N.  |
|                                       |                       | 3267    | MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.  |
| Egyéb maró anyagok                    | szervetlen            | 3259    | SZILÁRD, MARÓ AMINOK, M.N.N. vagy   |
|                                       |                       | 3259    | SZILÁRD, MARÓ POLIAMINOK, M.N.N.  |
|                                       |                       | 3263    | MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.  |
|                                       | szilárd               | 3066    | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy |
|                                       |                       | 3066    | FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)  |
|                                       |                       | 1903    | FOLYÉKONY, MARÓ FERTŐTLENÍTŐSZER, M.N.N.  |
|                                       |                       | 2801    | FOLYÉKONY, MARÓ SZÍNEZÉK, M.N.N. vagy   |
|                                       | szilárd <sup>b)</sup> | 2801    | FOLYÉKONY, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.  |
|                                       |                       | 1760    | MARÓ FOLYÉKONY ANYAG, M.N.N.  |
|                                       |                       | 3147    | SZILÁRD, MARÓ SZÍNEZÉK, M.N.N. vagy   |
|                                       |                       | 3147    | SZILÁRD, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.  |
|                                       |                       | 3244    | MARÓ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N.  |
|                                       |                       | 1759    | MARÓ SZILÁRD ANYAG, M.N.N.  |
| Tárgyak                               | C11                   | 2794    | NEDVES, SAVAS AKKUMULÁTORTELEPEK elektromosság tárolására   |
|                                       |                       | 2795    | NEDVES, LÚGOS AKKUMULÁTORTELEPEK elektromosság tárolására   |
|                                       |                       | 2800    | KIFOLYÁSBIZTOS, NEDVES AKKUMULÁTORTELEPEK elektromosság tárolására  |
|                                       |                       | 3028    | SZILÁRD KÁLIUM-HIDROXID TARTALMÚ, SZÁRAZ AKKUMULÁTORTELEPEK elektromosság tárolására  |



**2.2.8.3 A gyűjtőmegnevezések felsorolása (folyt.)**

| Járulékos veszély                                   | Osztályozási kód                    | UN szám | Az anyag vagy tárgy megnevezése   |
|---|-------------------------------------|---------|---|
| Maró anyagok járulékos veszélyekkel                 |                                     |         |   |
| Gyúlékony   | folyékony anyagok <sup>b)</sup> CF1 | 3470    | MARÓ, GYÚLÉKONY FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist)  |
|   |                                     | 3470    | MARÓ, GYÚLÉKONY FESTÉK SEGÉDANYAG (beleértve a festékhígítót és oldószert)  |
|   |                                     | 2734    | FOLYÉKONY, MARÓ, GYÚLÉKONY AMINOK, M.N.N. vagy  |
|   |                                     | 2734    | FOLYÉKONY, MARÓ, GYÚLÉKONY POLIAMINOK, M.N.N.   |
|   |                                     | 2986    | MARÓ, GYÚLÉKONY KLÓR-SZILÁNOK, M.N.N.   |
| CF  | szilárd anyagok CF2                 | 2920    | MARÓ FOLYÉKONY ANYAG, GYÚLÉKONY, M.N.N.   |
|   |                                     | 2921    | GYÚLÉKONY, MARÓ SZILÁRD ANYAG, M.N.N.   |
| Önmelegedő  | folyékony anyagok CS1               | 3301    | ÖNMELEGEDŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.  |
|   |                                     |         |   |
| CS  | szilárd anyagok CS2                 | 3095    | ÖNMELEGEDŐ, MARÓ SZILÁRD ANYAG, M.N.N.  |
|   |                                     |         |   |
| Vízrel reaktív                                      | folyékony anyagok <sup>b)</sup> CW1 | 3094    | VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.  |
|   |                                     |         |   |
| CW  | szilárd anyagok CW2                 | 3096    | VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.  |
|   |                                     |         |   |
| Gyújtó hatású                                       | folyékony anyagok CO1               | 3093    | GYÚJTÓ HATÁSÚ, MARÓ FOLYÉKONY ANYAG, M.N.N.   |
|   |                                     |         |   |
| CO  | szilárd anyagok CO2                 | 3084    | GYÚJTÓ HATÁSÚ, MARÓ SZILÁRD ANYAG, M.N.N.   |
|   |                                     |         |   |
| Mérgező <sup>d)</sup>                               | folyékony anyagok <sup>c)</sup> CT1 | 3471    | HIDROGÉN-DIFLUORIDOK OLDA, M.N.N.   |
|   |                                     | 2922    | MÉRGEZŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.   |
| CT  | szilárd anyagok <sup>e)</sup> CT2   | 2923    | MÉRGEZŐ, MARÓ SZILÁRD ANYAG, M.N.N.   |
|   |                                     |         |   |
| Gyúlékony, folyékony, mérgező anyagok <sup>d)</sup> | CFT                                 |         | (Ilyen osztályozási kóddal nincs gyűjtőmegnevezés. Ha szükséges, a 2.1.3.10 bekezdés veszélyességi rangsor táblázata alapján meghatározandó, másik osztályozási kód valamely gyűjtőmegnevezése alá kell sorolni.) |
| Gyújtó hatású, mérgező anyagok <sup>d,e)</sup>      | COT                                 |         | (Ilyen osztályozási kóddal nincs gyűjtőmegnevezés. Ha szükséges, a 2.1.3.10 bekezdés veszélyességi rangsor táblázata alapján meghatározandó, másik osztályozási kód valamely gyűjtőmegnevezése alá kell sorolni.) |

**Megjegyzés:**

- Az ADR előírásainak hatálya alá nem tartozó szilárd anyagok és maró folyadékok keverékei az UN 3244 azonosító szám alatt szállíthatók anélkül, hogy a 8 osztály besorolási feltételeit alkalmazni kellene, amennyiben az anyag berakása során, ill. a csomagolóeszköz, a konténer vagy a jármű lezárásakor szabad folyadék szemmel nem látható. Minden egyes csomagolóeszköznek olyan gyártási típusnak kell megfelelni, ami sikeresen kiállta a II csomagolási csoportra előírt tömörségi próbát.
- Azok a klór-szilánok, amelyek vízzel vagy nedves levegővel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai.
- A túlnyomórészt mérgező tulajdonságokkal bíró klór-formiátok a 6.1 osztály anyagai.
- Azok a maró anyagok, amelyek a 2.2.61.1.4 – 2.2.61.1.9 pont szerint belégzésre nagyon mérgezők, a 6.1 osztály anyagai.
- az UN 2505 ammónium-fluorid, az UN 1812 szilárd kálium-fluorid, az UN 1690 szilárd nátrium-fluorid, az UN 2674 nátrium-fluoro-szilikát, az UN 2856 fluoro-szilikátok, m.n.n., az UN 3415 nátrium-fluorid oldat és az UN 3422 kálium-fluorid oldat a 6.1 osztály anyagai.

**2.2.9 9 osztály Különféle veszélyes anyagok és tárgyak****2.2.9.1 Kritériumok**

**2.2.9.1.1** A 9 osztály címének fogalmkörébe azok az anyagok és tárgyak tartoznak, amelyek a szállítás során olyan veszélyt képviselnek, ami nem esik a többi osztály fogalmkörébe.

**2.2.9.1.2** A 9 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

M1 Anyagok, amelyek finom poruk belélegzése esetén az egészséget veszélyeztethetik

M2 Anyagok és készülékek, amelyekből tűz esetén dioxinok képződhetnek

M3 Gyúlékony gőzöket fejlesztő anyagok

M4 Lítium akkumulátorok

M5 Biztonsági felszerelések

M6 – M8 Környezetre veszélyes anyagok:

M6 Vízi környezetre veszélyes, folyékony anyagok

M7 Vízi környezetre veszélyes, szilárd anyagok

M8 Géntechnológiával módosított mikroorganizmusok és élő szervezetek

M9 – M10 Magas hőmérsékletű anyagok:

M9 Folyékony anyagok

M10 Szilárd anyagok

M11 Egyéb anyagok, amelyek a szállítás alatt veszélyt jelentenek, de egyetlen más osztály meghatározásának sem felelnek meg.

*Fogalommeghatározások és besorolás*

**2.2.9.1.3** A 9 osztályba sorolt anyagokat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett anyagok és tárgyak besorolását ezen táblázat, ill. a 2.2.9.3 bekezdés megfelelő tétele alá 2.2.9.1.4 – 2.2.9.1.14 pont szerint kell végezni.

*Anyagok, amelyek finom poruk belélegzése esetén az egészséget veszélyeztethetik*

**2.2.9.1.4** Azon anyagok közé, amelyek finom poruk belélegzése esetén az egészséget veszélyeztethetik, az azbeszt és az azbesztet tartalmazó keverékek tartoznak.

*Anyagok és készülékek, amelyekből tűz esetén dioxinok képződhetnek*

**2.2.9.1.5** Azon anyagok és készülékek közé, amelyekből tűz esetén dioxinok képződhetnek, a poliklórozott és polihalogénezett bifenilek és terfenilek (PCB-k és PCT-k), valamint az ezeket az anyagokat tartalmazó keverékek, továbbá az ilyen anyagokat vagy keverékeket tartalmazó készülékek, mint pl. transzformátorok, kondenzátorok tartoznak.

**Megjegyzés:** Az olyan keverékek, amelyek PCB- vagy PCT-tartalma nem haladja meg az 50 mg/kg értéket, nem tartoznak az ADR előírásainak hatálya alá.

*Gyúlékony gőzöket fejlesztő anyagok*

**2.2.9.1.6** A gyúlékony gőzöket fejlesztő anyagok közé tartoznak azok a polimerek, amelyek legfeljebb 55 °C lobbanáspontú gyúlékony folyadékot tartalmaznak.

*akkumulátorok*

- 2.2.9.1.7** A „lítium akkumulátorok” fogalom azokra a cellákra és akkumulátorokra terjed ki, amelyek bármilyen formában lítiumot tartalmaznak. Ezek akkor sorolhatók a 9 osztályba, ha kielégítik a 3.3 fejezet 230 különleges előírását. Ha kielégítik 3.3 fejezet 188 különleges előírását, nem tartoznak az ADR előírásainak hatálya alá. A besorolást a „Vizsgálatok és kritériumok kézikönyv” 38.3 bekezdésének előírásai szerint kell végezni.

*Biztonsági felszerelések*

- 2.2.9.1.8** A biztonsági felszerelések közé tartoznak azok a mentőeszközök és gépjármű tartozékok, amelyek megfelelnek a 3.3 fejezet 235, ill. 296 különleges előírásában szereplő leírásnak.

*Környezetre veszélyes anyagok*

- 2.2.9.1.9** (törölve)

*Vízi környezetet szennyező anyagok*

- 2.2.9.1.10** Környezetre (vízi környezetre) veszélyes anyagok

- 2.2.9.1.10.1** Általános fogalommeghatározás

- 2.2.9.1.10.1.1** Környezetre veszélyes anyagok – többek között – a vízi környezetet szennyező folyékony vagy szilárd anyagok, valamint az ilyen anyagok oldatai és keverékei (készítmények és hulladékok).

A 2.2.9.1.10 pont alkalmazásában az „anyag” olyan természetes állapotban előforduló vagy gyártási folyamatból származó kémiai elem és vegyületei, amely a termék stabilitásának megőrzéséhez szükséges adalékanyagot és az alkalmazott eljárásból származó szennyezőt is tartalmazhat, de nem tartalmaz olyan oldószert, amely az anyag stabilitásának befolyásolása vagy összetételének megváltoztatása nélkül elkülöníthető.

- 2.2.9.1.10.1.2** A vízi környezet a vízben élő vízi szervezetek, ill. a vízi életközösség szempontjából, értelmezendő, amelynek a vízi szervezetek a részét képezik.<sup>11)</sup> Ezért a veszély azonosításának alapja az anyag, ill. keverék vízi toxicitása, ezt azonban módosíthatják a lebomlásra és a bioakkumulációra vonatkozó további adatok.

- 2.2.9.1.10.1.3** A következő besorolási eljárás célja, hogy mindenfajta anyagra, ill. keverékre alkalmazni lehessen, tudatában kell lenni azonban, hogy bizonyos esetekben, pl. fémeknél vagy nehezen oldható szervesetlen vegyületeknél különleges útmutatás<sup>12)</sup> szükséges.

- 2.2.9.1.10.1.4** Az itt használt kifejezések és betűszavak jelentése a következő:

- *BCF*: biokoncentrációs tényező
- *BOD*: biokémiai oxigénigény
- *COD*: kémiai oxigénigény
- *GLP*: helyes laboratóriumi gyakorlat
- *EC<sub>50</sub>*: az anyag tényleges koncentrációja, amely a legnagyobb válaszreakció 50%-át eredményezi;
- *ErC<sub>50</sub>*: a növekedés csökkenése szempontjából meghatározott *EC<sub>50</sub>* érték

11) Ez nem vonatkozik az olyan vízszennyező anyagokra, amelyeknél a vízi környezeten túlmenő hatásokat, pl. az emberi egészségre gyakorolt hatást is szükséges lehet figyelembe venni.

12) Megtalálható a GHS 10 Mellékletében.

- $K_{ow}$ : oktanol/víz megoszlási együttható;
- $LC_{50}$  (50%-os halálos koncentráció): az anyag azon koncentrációja a vízben, amely a kísérleti állatcsoport 50%-ának (felének) elhullását okozza;
- $L(E)C_{50}$ :  $LC_{50}$  vagy  $EC_{50}$ ;
- $NOEC$  (No Observed Effect Concentration): észlelhető hatást nem okozó koncentráció;
- OECD Test Guidelines: a Gazdasági Együttműködési és Fejlesztési Szervezet (OECD) által kiadott vizsgálati irányelvek.

#### 2.2.9.1.10.2 Fogalom meghatározás és az adatokra vonatkozó követelmények

##### 2.2.9.1.10.2.1 A környezetre (vízi környezetre) veszélyes anyagok besorolásának alapvető elemei.

- akut vízi toxicitás;
- a bioakkumulációs hajlam vagy a tényleges bioakkumuláció;
- szerves vegyianyagok (biotikus vagy abiotikus) lebomlása;
- krónikus vízi toxicitás.

**2.2.9.1.10.2.2** A harmonizált nemzetközi vizsgálati módszerek alapján nyert adatok előnyösebbek, a gyakorlatban azonban a belföldi vizsgálati módszerek alapján nyert adatok is alkalmazhatók, ha egyenértékűnek tekinthetők. Általánosan elfogadott, hogy az édesvízi és a tengeri fajokra vonatkozó toxicitás azonosnak tekinthető és lehetőleg az OECD vizsgálati irányelvek vagy azzal egyenértékű módszerek alapján kell levezetni, a helyes laboratóriumi gyakorlat (GLP) alapelvei szerint. Ha így nyert adatok nincsenek, a besorolást a rendelkezésre álló legjobb adatok alapján kell elvégezni.

**2.2.9.1.10.2.3** Az akut vízi toxicitást általában a halra vonatkozó 96 órás  $LC_{50}$  (OECD 203 vizsgálati irányelv vagy azzal egyenértékű módszer), a rákfajokra vonatkozó 48 órás  $LC_{50}$  (OECD 202 vizsgálati irányelv vagy azzal egyenértékű módszer) és/vagy az alga fajokra vonatkozó 72 vagy 96 órás  $EC_{50}$  (OECD 201 vizsgálati irányelv vagy azzal egyenértékű módszer) értékek felhasználásával kell meghatározni. Ezekkel a fajokkal bármely vízi szervezetek helyettesíthetők, ill. más fajokkal, pl. békalecsével (Lemna-val) nyert adatok is használhatók, ha a vizsgálati módszer megfelelő.

**2.2.9.1.10.2.4** A bioakkumuláció (biológiai felhalmozódás) az élő szervezetbe bármilyen expozíciós úton (azaz levegőből, vízből, üledékből, talajból, táplálékkal) bekerült anyagnak az átalakítás és kiválasztás után a szervezetben maradt nettó mennyiségét jelenti.

A bioakkumulációs hajlamot általában az oktanol/víz megoszlási együtthatóval kell meghatározni, amit az OECD 107 vagy 117 vizsgálati irányelv szerint meghatározott  $\log K_{ow}$ -ban szoktak megadni. Ezzel ugyan jól jellemezhető a bioakkumulációs hajlam, de a kísérletileg meghatározott: biokoncentrációs tényező ( $BCF$ ) jobb eredményt ad, ezért ha lehetséges, ezt kell használni. A  $BCF$ -t az OECD 305 vizsgálati irányelv szerint kell meghatározni.

**2.2.9.1.10.2.5** A környezetben való lebomlás lehet biotikus vagy abiotikus (pl. hidrolízis), ez a tény a kritériumokban figyelembe van véve. A könnyű biológiai lebonthatóság legegyszerűbben az OECD biológiai lebonthatósági vizsgálatával [OECD 301 vizsgálati irányelv (A–F)] határozható meg. Ha egy anyag ezekben a vizsgálatokban közepes eredményt mutat, abból arra lehet következtetni, hogy a legtöbb környezetben gyorsan lebomlik. Tekintettel arra, hogy ezek a vizsgálatok édesvízre vonatkoznak, a tengeri környezetre alkalmasabb, OECD 306 vizsgálati irányelv alapján nyert eredményeket is figyelembe vették. Ha ilyen adat nem áll rendelkezésre, a gyors lebomlásra akkor lehet következtetni, ha az ötnapos  $BOD$  és a

$COD$  hányadosa ( $BOD_5/COD$ )  $\geq 0,5$ .

A gyors lebonthatóság meghatározásánál az abiotikus lebomlás (pl. hidrolízis), az elsődleges biotikus és az elsődleges abiotikus lebomlás, nemvizes közegben való lebomlás és a környezetben való bizonyítottan gyors lebomlás, mind figyelembe vehető<sup>13)</sup>

Egy anyag akkor tekintendő a környezetben gyorsan lebomlóknak, ha a következő kritériumoknak megfelel:

- a) a 28 napos könnyű biológiai lebonthatósági vizsgálat során a következő lebomlási szinteket éri el:
  - i) az oldott szerves széntartalom alapuló vizsgálatnál: 70%-ot;
  - ii) az oxigén fogyáson vagy a szén-dioxid képződésen alapuló vizsgálatnál: az elméleti maximumok 60%-át.

Ezeket az értékeket 10 napon belül kell elérni attól a naptól kezdve, amikor a biológiai lebomlás első alkalommal 10% felett volt.; vagy

- b) ha csak a  $BOD$  és a  $COD$  értékek állnak rendelkezésre: a  $BOD_5/COD \geq 0,5$ ; vagy
- c) egyéb, meggyőző tudományos bizonyíték van arra, hogy az anyag, ill. keverék a vízi környezetben, 28 napon belül 70% fölötti mértékben lebomlik (biotikus és/vagy abiotikus úton).

**2.2.9.1.10.2.6** A krónikus toxicitásra kevesebb adat áll rendelkezésre, mint az akut toxicitásra, és a vizsgálati eljárások is kevésbé egységesek. Az OECD 210 (hal korai életszakasz) vagy 211 (vízibolha szaporodás) vizsgálati irányelv, valamint az OECD 201 (alga növekedés gátlása) vizsgálati irányelv alapján nyert adatok elfogadhatók. Egyéb, nemzetközileg elismert, hiteles vizsgálatok is alkalmazhatók. Az „észlelhető hatást nem okozó koncentráció”-t ( $NOEC$ ) vagy más, egyenértékű  $L(E)C_x$  értéket kell használni.

#### **2.2.9.1.10.3** Az anyagok besorolási kategóriái és kritériumai

Egy anyagot akkor kell a „környezetre (vízi környezetre) veszélyes anyag”-nak besorolni, ha a következő táblázatokban az akut-1 kategóriára, a krónikus-1 kategóriára vagy a krónikus-2 kategóriára feltüntetett kritériumok teljesülnek:

Akut toxicitás:

| <b>Kategória: Akut-1</b>  |  |                       |
|---|--|-----------------------|
| Akut toxicitás:   |  |                       |
| 96 órás $LC_{50}$ (halra)                                       |  | $\leq 1$ mg/l és/vagy |
| 48 órás $EC_{50}$ (rákokra)                                     |  | $\leq 1$ mg/l és/vagy |
| 72 vagy 96 órás $ErC_{50}$ (algákra vagy egyéb vízinnövényekre) |  | $\leq 1$ mg/l         |

Krónikus toxicitás

| <b>Kategória: Krónikus-1</b>  |  |                       |
|---|--|-----------------------|
| Akut toxicitás:   |  |                       |
| 96 órás $LC_{50}$ (halra)   |  | $\leq 1$ mg/l és/vagy |
| 48 órás $EC_{50}$ (rákokra)   |  | $\leq 1$ mg/l és/vagy |
| 72 vagy 96 órás $ErC_{50}$ (algákra vagy egyéb vízinnövényekre)   |  | $\leq 1$ mg/l         |
| és az anyag nem bomlik le gyorsan és/vagy a $\log K_{ow} \geq 4$ (kivéve, ha a kísérletileg meghatározott $BCF < 500$ ) |  |                       |

13) Az adatok értelmezésére különleges útmutatás található a GHS 4.1 fejezetében és 9 Mellékletében.

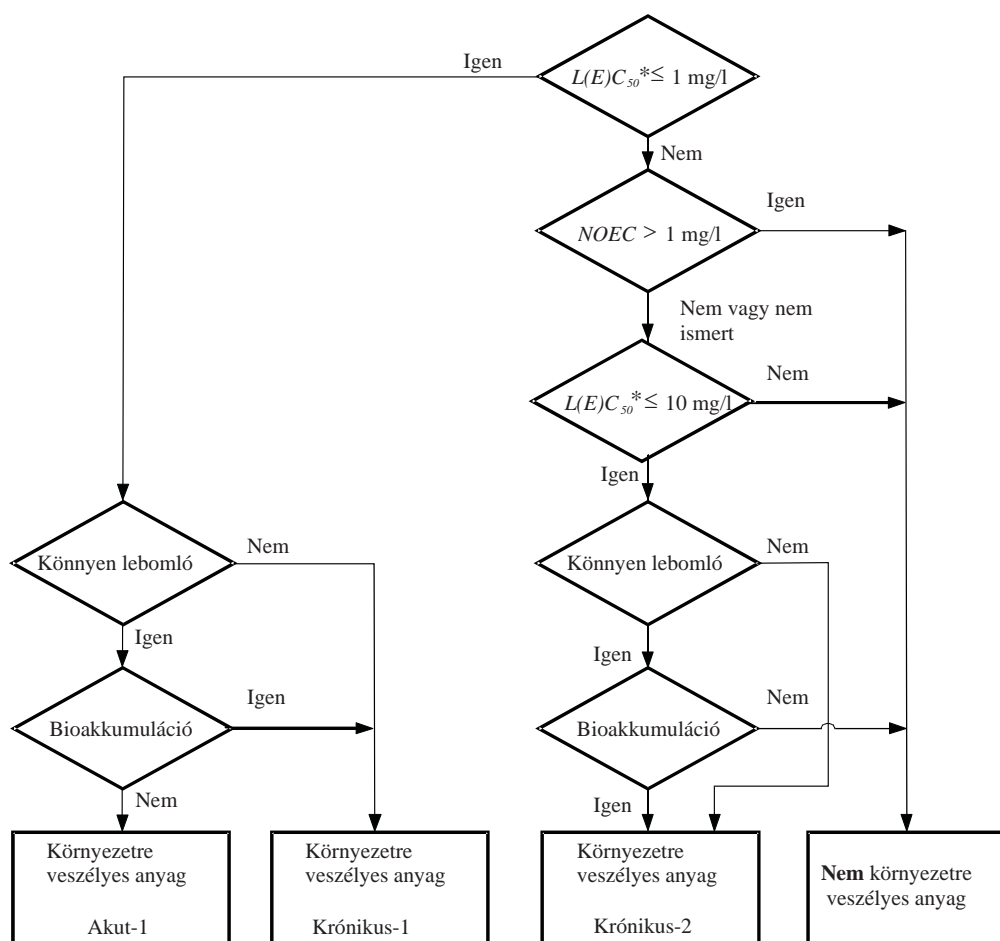
**Kategória: Krónikus-2**

Akut toxicitás:

|  |                             |
|--|-----------------------------|
| 96 órás $LC_{50}$ (halra)                                      | $>1 - \leq 10$ mg/l és/vagy |
| 48 órás $EC_{50}$ (rákokra)                                    | $>1 - \leq 10$ mg/l és/vagy |
| 72 vagy 96 órás $ErC_{50}$ (algákra vagy egyéb vízínövényekre) | $>1 - \leq 10$ mg/l         |

és az anyag nem bomlik le gyorsan és/vagy a  $\log K_{ow} \geq 4$  (kivéve, ha a kísérletileg meghatározott  $BCF < 500$ ), kivéve ha a krónikus toxicitás  $NOEC$  szintek  $> 1$  mg/l

A követendő eljárást a következő besorolási folyamatábra mutatja



\* A 96 órás  $LC_{50}$ , a 48 órás  $EC_{50}$ , ill. a 72 órás vagy 96 órás  $ErC_{50}$  közül a legkisebb érték.

#### 2.2.9.1.10.4 A keverékek besorolási kategóriái és kritériumai

**2.2.9.1.10.4.1** A keverékek besorolási rendszeréhez tartoznak az anyagok besorolásához használt kategóriák, azaz az akut-1, a krónikus-1 és a krónikus-2 kategória. Annak érdekében, hogy a keverék vízi környezetre való veszélyességének besorolásához az összes rendelkezésre álló adatot felhasználjuk, a következő feltételezést használjuk:

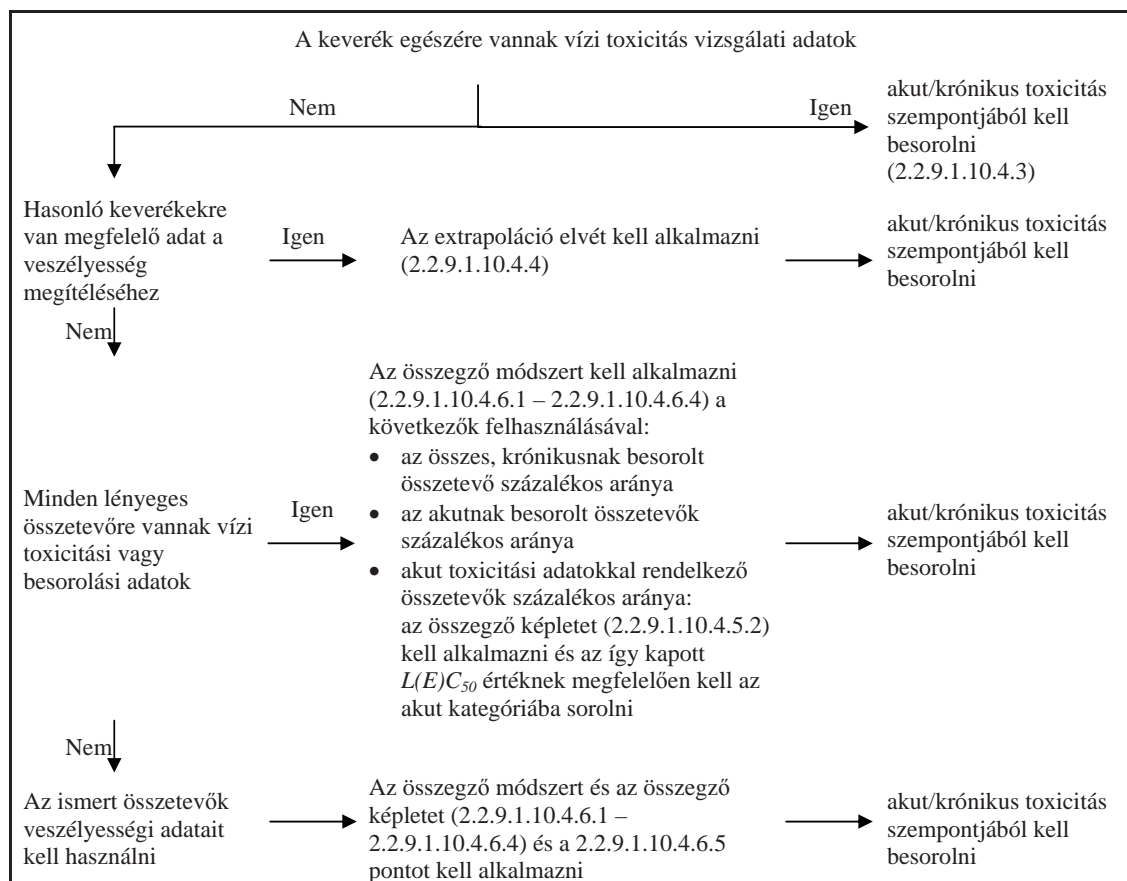
A „lényeges összetevő” a keverékben leglább 1 tömeg%-ban jelenlévő összetevő, kivéve, ha feltételezhető, hogy valamelyik 1 tömeg%-nál kisebb koncentrációban jelenlévő összetevő is lényeges a keverék vízi környezetre való veszélyességének besorolásához (pl. nagyon mérgező összetevők esetében).

**2.2.9.1.10.4.2** A vízi környezetre való veszélyesség besorolásának menete lépcsőzetes, és attól függ, hogy milyen adatok állnak rendelkezésre az egész keverékre, ill. az összetevőire. A lépcsőzetes besorolás elemei a következők:

- a keverékkel végzett vizsgálaton alapuló besorolás;
- az extrapoláció elvén alapuló besorolás;
- „a besorolt összetevők összegzése” módszer és/vagy az „összegző képlet” használata.

A követendő eljárást a következő 2.2.9.1.10.4.2 ábra mutatja.

**2.2.9.1.10.4.2 ábra: A keverékek akut és krónikus vízi környezeti veszélyességének lépcsőzetes besorolása**



**2.2.9.1.10.4.3** Keverékek besorolása abban az esetben, ha a keverék egészére vannak adatok

**2.2.9.1.10.4.3.1** Ha a keverék egészének vízi toxicitását megvizsgálták, akkor az anyagokra elfogadott kritériumok szerint kell besorolni, de csak akut toxicitás tekintetében. A besorolás a halra, a rákokra és az algákra vagy egyéb vízinövényekre nyert adatokon alapul. A keverék egészére vonatkozó  $LC_{50}$ , ill.  $EC_{50}$  értékek alapján a krónikus kategóriákba nem lehet besorolni a keveréket, mivel ahhoz a toxicitási adatok és a környezeti hatásra vonatkozó adatok egyaránt szükségesek, és a keverékekre nem léteznek lebomlásra és bioakkumulációra vonatkozó



adatok. A krónikus kategóriák besorolási kritériumait azért nem lehet alkalmazni, mert a lebomlási és bioakkumulációs vizsgálati adatok csak egyedi anyagokra értelmezhetők, keverékekre nem.

**2.2.9.1.10.4.3.2** Ha a keverék egészének akut toxicitására vannak adatok ( $LC_{50}$ , ill.  $EC_{50}$ ), akkor ezeket az adatokat és az összetevők krónikus toxicitás szerinti besorolására vonatkozó ismereteket kell felhasználni a vizsgált keverék besorolásának véglegesítéséhez, a következők szerint. Ha a krónikus (hosszú távú) toxicitásra vonatkozóan *NOEC* adatok is vannak, akkor azokat is fel kell használni.

- a) A vizsgált keverék  $L(E)C_{50}$  ( $LC_{50}$  vagy  $EC_{50}$ ) értéke  $\leq 1$  mg/l és a *NOEC* értéke  $\leq 1,0$  mg/l vagy nem ismert:
  - a keveréket az akut-1 kategóriába kell sorolni ;
  - „a besorolt összetevők összegzése” módszert kell alkalmazni (lásd a 2.2.9.1.10.4.6.3 és a 2.2.9.1.10.4.6.4 pontot) a krónikus toxicitás megítéléséhez (krónikus-1, krónikus-2 vagy nem kell krónikus kategóriába sorolni);
- b) A vizsgált keverék  $L(E)C_{50}$  értéke  $\leq 1$  mg/l és a *NOEC* értéke  $> 1$  mg/l:
  - a keveréket az akut-1 kategóriába kell sorolni ;
  - „a besorolt összetevők összegzése” módszert kell alkalmazni (lásd a 2.2.9.1.10.4.6.3 és a 2.2.9.1.10.4.6.4 pontot) a krónikus-1 kategóriába való besoroláshoz. Ha a keverék nem tartozik a krónikus-1 kategóriába, akkor nem kell krónikus kategóriába sorolni);
- c) A vizsgált keverék  $L(E)C_{50}$  értéke  $> 1$  mg/l vagy nagyobb, mint a vízben való oldhatóság értéke és a *NOEC* értéke  $\leq 1,0$  mg/l vagy nem ismert
  - nem kell akut toxicitás szerint besorolni;
  - „a besorolt összetevők összegzése” módszert kell alkalmazni (lásd a 2.2.9.1.10.4.6.3 és a 2.2.9.1.10.4.6.4 pontot) krónikus kategóriába való besoroláshoz vagy nem kell krónikus kategóriába sorolni;
- d) A vizsgált keverék  $L(E)C_{50}$  értéke  $> 1$  mg/l vagy nagyobb, mint a vízben való oldhatóság értéke és a *NOEC* értéke  $> 1,0$  mg/l:
  - sem akut, sem krónikus kategóriába nem kell sorolni.

#### **2.2.9.1.10.4.4** Az extrapoláció elve

**2.2.9.1.10.4.4.1** Ha magát a keveréket nem vizsgálták a vízi környezetre való veszélyességének megállapítására, viszont az egyes összetevőkre és hasonló, megvizsgált keverékekre elegendő adat áll rendelkezésre ahhoz, hogy a keverék veszélyességét megfelelően jellemezze, akkor ezeket az adatokat kell használni a következő, elfogadott extrapolációs szabály szerint. Ez biztosítja, hogy a besorolási eljárás folyamán a rendelkezésre álló adatokat a lehető legnagyobb mértékben felhasználjuk a keverék veszélyességének jellemzésére, anélkül, hogy további állatkísérletekre volna szükség.

#### **2.2.9.1.10.4.4.2** Hígítás

**2.2.9.1.10.4.4.2.1** Abban az esetben, ha egy keveréket egy már besorolt másik keverék vagy anyag olyan hígítószerrel történő hígításával állítottak elő, amelynek a vízi környezetre való veszélyessége azonos vagy kisebb mértékű, mint a legkevésbé toxikus eredeti összetevőé, és amely valószínűleg nem befolyásolja a többi összetevő vízi környezetre való veszélyességét, akkor a keveréket az eredeti keverékkel, ill. anyaggal azonosan kell besorolni.



**2.2.9.1.10.4.4.2.2** Abban az esetben, ha egy keveréket egy másik besorolt keverék vagy anyag vízzel vagy más, egyáltalán nem mérgező anyaggal történő hígításával állítottak elő, a keverék toxicitását az eredeti keverék, ill. anyag alapulvételével kell kiszámítani.

**2.2.9.1.10.4.4.3** Gyártási tételek

Egy komplex keverék valamely gyártási tételének a vízi környezetre való veszélyességi besorolása és ugyanakkor a kereskedelmi terméknek, ugyanazon gyártó által, vagy ugyanazon gyártó felügyelete mellett gyártott másik gyártási tételének besorolása alapvetően azonosnak tekintendő, kivéve, ha okkal feltételezhető, hogy olyan jelentős változás következett be, amely a gyártási tételnek a vízi környezetre való veszélyességi besorolását is megváltoztatta. Ez esetben új besorolási eljárás szükséges.

**2.2.9.1.10.4.4.4** A legszigorúbb (krónikus-1 és akut-1) kategóriákba sorolt keverékek koncentrációjának növelése

Ha egy krónikus-1 és/vagy akut-1 kategóriába sorolt keverékben a krónikus-1 és/vagy akut-1 kategóriába sorolt összetevők koncentrációját tovább növeljük, a nagyobb koncentrációjú keveréket – további vizsgálat nélkül – ugyanabba a kategóriába kell sorolni, mint az eredeti keveréket.

**2.2.9.1.10.4.4.5** Egy toxikussági kategórián belüli interpoláció

Három, azonos összetevőket tartalmazó keverék esetén, ha A keverék és B keverék ugyanabba a kategóriába tartozik és a C keverékben a toxikológiailag aktív összetevők koncentrációja az A és B keverékben lévő koncentrációk közé esik, ezt a C keveréket ugyanabba a kategóriába kell sorolni, mint az A és a B keveréket.

**2.2.9.1.10.4.4.6** Alapvetően azonos keverékek

Ha adottak a következők:

- a) két keverék:
  - i)  $A + B$ ;
  - ii)  $C + B$ ,
- b) a B összetevő koncentrációja a két keverékben azonos;
- c) az A összetevő koncentrációja az i) pont szerinti keverékben azonos a C összetevő koncentrációjával az ii) pont szerinti keverékben;
- d) az A és a C besorolása ismert és azonos, vagyis ugyanabba a veszélyességi kategóriába tartoznak, és nem valószínű, hogy a B összetevő vízi toxicitását befolyásolnák,

akkor az ii) pont szerinti keveréket nem kell vizsgálni, ha az i) pont szerinti keveréket megvizsgálták és mindkét keveréket ugyanabba a kategóriába sorolják.

**2.2.9.1.10.4.5** Keverékek besorolása abban az esetben, ha a keverék mindegyik összetevőjére vagy csak néhányra vannak adatok

**2.2.9.1.10.4.5.1** A keverék besorolását a besorolt összetevők koncentrációjának összegzésére kell alapozni. Az „akut”, ill. „krónikus” kategóriába sorolt összetevők százalékos aránya az összegző módszer kiinduló adata. Az összegző módszer részletei a 2.2.9.1.10.4.6.1 – 2.2.9.1.10.4.6.4 pontokban találhatók.

**2.2.9.1.10.4.5.2** Egy keverék lehet már besorolt (akut-1 és/vagy krónikus-1, krónikus-2) összetevők és olyan összetevők kombinációja, amelyekre vannak megfelelő vizsgálati adatok. Ha a keverék több összetevőjére van megfelelő toxicitási adat, akkor ezeknek az összetevőknek az együttes toxicitását a következő összegző képlettel kell kiszámolni, és a kiszámított toxicitás alapján kell a keverék ezen részének akut toxicitási veszélyét meghatározni, amit azután az összegző módszerben használunk.

$$\frac{\sum C_i}{L(E)C_{50m}} = \sum_n \frac{C_i}{L(E)C_{50i}}$$

ahol:

$C_i$  = az  $i$ -edik összetevő koncentrációja (tömeg%);

$L(E)C_{50i}$  = az  $i$ -edik összetevő  $LC_{50}$  vagy  $EC_{50}$  értéke (mg/l);

$n$  = az összetevők száma,  $i = 1 - n$  ;

$L(E)C_{50m}$  = a keverék azon részének  $L(E)C_{50}$  értéke, amelyre van toxicitási adat.

**2.2.9.1.10.4.5.3** Amikor a keverék egy részére az összegző képletet alkalmazzuk, előnyös, ha a keverék ezen része toxicitását az egyes anyagok azonos fajra (halra, vízibolhára vagy algára) vonatkozó toxicitási értékeivel kiszámoljuk, és azután a kapott legnagyobb toxicitási értéket (azaz a legkisebb értéket) használjuk (vagyis a három faj közül a legérzékenyebbre vonatkozót). Ha azonban nincs minden összetevőre azonos fajra vonatkozó toxicitási adat, az egyes összetevőkre vonatkozóan a toxicitási adatot ugyanúgy kell kiválasztani, mint ahogy az anyagok besorolásánál kell a toxicitási adatot kiválasztani, vagyis a nagyobb toxicitási értéket (a legérzékenyebb vizsgálati élő szervezetre vonatkozót) kell használni. Az így kiszámított akut toxicitás érték alapján kell a keverék ezen részét az akut-1 kategóriához sorolni, ugyanazon kritériumok szerint, mint amelyek az anyagokra vonatkoznak.

**2.2.9.1.10.4.5.4** Ha egy keveréket többféleképpen sorolnak be, a legszigorúbb eredményt adó módszert kell alkalmazni.

#### **2.2.9.1.10.4.6 Összegző módszer**

##### **2.2.9.1.10.4.6.1 Besorolási eljárás**

Általában a keverékeknel a szigorúbb besorolás megelőzi a kevésbé szigorút, például a krónikus-1 kategóriába való besorolás megelőzi a krónikus-2-be való sorolást. Ennek következtében, ha a besorolás eredménye krónikus-1 kategória, a besorolási eljárás befejeződik. Mivel a krónikus-1 kategóriánál nincs szigorúbb, ezért nem szükséges a besorolási eljárást folytatni.

##### **2.2.9.1.10.4.6.2 Az akut-1 kategóriába való sorolás**

**2.2.9.1.10.4.6.2.1** Az akut-1 kategóriába sorolt minden összetevőt figyelembe kell venni (össze kell adni). Ha az összegük 25% vagy annál nagyobb, az egész keveréket az akut-1 kategóriába kell sorolni. Ha a számítás eredménye az, hogy a keverék az akut-1 kategóriába tartozik, a besorolási eljárás befejeződik.

**2.2.9.1.10.4.6.2.2** A keverék akut veszély szerinti besorolása a besorolt összetevők összegzésén alapul, amely a 2.2.9.1.10.4.6.2.2 táblázatban van összefoglalva.

**2.2.9.1.10.4.6.2.2 táblázat: A keverék akut veszély szerinti besorolása a besorolt összetevők összegzése alapján**

| Az adott kategóriába besorolt összetevők összege | A keverék besorolása |
|--|----------------------|
| $\text{akut-1} \times M^{a)} \geq 25\%$          | akut-1               |

a) Az  $M$  tényező magyarázatára lásd a 2.2.9.1.10.4.6.4 pontot.

**2.2.9.1.10.4.6.3 A krónikus-1 és krónikus-2 kategóriába való sorolás**

**2.2.9.1.10.4.6.3.1** A krónikus-1 kategóriába sorolt összetevőket össze kell adni. Ha az összeg 25% vagy annál nagyobb, az egész keveréket a krónikus-1 kategóriába kell sorolni. Ha a számítás eredménye az, hogy a keverék a krónikus-1 kategóriába tartozik, a besorolási eljárás befejeződött.

**2.2.9.1.10.4.6.3.2** Ha a keverék nem tartozik a krónikus-1 kategóriába, akkor a krónikus-2 kategóriába való sorolás szempontjából kell vizsgálni. Akkor kell a keveréket a krónikus-2 kategóriába sorolni, ha a krónikus-1 kategóriába sorolt összetevők összegének 10-szerese és a krónikus-2 kategóriába sorolt összetevők összege együttesen 25% vagy annál nagyobb. Ha a számítás eredménye az, hogy a keverék a krónikus-2 kategóriába tartozik, a besorolási eljárás befejeződött.

**2.2.9.1.10.4.6.3.3** A keverék krónikus veszély szerinti besorolása a besorolt összetevők összegzésén alapul, amely a 2.2.9.1.10.4.6.3.3 táblázatban van összefoglalva.

**2.2.9.1.10.4.6.3.3 táblázat: A keverék krónikus veszély szerinti besorolása a besorolt összetevők összegzése alapján**

| Az adott kategóriába besorolt összetevők összege                            | A keverék besorolása: |
|---|-----------------------|
| $\text{krónikus-1} \times M^{a)} \geq 25\%$                                 | krónikus-1            |
| $(M^{a)} \times 10 \times \text{krónikus-1}) + \text{krónikus-2} \geq 25\%$ | krónikus-2            |

a) Az  $M$  tényező magyarázatára lásd a 2.2.9.1.10.4.6.4 pontot.

**2.2.9.1.10.4.6.4 Nagyon mérgező összetevőket tartalmazó keverékek**

Az olyan, akut-1 kategóriába sorolt összetevők, amelyek toxicitása jóval kisebb 1 mg/l-nél, befolyásolhatják az egész keverék toxicitását, ezért az összegző módszerben súlyozottan vannak figyelembe véve. Ha a keverékben van akut-1 vagy krónikus-1 kategóriába sorolt összetevő, a 2.2.9.1.10.4.6.2 és 2.2.9.1.10.4.6.3 pontban leírt lépcsőzetes eljárást kell alkalmazni, amelyben az összetevők százalékos arányának egyszerű összeadása helyett egy súlyozott összeget használunk, amely az akut-1 kategóriájú összetevők koncentrációjának és egy tényezőnek a szorzata. Ez azt jelenti, hogy a 2.2.9.1.10.4.6.2.2, ill. a 2.2.9.1.10.4.6.3.3 táblázatok bal oldali oszlopában az akut-1, ill. krónikus-1 kategóriájú összetevők koncentrációja a megfelelő tényezővel megszorozva szerepel. A szorzótényező az összetevők toxicitása alapján van meghatározva, és a következő 2.2.9.1.10.4.6.4 táblázatban szerepel. Ezért az akut-1 és/vagy krónikus-1 kategóriába sorolt összetevőket tartalmazó keverékek összegző módszerrel történő besorolásához ismerni kell az  $M$  tényező értékét. Ehelyett az összegző képlet is alkalmazható (lásd a 2.2.9.1.10.4.5.2 pontot), ha a keverékben lévő minden, nagyon mérgező összetevőre van toxicitási adat és elegendő bizonyíték van arra, hogy a többi összetevő (beleértve azokat is, amelyekre akut toxicitási adatok nem állnak rendelkezésre), csak enyhén vagy egyáltalán nem mérgező, és nem befolyásolják jelentősen a keverék környezetre való veszélyességét.

**2.2.9.1.10.4.6.4 táblázat: A keverékek nagyon mérgező összetevőikhez tartozó szorzótényezők**

| $L(E)C_{50}$ érték                           | Szorótényező (M) |
|--|------------------|
| $0,1 < L(E)C_{50} \leq 1$                    | 1                |
| $0,01 < L(E)C_{50} \leq 0,1$                 | 10               |
| $0,001 < L(E)C_{50} \leq 0,01$               | 100              |
| $0,0001 < L(E)C_{50} \leq 0,001$             | 1000             |
| $0,00001 < L(E)C_{50} \leq 0,0001$           | 10000            |
| (további tizedes intervallumoként folytatva) |                  |

**2.2.9.1.10.4.6.5** Keverék besorolása abban az esetben, ha nincs az összetevőkre használható információ

Abban az esetben, ha a keverék valamely lényeges összetevőjének vízi környezetre való, akut és/vagy krónikus veszélyességére nincs használható adat, a keveréket nem lehet határozott veszélyességi kategóriába sorolni. Ebben az esetben a keveréket az ismert összetevők alapján kell besorolni, és ki kell egészíteni a következő megállapítással: „A keverék  $x$  %-a olyan összetevő(k)ből áll, amely(ek)nek vízi környezetre való veszélyessége nem ismert.”

**2.2.9.1.10.5** Az ADR alá másként nem sorolt, vízi környezetre veszélyes anyagok és keverékek**2.2.9.1.10.5.1** Az ADR alá másként nem sorolt, vízi környezetre veszélyes anyagokat és keverékeket a következő tételek alá kell sorolni:

UN 3077 KÖRNYEZETRE VESZÉLYES SZILÁRD ANYAG, M.N.N.

UN 3082 KÖRNYEZETRE VESZÉLYES FOLYÉKONY ANYAG, M.N.N.

Ezek a tételek a III csomagolási csoportba tartoznak.

**2.2.9.1.10.5.2** A 2.2.9.1.10 pont előírásaival ellentétben

- azokat az anyagokat, amelyek sem a 9 osztály valamely tétele alá – az UN 3077 és az UN 3082 kivételével –, sem az 1 – 8 osztály tételei alá nem sorolhatók, de amelyek a Tanács veszélyes anyagok osztályozására, csomagolására és címkézésére vonatkozó törvényi, rendeleti és közigazgatási rendelkezések közelítéséről szóló, módosított 1967. június 27-i 67/548/EGK Irányelve<sup>14)</sup> szerint „Környezetre veszélyes”-ek, azaz „N” betű (R50; R50/53; R51/53) van hozzájuk rendelve; és
  - azon anyagok oldatait és keverékeit (készítményeit és hulladékait), amelyek a módosított 67/548/EGK Irányelv szerint „Környezetre veszélyes”-ek, azaz „N” betű (R50; R50/53; R51/53) van hozzájuk rendelve, és amelyek az Európai Parlament és a Tanács a tagállamoknak veszélyes készítmények osztályozására, csomagolására és címkézésére vonatkozó törvényi, rendeleti és közigazgatási rendelkezések közelítéséről szóló 1999. május 31-i, módosított 1999/45/EK Irányelve<sup>15)</sup> szerint is „Környezetre veszélyes”-ek, azaz „N” betű (R50; R50/53; R51/53) van hozzájuk rendelve és nem sorolhatók sem a 9 osztály valamely tétele alá – az UN 3077 és az UN 3082 kivételével –, sem az 1 – 8 osztály tételei alá,
- a 9 osztály UN 3077, ill. UN 3082 tétel alá kell besorolni.

*Géntechnológiával módosított mikroorganizmusok és élő szervezetek*

**2.2.9.1.11** A géntechnológiával módosított mikroorganizmusok (GMMO-k) és élő szervezetek (GMO-k) olyan mikroorganizmusok és élő szervezetek, amelyek genetikai anyagát szándékosan,

14) Az EK Hivatalos Lapja, L 196. szám, 1967.08.16., 1 - 5. o.).

15) Az EK Hivatalos Lapja, L 200. szám, 1999.07.30., 1 - 68. o.).

génsebészeti beavatkozással úgy változtatták meg, ami a természetben nem fordul elő. Ezek a 9 osztályba, az UN 3245 tétel alá tartoznak, ha nem elégítik ki a fertőző anyagok meghatározását, de képesek az állatokat, növényeket vagy mikrobiológiai anyagokat oly módon megváltoztatni, ami a természetes reprodukció eredményeként rendszerint nem következik be.

**Megjegyzés:** 1. Azok a GMMO-k és GMO-k, amelyek fertőzőek, a 6.2 osztály UN 2814, UN 2900, ill. UN 3373 szám anyagai.

2. Azok a GMMO-k és GMO-k, amelyek felhasználását a származási, a tranzit és a célország illetékes hatóságai engedélyezték<sup>16)</sup>, nem tartoznak az ADR előírásainak hatálya alá.

3. Élő állatok a 9 osztályba besorolt géntechnológiával módosított mikro-organizmusok szállítására nem használhatók, hacsak az anyag más módon nem szállítható.

#### 2.2.9.1.12 (törölve)

*Magas hőmérsékletű anyagok*

**2.2.9.1.13** A magas hőmérsékletű anyagok olyan anyagok, amelyeket folyékony állapotban 100 °C-on vagy annál magasabb hőmérsékleten, de amennyiben van lobbanáspontjuk, akkor a lobbanáspont alatti hőmérsékleten szállítanak vagy adnak át szállításra. Ide tartoznak azok a szilárd anyagok, amelyeket 240 °C-on vagy annál magasabb hőmérsékleten szállítanak vagy adnak át szállításra.

**Megjegyzés:** A magas hőmérsékletű anyagok csak akkor sorolhatók a 9 osztályba, ha egyetlen más osztály feltételeit sem elégítik ki.

*Egyéb anyagok, amelyek a szállítás alatt veszélyt jelentenek, de egyetlen más osztály meghatározásának sem felelnek meg*

**2.2.9.1.14** A következő egyéb anyagok, amelyek egyetlen más osztály meghatározásának sem felelnek meg, a 9 osztályba vannak besorolva:

szilárd ammóniumvegyületek 60 °C alatti lobbanásponttal  
csekély veszélyt képviselő ditionitok  
erősen illékony folyékony anyagok  
ártalmas gőzöket kibocsátó anyagok  
allergéneket tartalmazó anyagok  
vizsgáló-készletek és elsősegély felszerelések.

**Megjegyzés:** A következő anyagok és tárgyak, amelyeket az ENSZ Minta Szabályzat felsorol, nem esnek az ADR előírásainak hatálya alá: UN 1845 szilárd széndioxid (szárazjég), UN 2071 ammónium-nitrát alapú műtrágya, UN 2216 stabilizált halliszt (halhulladék), UN 2807 mágnesezett anyag, UN 3166 belsőégésű motor vagy gyúlékony gáz üzemű jármű vagy gyúlékony folyadék üzemű jármű, UN 3171 akkumulátorral hajtott jármű vagy akkumulátorral hajtott készülék, UN 3334 légi forgalomban szabályozott folyadék, m.n.n., UN 3335 légi forgalomban szabályozott szilárd anyag, m.n.n. és UN 3363 veszélyes áru készülékben vagy veszélyes áru berendezésben.

16) Lásd részletesen a géntechnológiával módosított szervezeteknek a környezetben történő szándékos kibocsátásáról és a 90/220/EGK Tanácsi Irányelv hatályon kívül helyezéséről szóló 2001/18/EK Európai Parlamenti és Tanácsi Irányelv (az EK Hivatalos Lapja, L 106. szám, 2001.04.17., 8 – 14 o.) C részét, amely tartalmazza az Európai Közösség engedélyezési eljárásait. Magyarországon lásd az 1998. évi XXVII. tv-t a géntechnológiai tevékenységről, ill. a végrehajtására kiadott rendeleteket.

*Csomagolási csoporthoz való hozzárendelés*

**2.2.9.1.15** A 9 osztály anyagai és tárgyai a veszélyességük mértéke alapján a következő csomagolási csoportok valamelyikéhez vannak hozzárendelve, ha a 3.2 fejezet „A” táblázat (4) oszlopában ez fel van tüntetve:

II csomagolási csoport: közepesen veszélyes anyagok

III csomagolási csoport: kevésbé veszélyes anyagok.

**2.2.9.2** *A szállításból kizárt anyagok és tárgyak*

A következő anyagok és tárgyak a szállításból ki vannak zárva:

- azok a lítium akkumulátorok, amelyek nem felelnek meg a 3.3 fejezet 188, 230 vagy 636 különleges előírásának;
- azoknak a készülékeknek (pl. transzformátoroknak, kondenzátoroknak, hidraulikus berendezéseknek) az üres, tisztítatlan tartóedényei, amelyekben az UN 2315, 3151, 3152 vagy 3432 szám alá besorolt anyagok voltak.

**2.2.9.3** *A gyűjtőmegnevezések felsorolása*

|  | Osztályozási kód | UN szám | Az anyag vagy tárgy megnevezése  |
|--|------------------|---------|--|
| Különféle veszélyes anyagok és tárgyak                                       |                  |         |  |
| Anyagok, amelyek finom poruk belélegzése esetén az egészséget veszélyeztetik | M1               | 2212    | KÉK AZBESZT (krokidolit) vagy  |
|  |                  | 2212    | BARNA AZBESZT (amozit)   |
|  |                  | 2590    | FEHÉR AZBESZT (krizotil, aktinolit, antofillit, tremolit)  |
| Anyagok és készülékek, amelyekből tűz esetén dioxinok képződhetnek           | M2               | 2315    | FOLYÉKONY POLIKLÓROZOTT BIFENILEK  |
|  |                  | 3151    | FOLYÉKONY POLIHALOGÉNEZETT BIFENILEK vagy  |
|  |                  | 3151    | FOLYÉKONY POLIHALOGÉNEZETT TERFENILEK  |
|  |                  | 3152    | SZILÁRD POLIHALOGÉNEZETT BIFENILEK vagy  |
|  |                  | 3152    | SZILÁRD POLIHALOGÉNEZETT TERFENILEK  |
|  |                  | 3432    | SZILÁRD POLIKLÓROZOTT BIFENILEK  |
| Gyúlékony gőzöket fejlesztő anyagok  | M3               | 2211    | HABOSÍTHATÓ POLIMER GYÖNGYÖK, amelyek gyúlékony gőzöket fejlesztenek                                   |
|  |                  | 3314    | MŰANYAG SAJTOLÓANYAG gyúlékony gőzöket fejlesztő, massa, lemez vagy extrudált profil formában          |
| Lítium akkumulátorok   | M4               | 3090    | FÉMLÍTIUM AKKUMULÁTOROK (beleértve a lítiumötvözet akkumulátorokat is)                                 |
|  |                  | 3091    | FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKBEN (beleértve a lítiumötvözet akkumulátorokat is) vagy                |
|  |                  | 3091    | FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECSOMAGOLVA (beleértve a lítiumötvözet akkumulátorokat is)     |
|  |                  | 3480    | LÍTIUMION AKKUMULÁTOROK (beleértve a lítiumion polimer akkumulátorokat is)                             |
|  |                  | 3481    | LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKBEN (beleértve a lítiumion polimer akkumulátorokat is) vagy            |
|  |                  | 3481    | LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECSOMAGOLVA (beleértve a lítiumion polimer akkumulátorokat is) |
| Biztonsági felszerelések   | M5               | 2990    | ÖNFELFÚVÓ MENTŐESZKÖZ  |
|  |                  | 3072    | NEM ÖNFELFÚVÓ MENTŐESZKÖZ, mely tartozékként veszélyes anyagokat tartalmaz                             |
|  |                  | 3268    | LÉGZSÁK GÁZGENERÁTOR vagy  |
|  |                  | 3268    | LÉGZSÁK MODUL vagy   |
|  |                  | 3268    | BIZTONSÁGI ÖV ELŐFESZÍTŐ   |

**2.2.9.3 A gyűjtőmegnevezések felsorolása (folyt.)**

|  |   | Osztályozási kód | UN szám   | Az anyag vagy tárgy megnevezése  |
|--|---|------------------|---|--|
| Környezetre veszélyes anyagok  | az élő vizeket szennyező folyékony anyagok                        | M6               | 3082  | KÖRNYEZETRE VESZÉLYES, FOLYÉKONY ANYAG, M.N.N.   |
|  | az élő vizeket szennyező szilárd anyagok                          | M7               | 3077  | KÖRNYEZETRE VESZÉLYES, SZILÁRD ANYAG, M.N.N.   |
| Magas hőmérsékletű anyagok   | géntechológiával módosított mikro-organizmusok és élő szervezetek | M8               | 3245  | GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT MIKROORGANIZMUSOK vagy  |
|  |   |                  | 3245  | GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT ÉLŐ SZERVEZETEK   |
|  | folyékony anyagok   | M9               | 3257  | MAGAS HŐMÉRSÉKLETŰ FOLYÉKONY ANYAG, M.N.N. 100 °C-on vagy magasabb hőmérsékleten, lobbanásponttal rendelkező anyagoknál lobbanáspontjuk alatti hőmérsékleten (beleértve az olvasztott fémeket, olvasztott sókat, stb.) |
| Egyéb anyagok és tárgyak, amelyek a szállítás alatt veszélyt jelentenek, de egyetlen más osztály meghatározásának sem felelnek meg | szilárd anyagok   | M10              | 3258  | MAGAS HŐMÉRSÉKLETŰ SZILÁRD ANYAG, M.N.N. 240 °C-on vagy magasabb hőmérsékleten   |
|  |   | M11              | <p>Itt nincs gyűjtőmegnevezés. Ezzel az osztályozási kóddal csak a 3.2 fejezet „A” táblázatában felsorolt anyagok tartoznak a 9 osztály előírásainak hatálya alá, ezek a következők:</p> <p>1841 ACETALDEHID-AMMÓNIA<br/> 1931 CINK-DITIONIT<br/> 1941 DIBRÓM-DIFLUOR-METÁN<br/> 1990 BENZALDEHID<br/> 2969 RICINUSMAG vagy<br/> 2969 RICINUSMAG LISZT vagy<br/> 2969 RICINUSMAG PEHELY vagy<br/> 2969 RICINUSMAG POGÁCSA<br/> 3316 VIZSGÁLÓKÉSZLET vagy<br/> 3316 ELSŐSEGÉLY FELSZERELÉS<br/> 3359 GÁZOSÍTÓSZER HATÁSA ALATT ÁLLÓ EGYSÉG</p> |  |



## **2.3 FEJEZET**

### **VIZSGÁLATI ELJÁRÁSOK**

#### **2.3.0      Általános előírások**

Hacsak a 2.2 fejezetben vagy ebben a fejezetben nincs másként előírva, a veszélyes áruk besorolásához azokat a vizsgálati módszereket kell használni, amelyek a „Vizsgálatok és kritériumok kézikönyv”-ben találhatók.

#### **2.3.1      Kiizzadási vizsgálat az A típusú robbantóanyagokhoz**

**2.3.1.1**      Az A típusú robbantóanyagokat (UN 0081), amennyiben folyékony salétromsav-észter tartalmuk a 40%-ot meghaladja, kiegészítésképpen a “Vizsgálatok és kritériumok kézikönyv”-ben meghatározott vizsgálatokon kívül a következő kiizzadási vizsgálatnak kell alávetni.

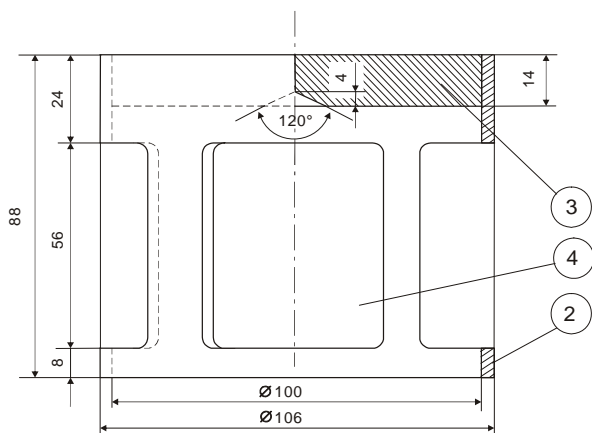
**2.3.1.2**      A robbantóanyagok kiizzadási vizsgálatának elvégzésére használt készülék (1 – 3. ábra) egy 40 mm magas, 15,7 mm belső átmérőjű üreges, talpas bronzhenger, amelynek talpa ugyanazon anyagból készült. A henger palástján 20 db 0,5 mm átmérőjű furat van (négy sorban öt-öt furat). Az 52 mm teljes hosszúságú, 48 mm hosszú, hengeres részű bronzdugattyú a függőleges helyzetű bronzhengerbe helyezhető; ez a 15,6 mm átmérőjű dugattyú 2220 g tömegű nehezékkel van terhelve úgy, hogy a henger fenekére 120 kPa (1,2 bar) nyomás hat.

**2.3.1.3**      5...8 g robbantóanyagból 30 mm hosszú és 15 mm átmérőjű hengert kell készíteni, amelyet igen finom gézbe kell becsavarni és a hengerbe kell helyezni; ezután rá kell helyezni a dugattyút a teherrel oly módon, hogy a robbantóanyagra 120 kPa (1,2 bar) nyomás hasson. Mélni kell a hengeren levő furatokban az első olajos cseppecskék (nitroglicerín) megjelenéséig eltelt időt.

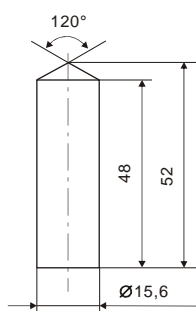
**2.3.1.4**      A robbantóanyag megfelelő, ha az első cseppek megjelenéséig több mint öt perc telik el, ha a vizsgálatot 15...25 °C hőmérsékleten végezték.



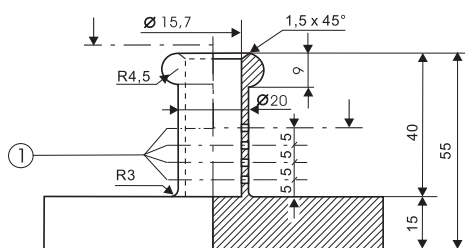
### Robbantóanyagok kiizzadási vizsgálata



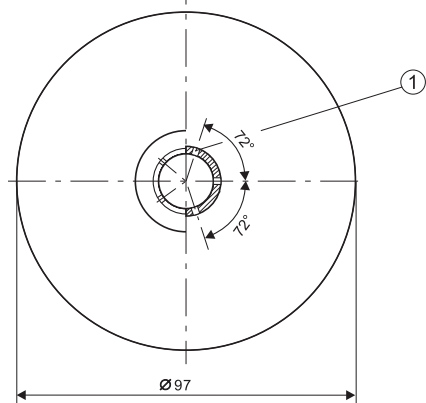
1. ábra: Harang alakú nehezék,  
tömege 2220 g, alkalmas a bronz dugattyúra  
történő ráhelyezésre



2. ábra: Hengeres bronzdugattyú,  
méretek mm-ben



3. ábra: Talpas bronzhenger, egyik végén zárt:  
felülnézet és oldalnézet metszettel,  
méretek mm-ben



Jelölések az 1 – 3. ábrához:

- 1) négy sorban öt-öt furat, átmérő 0,5 mm
- 2) réz
- 3) ólomlemez, belül centrikus kúppal
- 4) négy, kb. 46 mm x 56 mm méretű nyílás a kerület mentén egyforma távolságokra.

**2.3.2 A 4.1 osztály nitrocellulóz keverékeire vonatkozó feltételek**

**2.3.2.1** A nitrocellulóz 132 °C-on történő félórás melegítése során nem szabad hogy szemmel látható sárgásbarna nitrozus gázokat fejlesszen. A gyulladási hőmérsékletnek meg kell haladnia a 180 °C-ot. Lásd a következő 2.3.2.3 – 2.3.2.8, 2.3.2.9 a) és 2.3.2.10 bekezdést.

**2.3.2.2** 3 g plasztifikált nitrocellulóz 132 °C-on való egyórás melegítése során nem szabad hogy szemmel látható sárgásbarna nitrozus gőzöket fejlesszen. A gyulladási hőmérsékletnek meg kell haladni a 170 °C-ot. Lásd a következő 2.3.2.3 – 2.3.2.8, 2.3.2.9 b) és 2.3.2.10 bekezdést.

**2.3.2.3** Ha az egyes anyagok közötti szállításának megengedett voltára nézve véleménykülönbség merül fel, a következőkben részletezett vizsgálatokat kell elvégezni.

**2.3.2.4** Amennyiben a kémiai állandóság vizsgálatára ebben a fejezetben nem szereplő, más vizsgálati módszert vagy eljárást alkalmaznak, ezeknek a módszereknek ugyanazt az eredményt kell adniuk, mintha a vizsgálatokat a következő módszerekkel végezték volna.

**2.3.2.5** A hőállóság következőkben leírt meghatározása során a vizsgálandó anyagot tartalmazó szárítószekrény hőmérséklete az előírttól 2 °C-nál nagyobb mértékben nem térhet el; a vizsgálati időtartamot a 30 vagy 60 perces vizsgálatoknál legfeljebb kétperces eltéréssel be kell tartani. A szárítószekrényt úgy kell kialakítani, hogy a vizsgálatához előírt hőmérsékletet a minta behelyezése után legkésőbb öt perc múlva elérje.

**2.3.2.6** A 2.3.2.9 és 2.3.2.10 bekezdés szerinti vizsgálatok előtt a mintákat legalább 15 órán át kell szárítani szobahőmérsékleten, kiizzított és granulált kalcium-kloriddal töltött vákuum-exszikkátorban. Ennek során a mintát vékony rétegben kell elteríteni, ezért a nem porszerű vagy nem szálas mintát apró darabokra kell vágdalni, le kell reszelni vagy össze kell törni. Az exszikkátorban a nyomásnak 6,5 kPa-nál (0,065 bar-nál) kisebbnek kell lennie.

**2.3.2.7** Az előző 2.3.2.6 bekezdésben leírt feltételek melletti szárítás előtt a 2.3.2.2 bekezdés szerinti anyagokat jól szellőztetett szárítószekrényben előszárításnak kell alávetni 70 °C állandó hőmérsékleten mindaddig, amíg a 15 percen belül mért tömegcsökkenés nem haladja meg az eredeti tömeg 0,3%-át.

**2.3.2.8** A 2.3.2.1 bekezdés szerinti gyengén nitrált nitrocellulózt előzetesen az előző 2.3.2.7 bekezdés szerinti feltételek mellett előszárításnak kell alávetni, ezután azt legalább 15 órán át exszikkátorban koncentrált kénsav fölött kell tartani.

**2.3.2.9 Kémiai állandóság vizsgálata hőhatásra**

a) Az előző 2.3.2.1 bekezdésben felsorolt anyagok vizsgálata:

i) Két kémcső mindegyikébe, amelyeknek

|                |         |
|----------------|---------|
| hosszúsága     | 350 mm, |
| belső átmérője | 16 mm,  |
| falvastagsága  | 1,5 mm, |

kalcium-klorid fölött szárított 1 g anyagot kell tenni (szükség esetén az anyagot szárítás céljából 0,05 g-nyi darabkákra kell aprítani).

A két kémcsövet teljesen, de nem szorosan be kell fedni, ezután úgy kell az elektromos kemencébe helyezni, hogy azok legalább hosszúságuk 4/5 részében láthatók legyenek, és 30 percen át 132 °C állandó hőmérsékletnek legyenek kitéve. Meg kell figyelni, hogy ezen idő alatt képződnek-e sárgásbarna nitrozus gázok, amelyek különösen jól láthatók fehér háttér előtt.

- ii) Az anyagot kémiaiilag állandónak kell tekinteni, ha ilyen gázok nem jelennek meg.
- b) A plasztifikált nitrocellulóz vizsgálata (lásd a 2.3.2.2 bekezdést):
  - i) 3 g plasztifikált nitrocellulózt az a) pontban leírtakhoz hasonló kémcsövekbe teszünk, amelyeket azután 132 °C állandó hőmérsékletű szárítószekrénybe helyezünk.
  - ii) A plasztifikált nitrocellulózt tartalmazó kémcsöveket egy órán át kell a szárítószekrényben tartani. Ezen idő alatt nem szabad, hogy sárgásbarna nitrózus gőzök váljanak láthatóvá. A megfigyelés és értékelés az a) pontban leírtakhoz hasonló.

#### **2.3.2.10**      *A gyulladási hőmérséklet vizsgálata (lásd a 2.3.2.1 és a 2.3.2.2 bekezdést)*

- a) A gyulladási hőmérséklet meghatározásához 0,2 g anyagot tartalmazó kémcsövet Wood-fém fürdőbe merítve kell hevíteni. A kémcsövet azután kell a fürdőbe meríteni, miután a fürdő elérte a 100 °C hőmérsékletet, a hőmérsékletet ezután percenként 5 °C-kal kell növelni.
- b) A kémcsöveknek a következő méretűeknek kell lenniük:

|              |         |
|--------------|---------|
| hosszúság    | 125 mm, |
| belső átmérő | 15 mm,  |
| falvastagság | 0,5 mm. |

A kémcsöveket 20 mm mélyen kell a fürdőbe meríteni.
- c) A háromszor megismételt kísérlet során minden egyes alkalommal meg kell állapítani, hogy az anyag meggyulladása milyen hőmérsékleten következik be, illetve, hogy lassú vagy gyors égéssel, fellobbanással vagy robbanással.
- d) A három kísérlet során kapott legkisebb hőmérséklet az anyag gyulladási hőmérséklete.

#### **2.3.3**      *A 3, a 6.1 és a 8 osztályba tartozó gyúlékony folyékony anyagok vizsgálata*

##### **2.3.3.1**      *Vizsgálat a lobbanáspont meghatározásához*

##### **2.3.3.1.1**      A lobbanáspontot a következő típusú készülékek valamelyikével kell meghatározni:

- a) Abel;
- b) Abel-Pensky;
- c) Tag;
- d) Pensky-Martens;
- e) az ISO 3679:1983 vagy az ISO 3680:1983 szabvány szerinti készülék.

##### **2.3.3.1.2**      A festékek, ragasztók és hasonló, oldószer tartalmú viszkózus termékek lobbanáspontjának meghatározására csak viszkózus folyadékok lobbanáspontjának meghatározására alkalmas készülékek és vizsgálati módszerek használhatók, tekintettel a következő szabványokra:

- a) az ISO 3679:1983 nemzetközi szabvány;
- b) az ISO 3680:1983 nemzetközi szabvány;
- c) az ISO 1523:1983 nemzetközi szabvány;
- d) a DIN 53213:1978 I. rész német szabvány.

**2.3.3.1.3** A vizsgálatot vagy egyensúlyi módszerrel vagy nem-egyensúlyi módszerrel lehet végrehajtani.

**2.3.3.1.4** Az egyensúlyi módszer szerinti eljárásokra lásd:

- a) az ISO 1516:1981 nemzetközi szabványt;
- b) az ISO 3680:1983 nemzetközi szabványt;
- c) az ISO 1523:1983 nemzetközi szabványt;
- d) az ISO 3679:1983 nemzetközi szabványt.

**2.3.3.1.5** A nem-egyensúlyi módszer szerinti eljárások a következők:

- a) az Abel féle készülék esetén:
  - i) a BS 2000:1995 170. rész brit szabvány;
  - ii) az NF MO7-011:1988 francia szabvány;
  - iii) az NF T66-009:1969 francia szabvány;
- b) az Abel-Pensky féle készülék esetén:
  - i) a DIN 51755:1974, 1. rész német szabvány (5 °C-tól 65 °C hőmérsékletig);
  - ii) a DIN 51755:1978, 2. rész német szabvány (5 °C alatti hőmérsékleteknél);
  - iii) az NF MO7-036:1984 francia szabvány;
- c) a Tag készülék esetén: az ASTM D 56:1993 amerikai szabvány;
- d) a Pensky-Martens készülék esetén:
  - i) az ISO 2719:1988 nemzetközi szabvány;
  - ii) az EN 22719:1994 európai szabvány annak mindenkor nemzeti kiadása formájában (pl. BS 2000, 404 rész / EN 22719);
  - iii) az ASTM D 93:1994 amerikai szabvány;
  - iv) az IP 34:1988 Institute of Petroleum szabvány.

**2.3.3.1.6** A 2.3.3.1.4 és a 2.3.3.1.5 pontban felsorolt vizsgálati módszereket csak az egyes módszereknél felsorolt lobbanáspont tartományban lehet használni. A használandó módszer kiválasztásánál figyelembe kell venni az anyag és a mintatartó közötti kémiai reakció lehetőségét. A készüléket a biztonsági előírások betartása mellett huzatmentes helyen kell felállítani. Biztonság okáért ajánlatos a szerves peroxidok és az önreaktív anyagok esetén (amelyek "energetikai" anyagoknak minősülnek), valamint a mérgező anyagok esetén olyan módszert választani, amelyhez csekély mintamennyiség – kb. 2 ml – szükséges.

**2.3.3.1.7** Ha a 2.3.3.1.5 pont szerinti nem-egyensúlyi módszerrel meghatározott lobbanáspont 23 °C ± 2 °C vagy 60 °C ± 2 °C, az eredményt ugyanazon készüléket használva a 2.3.3.1.4 pont szerinti egyensúlyi módszerrel meg kell erősíteni.

**2.3.3.1.8** A gyúlékony folyadék besorolásakor felmerülő vita esetén a feladó által javasolt besorolást kell elfogadni, ha az illető folyadék lobbanáspontjának ellenőrző vizsgálata során az eredmény nem tér el 2 °C-nál nagyobb mértékben a 2.2.3.1 bekezdésben megadott értéktartároktól (23 °C, illetve 60 °C). Ha 2 °C-nál nagyobb az eltérés, még egy ellenőrző vizsgálatot kell végezni, és az ellenőrző vizsgálatok során kapott legkisebb értéket kell figyelembe venni.

**2.3.3.2 Vizsgálat a peroxid-tartalom meghatározására**

Valamely folyadék peroxid-tartalmát a következő vizsgálati eljárással kell megállapítani:

A titrálandó folyadékból  $p$  mennyiséget (kb. 5 g-nyit 0,01 g pontossággal mérve) bele kell önteni egy Erlenmeyer-lombikba, ehhez hozzá kell adni 20 cm<sup>3</sup> ecetsav-anhidridet, és kb. 1 g-nyi porrá tört szilárd kálium-jodidot, ezt összerázva tíz perc eltelté után három perc alatt kb. 60 °C-ra kell hevíteni. Miután öt percen át hűlni hagyták, 25 cm<sup>3</sup> vizet kell hozzáadni. Félórai állás után a szabaddá vált jódot indikátor hozzáadása nélkül 0,1 normál nátrium-tioszulfát oldattal kell titrálni. A teljes elszíntelenedés jelzi a reakció végét. A tioszulfát oldatból szükséges térfogatot  $n$ -nel jelölve (cm<sup>3</sup> -ben), a folyadék peroxid-tartalma (H<sub>2</sub>O<sub>2</sub>-re vetítve) a

$$\frac{17n}{100p}$$

képletből adódik.

**2.3.4 Vizsgálat a folyékonyság meghatározásához**

A folyékony vagy viszkózus anyagok és keverékek, valamint a pasztaszerű anyagok folyékonyságának meghatározására a következő módszert kell alkalmazni:

**2.3.4.1 Vizsgálókészülék**

Kereskedelmi forgalomban kapható, ISO 2137:1985 szabvány szerinti penetrométer 47,5 ± 0,05 g-os vezetőrúddal; kúpos furatokkal ellátott 102,5 ± 0,05 g tömegű duralumíniumból készült szitatárcsával (lásd a 4. ábrát); és a minta befogadására alkalmas, 72...80 mm belső átmérőjű penetrációs tartállyal.

**2.3.4.2 Vizsgálati eljárás**

A mintát legkésőbb fél órával a mérés előtt a penetrációs tartályba öntjük. A tartályt a légmentes lezárás után a mérésig mozdulatlan állapotban kell tartani. A mintát a légmentesen lezárt penetrációs tartályban 35 °C ± 0,5 °C hőmérsékletre felmelegítjük és a penetrométer asztalára helyezzük közvetlenül a mérés előtt (legfeljebb 2 perccel előbb). Ezt követően a szitatárcsa S csúcsát a folyadék felületére helyezzük, és mérjük a behatolás mélységét az idő függvényében.

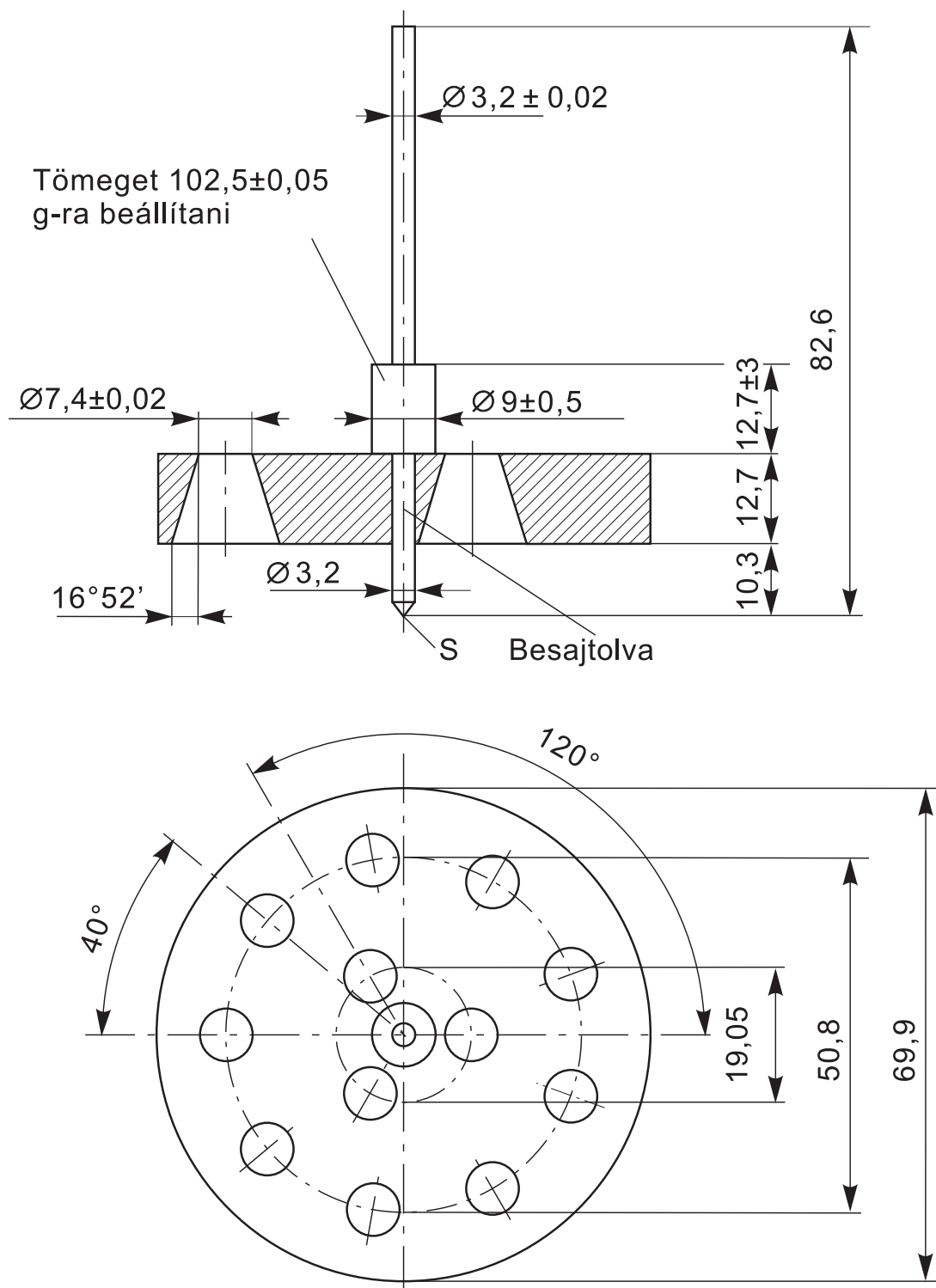
**2.3.4.3 Az eredmények értékelése**

Az anyag pasztaszerű, ha az S csúcsot a minta felületére helyezve a mérőórán leolvasott behatolás

- a) 5 ± 0,1 s terhelési idő elteltével 15,0 ± 0,3 mm-nél kisebb, vagy
- b) 5 ± 0,1 s terhelési idő elteltével 15,0 ± 0,3 mm-nél nagyobb, de újabb 55 ± 0,5 s idő elteltével a további penetráció 5 ± 0,5 mm-nél kisebb.

**Megjegyzés:** Olyan minta esetében, amelynek folyáspontja van, gyakran nem lehet a penetrációs tartályban állandó szintű felületet létrehozni és ennek következtében nem lehet világosan megállapítani a mérés kezdeti feltételeit az S csúccsal való érintkezésbe hozatalkor. Ezenfelül bizonyos minták esetében a szitatárcsa ráhelyezése a felület rugalmas alakváltozását válthatja ki, ezáltal az első másodpercekben mélyebb behatolás látszatát kelti. Ezekben az esetekben alkalmas lehet az eredmények értékelését az előző b) pont szerint végezni.

#### 4. ábra: Penetrométer



\* A tűrés nélkül megadott méretek tűrése:  $\pm 0,1$  mm

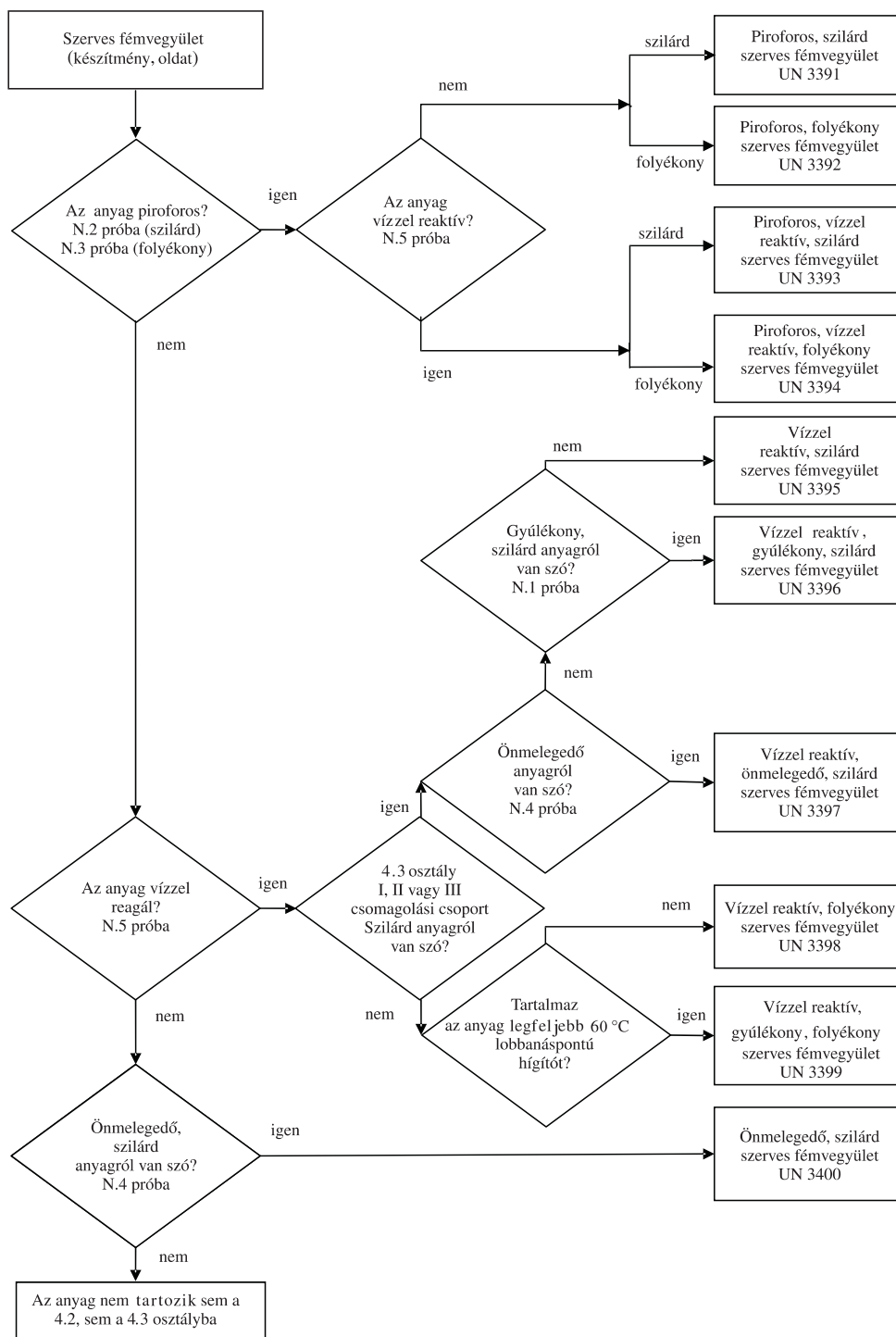
**2.3.5 A szerves fémvegyületek besorolása a 4.2 és a 4.3 osztályba**

A szerves fémvegyületek a „Vizsgálatok és kritériumok kézikönyv”, III. rész, 33 fejezet N.1 - N.5 vizsgálattal meghatározott tulajdonságaiktól függően a 2.3.5 folyamatábra alapján a 4.2, ill. a 4.3 osztályba sorolhatók.

**Megjegyzés:** *1. A járulékos veszélyekkel rendelkező szerves fémvegyületeket tulajdonságaiktól függően a veszélyességi rangsor táblázat (lásd a 2.1.3.10 bekezdést) figyelembe vételével adott esetben esetleg más osztályba kell besorolni.*

*2. A szerves fémvegyületeket olyan koncentrációban tartalmazó gyúlékony oldatok, amelyek vízzel érintkezve sem gyúlékony gázokat nem fejlesztenek veszélyes mennyiségben, sem öngyulladásra nem hajlamosak, a 3 osztály anyagai.*

**2.3.5 ábra: Folyamatábra a szerves fémvegyületek besorolására a 4.2 és a 4.3 osztályba<sup>a), b)</sup>**



- a) Ha alkalmazható és a vizsgálat – figyelembe véve az anyag reakcióját – célszerűen végrehajtható, akkor a 6.1, ill. a 8 osztály szerinti tulajdonságokat a 2.1.3.10 bekezdés veszélyességi rangsor táblázata szerint kell számításba venni.
- b) Az N.1 - N.5 vizsgálati módszer leírását a „Vizsgálatok és kritériumok kézikönyv”, III. rész, 33. fejezet tartalmazza.



### **3. RÉSZ**

## **A VESZÉLYES ÁRUK FELSOROLÁSA, KÜLÖNLEGES ELŐÍRÁSOK ÉS A KORLÁTOZOTT ÉS AZ ENGEDMÉNYES MENNYISÉGBEN CSOMAGOLT VESZÉLYES ÁRUKRA VONATKOZÓ MENTESSÉGEK**

### 3.1 FEJEZET

#### ÁLTALÁNOS ELŐÍRÁSOK

##### 3.1.1 Bevezetés

Az e rész táblázataiban található vagy hivatkozott előírásokon kívül minden rész, fejezet és/vagy szakasz általános követelményeit is be kell tartani. A táblázatok ezeket az általános követelményeket nem tartalmazzák. Ha egy általános követelmény valamely különleges előírásnak ellentmond, a különleges előírás a mértékadó.

##### 3.1.2 Helyes szállítási megnevezés

*Megjegyzés: Minták szállításánál a helyes szállítási megnevezésre lásd a 2.1.4.1 bekezdést.*

**3.1.2.1** A helyes szállítási megnevezés a 3.2 fejezet „A” táblázatában szereplő, az árut legpontosabban leíró tétel azon része, amely nagybetűvel van szedve (és minden szám, görög betű, „sec”, „terc”, „m”, „n”, „o”, „p” betűk, amelyek a megnevezés szerves részét képezik). A helyes szállítási megnevezés után zárójelben egy másik helyes szállítási megnevezés is lehet [pl. ETANOL (ETIL-ALKOHOL)]. A tétel kisbetűvel szedett része nem tekintendő a helyes szállítási megnevezés részének.

**3.1.2.2** Amennyiben az „és” vagy a „vagy” kötőszavak kisbetűvel vannak írva, vagy ha az egyes megnevezések vesszővel vannak elválasztva, a tétel teljes helyes szállítási megnevezését nem szükséges feltüntetni a fuvarokmányban vagy a küldeménydarab feliratozásánál. Ez különösen akkor áll fenn, ha egyetlen UN szám alatt több különböző tétel kombinációja van felsorolva. Az alábbi példák mutatják az ilyen tételeknél a helyes szállítási megnevezés kiválasztását:

- a) UN 1057 ÖNGYÚJTÓK vagy ÖNGYÚJTÓ UTÁNTÖLTŐK

A helyes szállítási megnevezés a következő lehetséges kombinációk közül a legalkalmasabb:

ÖNGYÚJTÓK  
ÖNGYÚJTÓ UTÁNTÖLTŐK;

- b) UN 2793 VASTARTALMÚ FORGÁCS FÚRÁSBÓL, KÖSZÖRÜLESBŐL, ESZTERGÁLÁSBÓL vagy DARABOLÁSBÓL önmelegedésre hajlamos formában.

A helyes szállítási megnevezés a következő kombinációk közül a legalkalmasabb:

VASTARTALMÚ FORGÁCS FÚRÁSBÓL  
VASTARTALMÚ FORGÁCS KÖSZÖRÜLESBŐL  
VASTARTALMÚ FORGÁCS ESZTERGÁLÁSBÓL  
VASTARTALMÚ FORGÁCS DARABOLÁSBÓL.

**3.1.2.3** A helyes szállítási megnevezés lehet egyes számban vagy többes számban, ahogy megfelelő. Ezenkívül amennyiben a helyes szállítási megnevezésben jelzős szerkezet van, az okmányokban és a küldeménydarabok feliratán a szórend – értelemszerűen – megváltoztatható. Például: a „dimetil-amin vizes oldata” helyett „vizes dimetil-amin oldat” is írható. Az 1 osztály áruinál a helyes szállítási megnevezést magában foglaló, további leírással kiegészített kereskedelmi vagy katonai nevek is használhatók.

**3.1.2.4** Számos anyagra külön tétel van folyékony és szilárd állapotban (a folyékony és a szilárd meghatározását lásd az 1.2.1 szakaszban), ill. szilárd állapotban és oldat formájában. Ezek

eltérő UN számok alá tartoznak, amelyek nem feltétlenül egymás után következnek<sup>1)</sup>.

**3.1.2.5** Ha az 1.2.1 szakasz meghatározása szerint szilárd anyagot olvasztott állapotban adnak fel szállításra, akkor a helyes szállítási megnevezést ki kell egészíteni az „OLVASZTOTT” jelzővel, kivéve, ha ez a 3.2 fejezet „A” táblázatában levő megnevezésben nagybetűvel szedve szerepel (pl. OLVASZTOTT, SZILÁRD ALKIL-FENOL, M.N.N.).

**3.1.2.6** Ha a 2.2.x.2 bekezdések szerint egy anyag stabilizálás nélkül a szállításból ki lenne zárva, mivel normális szállítási feltételek mellett veszélyes reakcióra hajlamos, a helyes szállítási megnevezést ki kell kiegészíteni a „STABILIZÁLT” kifejezéssel (pl.: „SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., STABILIZÁLT”), kivéve az önreaktív anyagokat, a szerves peroxidokat és azokat az anyagokat, amelyeknél a 3.2 fejezet „A” táblázat 2 oszlopában levő megnevezésben a „STABILIZÁLT” szó nagybetűvel szedve szerepel.

Ha az ilyen anyagokat hőmérséklet-szabályozással stabilizálják, hogy mindenféle veszélyes túlnyomás kialakulását megakadályozzák, akkor:

- a) folyadékok esetében: ha az ÖBH 50 °C vagy annál kisebb, akkor a 2.2.41.1.17 pont előírásait, a 7.2 fejezet V8 különleges előírását, a 8.5 fejezet S4 különleges előírását és a 9.6 fejezet követelményeit kell betartani, IBC-ben és tartányban történő szállítás esetén az összes olyan előírást kell betartani, amely az UN 3239 anyagra vonatkozik (lásd különösen a 4.1.7.2 bekezdés IBC520 csomagolási utasítását és a 4.2.1.13 bekezdést);
- b) gázok esetében: a szállítási feltételeket az illetékes hatóságnak kell jóváhagynia.

**3.1.2.7** A hidrátok a vízmentes anyagra vonatkozó helyes szállítási megnevezés alatt szállíthatók.

**3.1.2.8** *Generikus vagy „másként meg nem nevezett” (m.n.n.) tételek*

**3.1.2.8.1** Azokat az „m.n.n.” vagy „generikus” helyes szállítási megnevezéseket, amelyekhez a 3.2 fejezet „A” táblázat 6 oszlopában a 274 különleges előírás van hozzárendelve, ki kell egészíteni az áru műszaki megnevezésével, kivéve, ha az áru ellenőrzött termék, aminek közzétételét belföldi jogszabály vagy nemzetközi egyezmény tiltja. Az 1 osztály robbanóanyagai esetében a veszélyes áru megnevezése kiegészíthető további leírással, kereskedelmi vagy katonai névvel. A műszaki megnevezést közvetlenül a helyes szállítási megnevezés után, zárójelben kell feltüntetni. Ezekon kívül a megnevezéshez megfelelő kiegészítő leírás is fűzhető, mint pl. a „tartalmaz”, „tartalmazó”, „keverék”, „oldat” stb. szavak, ill. a technikai alkotórész százalékos aránya is megadható. Például „UN 1993 Gyúlékony folyékony anyag, m.n.n. (xilolt és benzolt tartalmaz), 3, II”.

**3.1.2.8.1.1** A műszaki megnevezés lehet elfogadott kémiai – adott esetben biológiai – megnevezés, vagy a tudományos és műszaki kézikönyvekben, folyóiratokban és egyéb szakirodalomban jelenleg használt, egyéb megnevezés. Kereskedelmi nevek erre a célra nem használhatók. Peszticidek esetén az ISO által elfogadott megnevezés vagy „A WHO ajánlása a peszticidek veszély szerinti osztályozására és az osztályozás irányelvei” („The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification”) c. kiadványban felsorolt nevek, illetve a hatóanyagok neve használható.

**3.1.2.8.1.2** Ha egy veszélyes anyago(ka)t tartalmazó keverék olyan „m.n.n.” vagy „generikus” tételhez tartozik, amelynél a 3.2 fejezet „A” táblázat 6 oszlopában a 274 különleges előírás található, nem szükséges két olyan alkotórésznel többet megnevezni, amely a keverék veszélyessége tekintetében mérvado. Ha az áru ellenőrzött termék, aminek közzétételét belföldi jogszabály vagy nemzetközi egyezmény tiltja, nem kell az alkotórészeket megnevezni. Ha a keveréket tartalmazó küldeménydarabon járulékos veszélyre utaló bárca van, a zárójelben levő két

1) A részleteket a betűrendes felsorolás tartalmazza (3.2 fejezet „B” táblázat), pl.  
NITRO-XILOLOK, FOLYÉKONY 6.1 1665  
NITRO-XILOLOK, SZILÁRD 6.1 3447

műszaki megnevezés egyikével azt az alkotórészt kell megnevezni, amelyik miatt a járulékos veszélyre utaló bárca szükséges.

**Megjegyzés:** Lásd az 5.4.1.2.2 pontot.

**3.1.2.8.1.3** Az áru műszaki megnevezéssel kiegészített helyes szállítási megnevezésének megválasztását az ilyen tételeknél a következő példák mutatják:

UN 3394 PIROFOROS, VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET  
(trimetil-gallium)

UN 2902 FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N. (drazoxolon).

**3.1.2.9** *Egyetlen veszélyes anyagot tartalmazó keverékek és oldatok*

Ha egy oldatot vagy keveréket a 2.1.3.3 bekezdés osztályozási követelményei szerint ugyanúgy kell tekinteni, mint a név szerint felsorolt veszélyes anyagot, akkor a helyes szállítási megnevezést ki kell egészíteni az „OLDAT” vagy „KEVERÉK” jelzővel, pl. „ACETON OLDAT”. Ezen kívül az oldat vagy a keverék koncentrációja ugyancsak feltüntethető, pl. „75%-os ACETON OLDAT”.

### 3.2 FEJEZET

#### A VESZÉLYES ÁRUK FELSOROLÁSA

##### 3.2.1 Az „A” táblázat (A veszélyes áruk UN szám szerinti felsorolása) magyarázata

Az „A” táblázat egy-egy sora általában valamely konkrét UN szám alá tartozó összes anyagra vagy tárgyra vonatkozik. Ha azonban ugyanazon UN szám alá tartozó anyagok vagy tárgyak eltérő kémiai, fizikai tulajdonságokkal és/vagy szállítási feltételekkel rendelkeznek, az adott UN számra több, egymás utáni sor is vonatkozhat.

Az „A” táblázat oszlopai egy-egy meghatározott tárgykörre vonatkoznak, amint az a következő magyarázatban szerepel. Az oszlopok és sorok metszéspontja (rovat) tartalmazza az adott oszlopban szereplő tárgykört illetően az adott sor anyagára (anyagaira) vagy tárgyára (tárgyaira) vonatkozó információt:

- az első négy oszlop azonosítja az adott sorba tartozó anyago(ka)t vagy tárgya(ka)t (ebben a vonatkozásban kiegészítő információt adhatnak a 6 oszlopban található különleges előírások);
- a következő oszlopok a különleges előírásokat adják meg vagy szöveges, vagy kódolt formában. A kódok az itt következő magyarázatban feltüntetett részben, fejezetben, szakaszban és/vagy bekezdésben található részletes információra utalnak. Ha egy rovat üres, az azt jelenti, hogy vagy nincs különleges előírás és így csak az általános követelményeket kell alkalmazni, vagy a magyarázatban szereplő szállítási korlátozások érvényesek.

A rovatokban nincs utalás az általános követelményekre. Azt, hogy az általános követelmények melyik részben, fejezetben, szakaszban és/vagy bekezdésben találhatók, minden egyes oszlopra a következő magyarázat mutatja.

Magyarázó megjegyzések az egyes oszlopokhoz:

##### **1 oszlop** „UN szám”

Itt vannak feltüntetve:

- az egyedi UN számok, amelyek konkrétan egy-egy veszélyes anyaghoz vagy tárgyhoz vannak hozzárendelve, illetve
- a „generikus” vagy „m.n.n.” tételek UN száma, amelyhez a név szerint nem említett veszélyes anyagokat vagy tárgyakat a 2. rész osztályozási kritériumai (a „döntési fák”) szerint hozzá kell rendelni.

##### **2 oszlop** „Megnevezés és leírás”

Itt van feltüntetve – nagy betűvel szedve – az egyedi UN számmal rendelkező anyagok vagy tárgyak megnevezése, illetve a „generikus” vagy „m.n.n.” tételek megnevezése, amelyhez az anyagok vagy tárgyak a 2. rész osztályozási kritériumai (a „döntési fák”) szerint hozzá vannak rendelve. Ezt a megnevezést kell helyes szállítási megnevezésként, illetve annak részeként használni (a helyes szállítási megnevezésre vonatkozó további részletekre lásd a 3.1.2 szakaszt).

Ha egy anyag vagy tárgy besorolása és/vagy szállítási feltételei bizonyos körülmények között eltérőek lehetnek, a tétel értelmezéséhez a helyes szállítási megnevezés mellett – kisbetűvel szedve – további leírás is szerepel.

|                  |   |
|------------------|---|
| <b>3a oszlop</b> | <p>„Osztály”</p> <p>Itt van feltüntetve az osztály, amelynek fogalomkörébe a veszélyes anyag vagy tárgy tartozik. Az osztály számának hozzárendelése a 2. rész eljárásai és kritériumai szerint történik.</p>   |
| <b>3b oszlop</b> | <p>„Osztályozási kód”</p> <p>Itt van feltüntetve a veszélyes anyag vagy tárgy osztályozási kódja.</p> <ul style="list-style-type: none"> <li>– Az 1 osztály anyagai és tárgyai esetében a kód a 2.2.1.1.4 pont szerinti eljárások és kritériumok alapján hozzárendelt alosztály számából és összeférhetőségi csoport betűjéből áll.</li> <li>– A 2 osztály anyagai és tárgyai esetében a kód egy számból és a veszélyes tulajdonság szerinti csoport betűjéből (betűiből) áll, amelyek magyarázata a 2.2.2.1.2 és a 2.2.2.1.3 pontban található.</li> <li>– A 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 8 és 9 osztály anyagai és tárgyai esetében a kódok magyarázata a 2.2.x.1.2 pontban<sup>2)</sup> található.</li> <li>– A 7 osztály anyagai és tárgyai esetében nincs osztályozási kód.</li> </ul>  |
| <b>4 oszlop</b>  | <p>„Csomagolási csoport”</p> <p>Itt van feltüntetve az anyaghoz rendelt csomagolási csoport száma (I, II vagy III). A csomagolási csoportok a 2. rész szerinti eljárások és kritériumok alapján vannak hozzárendelve. Bizonyos anyagok és tárgyak nincsenek csomagolási csoporthoz rendelve.</p>  |
| <b>5 oszlop</b>  | <p>„Bárcák”</p> <p>Itt van feltüntetve azoknak a bárcáknak, nagybárcáknak a száma (lásd az 5.2.2.2 és az 5.3.1.7 bekezdést), amelyeket a küldeménydarabokon, konténereken, tankkonténereken, mobil tartányokon, MEG-konténereken és járműveken kell elhelyezni. Azonban:</p> <ul style="list-style-type: none"> <li>– a 7 osztály anyagai és tárgyai esetében a 7X a kategóriának megfelelően a 7A, 7B vagy 7C számú bárcát (lásd az 5.1.5.3.4 és az 5.2.2.1.11.1 pontot), vagy a 7D számú nagybárcát (lásd az 5.3.1.1.3 és az 5.3.1.7.2 pontot) jelenti.</li> </ul> <p>A bárcákra, nagybárcákra vonatkozó általános előírásokat (azaz a bárcák darabszámát, elhelyezésüket) küldeménydarabok esetén az 5.2.2.1 bekezdés, konténerek, tankkonténerek, mobil tartányok, MEG-konténerek és járművek esetében az 5.3.1 szakasz tartalmazza.</p> <p><b>Megjegyzés:</b> A 6 oszlopban található különleges előírások módosíthatják az előző bárcázási előírásokat.</p> |
| <b>6 oszlop</b>  | <p>„Különleges előírások”</p> <p>Itt van feltüntetve a betartandó különleges előírás(ok) száma. Ezek az előírások széles tárgykört fognak át, főleg az 1 – 5 oszlop tartalmához kapcsolódnak (pl. szállítási tilalmak, felmentések a követelmények alól, magyarázatok a veszélyes áruk bizonyos formáinak besorolásához és kiegészítő bárcázási vagy jelölési előírások) és a 3.3 fejezetben szám szerint vannak felsorolva. Ha a 6 oszlop üres, a szóban forgó veszélyes</p>   |

2) Ahol x = a veszélyes anyag vagy tárgy osztályának száma, a kétszámjegyű osztályoknál „pont” nélkül.

áru esetében az 1 – 5 oszlop tartalmára nem vonatkozik különleges előírás.

**7a oszlop** „Korlátozott mennyiség”

Itt egy betűkből és számokból álló kód van feltüntetve, amelynek jelentése a következő:

- az „LQ0” azt jelenti, hogy a veszélyes áru korlátozott mennyiségben csomagolva sem mentesül az ADR előírásainak hatálya alól;
- minden más „LQ” kód azt jelenti, hogy az ADR előírásait nem kell alkalmazni, ha a 3.4 fejezetben előírt feltételek teljesülnek.

**7b oszlop** „Engedményes mennyiség”

Itt egy betűből és számból álló kód van feltüntetve, amelynek jelentése a következő:

- az „E0” azt jelenti, hogy a veszélyes áru engedményes mennyiségben csomagolva sem mentesül az ADR előírásainak hatálya alól;
- minden más „E” kód azt jelenti, hogy az ADR előírásait nem kell alkalmazni, ha a 3.5 fejezetben előírt feltételek teljesülnek.

**8 oszlop** „Csomagolási utasítások”

Itt van feltüntetve az alkalmazandó csomagolási utasítás betűkből és számokból álló kódja:

- „P” betűvel kezdődő kód, amely a csomagolóeszközökre és a tartályokra (kivéve az IBC-eket és a nagycsomagolásokat) vonatkozó csomagolási utasításokra utal, ill. az „R” betűvel kezdődő kód, amely a finomlemez csomagolásokra vonatkozó csomagolási utasításokra utal. Ezek az utasítások a 4.1.4.1 bekezdésben szám szerinti sorrendben vannak feltüntetve, és azt határozzák meg, hogy milyen csomagolóeszközt vagy tartályt lehet használni. Ugyancsak utalnak arra, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános csomagolási előírásai közül és a 4.1.5, 4.1.6, 4.1.7, 4.1.8 és 4.1.9 szakasz különleges csomagolási előírásai közül melyeket kell betartani. Ha a 8 oszlopban nincs „P” vagy „R” betűvel kezdődő kód, a szóban forgó veszélyes áru nem szállítható csomagolóeszközben;
- „IBC” betűkkel kezdődő kód, amely az IBC-kre vonatkozó csomagolási utasításokra utal. Ezek az utasítások a 4.1.4.2 bekezdésben szám szerinti sorrendben vannak feltüntetve, és azt határozzák meg, hogy milyen IBC-t lehet használni. Ugyancsak utalnak arra, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános csomagolási előírásai közül és a 4.1.5, 4.1.6, 4.1.7, 4.1.8 és 4.1.9 szakasz különleges csomagolási előírásai közül melyeket kell betartani. Ha a 8 oszlopban nincs „IBC” betűkkel kezdődő kód, a szóban forgó veszélyes áru nem szállítható IBC-ben;
- „LP” betűkkel kezdődő kód, amely a nagycsomagolásokra vonatkozó csomagolási utasításokra utal. Ezek az utasítások a 4.1.4.3 bekezdésben szám szerinti sorrendben vannak feltüntetve, és azt határozzák meg, hogy milyen nagycsomagolást lehet használni. Ugyancsak utalnak arra, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános csomagolási előírásai közül és a 4.1.5, 4.1.6, 4.1.7, 4.1.8 és 4.1.9 szakasz különleges csomagolási előírásai közül melyeket kell betartani.

Ha a 8 oszlopban nincs „LP” betűvel kezdődő kód, a szóban forgó veszélyes áru nem szállítható nagycsomagolásban;

**Megjegyzés:** A 9a oszlopban található különleges csomagolási előírások módosíthatják az előző csomagolási utasításokat.

**9a oszlop**

„Különleges csomagolási előírások”

Itt van feltüntetve az alkalmazandó különleges csomagolási előírás betűkből és számokból álló kódja:

- „PP” vagy „RR” betűvel kezdődő kód, amely a csomagolóeszközök és tartályok (kivéve az IBC-ket és nagycsomagolásokat) tekintetében kiegészítésképpen betartandó különleges csomagolási előírásokra utal. Ezek a különleges csomagolási előírások a 4.1.4.1 bekezdésben találhatók a megfelelő („P” vagy „R” betűvel kezdődő) csomagolási utasítások után, amelyekre a 8 oszlopban található hivatkozás. Ha a 9a oszlopban nincs „PP” vagy „RR” betűvel kezdődő kód, a megfelelő csomagolási utasítás végén felsorolt különleges csomagolási előírások egyikét sem kell alkalmazni;
- „B” betűvel vagy „BB” betűvel kezdődő kód, amely az IBC-k tekintetében kiegészítésképpen betartandó különleges csomagolási előírásokra utal. Ezek a különleges csomagolási előírások a 4.1.4.2 bekezdésben találhatók a megfelelő („IBC” betűvel kezdődő) csomagolási utasítások után, amelyekre a 8 oszlopban található hivatkozás. Ha a 9a oszlopban nincs „B” betűvel vagy „BB” betűvel kezdődő kód, a megfelelő csomagolási utasítás végén felsorolt különleges csomagolási előírások egyikét sem kell alkalmazni;
- „L” betűvel kezdődő kód, amely a nagycsomagolások tekintetében kiegészítésképpen betartandó különleges csomagolási előírásokra utal. Ezek a különleges csomagolási előírások a 4.1.4.3 bekezdésben találhatók a megfelelő („LP” betűvel kezdődő) csomagolási utasítások után, amelyekre a 8 oszlopban található hivatkozás. Ha a 9a oszlopban nincs „L” betűvel kezdődő kód, a megfelelő csomagolási utasítás végén felsorolt különleges csomagolási előírások egyikét sem kell alkalmazni.

**9b oszlop**

„Egybecsomagolási előírások”

Itt van feltüntetve az alkalmazandó egybecsomagolási előírás „MP” betűvel kezdődő kódja. Ezek az előírások szám szerinti sorrendben a 4.1.10 szakaszban vannak feltüntetve. Ha a 9b oszlop nem tartalmaz „MP” betűvel kezdődő kódot, csak az általános követelményeket kell betartani (lásd a 4.1.1.5 és a 4.1.1.6 bekezdést).

**10 oszlop**

„Mobil tartány és ömlesztettáru-konténer utasítások”

Itt van feltüntetve a „mobil tartány utasítás” betűkből és számokból álló kódja, a 4.2.5.2.1 – 4.2.5.2.4 és a 4.2.5.2.6 pont szerint. Itt az a mobil tartány utasítás szerepel, amely a legkevésbé szigorú előírásokat takarja, amelyek betartásával az illető anyag mobil tartányban szállítható. A 4.2.5.2.5 pontban vannak azok a kódok, amelyek a többi mobil tartány utasítást jelölik, amelyek szerint az anyag ugyancsak szállítható. Ha nincs kód megadva, akkor a mobil tartányban történő szállítás nem engedélyezett, kivéve, ha azt az illetékes hatóság a 6.7.1.3 bekezdés szerint engedélyezte.



A mobil tartányok tervezésére, gyártására, szerelvényeire, típusjóváhagyására, vizsgálatára és jelölésére vonatkozó általános követelményeket a 6.7 fejezet tartalmazza. A használatra (pl. a töltésre) vonatkozó általános követelmények a 4.2.1 – 4.2.4 szakaszban találhatók.

Az „(M)” jelölés azt jelenti, hogy az anyag UN MEG-konténerben is szállítható.

**Megjegyzés:** A 11 oszlopban található különleges előírások módosíthatják az előző követelményeket.

Itt lehetnek feltüntetve a „BK” betűkkel kezdődő kódok is, amelyek a 6.11 fejezetben leírt ömlesztettáru-konténer típusokra utalnak, amelyeket a 7.3.1.1 a) pont és a 7.3.2 szakasz előírásai szerint lehet ömlesztett áru szállítására használni.

#### 11 oszlop

„Különleges előírások a mobil tartányokra és az ömlesztettáru-konténerekre”

Itt van feltüntetve a mobil tartányokra vonatkozó, ugyancsak betartandó különleges előírások betűkből és számokból álló kódja. Ezek a „TP” betűkkel kezdődő kódok a mobil tartányok gyártására és használatára vonatkozó különleges előírásokra utalnak, és a 4.2.5.3 bekezdésben találhatók.

**Megjegyzés:** Az itt feltüntetett különleges előírások nemcsak a 10 oszlopban előírt mobil tartányokra vonatkoznak, hanem – amennyiben műszakilag értelmezhető – azokra a mobil tartányokra is, amelyek a 4.2.5.2.5 pont táblázata szerint szintén használhatók.

#### 12 oszlop

„ADR-tartány tartánykódja”

Itt van feltüntetve a tartány típust leíró, betűkből és számokból álló kód a 2 osztály gázaira a 4.3.3.1.1 pont szerint, a 3 – 9 osztály anyagaira a 4.3.4.1.1 pont szerint. Itt az a tartány típus szerepel, amely a legkevésebb szigorú előírásokat takarja, amelyek betartásával az illető anyag ADR-tartányban szállítható. A 2 osztály gázaira a 4.3.3.1.2 pontban, a 3 – 9 osztály anyagaira a 4.3.4.1.2 pontban vannak azok a kódok, amelyek a többi tartány típust jelölik, amelyekben az anyag ugyancsak szállítható. Ha nincs kód megadva, az ADR-tartányban történő szállítás nem engedélyezett.

Amennyiben ebben az oszlopban szilárd anyagra (S) és folyékony anyagra (L) vonatkozó tartánykód is található, ez azt jelenti, hogy az anyag szilárd vagy folyékony (olvasztott) állapotban egyaránt feladható tartányban való szállításra. Ez az előírás általában a 20 °C...180 °C közötti olvadáspontú anyagokra vonatkozik.

Ha egy szilárd anyagnál csak folyékony anyagra vonatkozó tartánykód (L) van ebben az oszlopban feltüntetve, akkor ez az anyag tartányban csak folyékony (olvasztott) állapotban adható fel szállításra.

A gyártásra, szerelvényekre, típusjóváhagyásra, vizsgálatra és jelölésre vonatkozó általános követelmények, amelyeket a tartánykód nem tartalmaz, a 6.8.1, 6.8.2, 6.8.3 és 6.8.5 szakaszban találhatók. A használatra (pl. legnagyobb töltési fokra, legkisebb próbanyomásra) vonatkozó általános követelmények a 4.3.1 – 4.3.4 szakaszban találhatók.

A tartánykód utáni (M) jelölés azt jelenti, hogy az anyag battériás járműben és MEG-konténerben is szállítható.

A tartánykód utáni „(+)” jelölés azt jelenti, hogy a tartány alternatív használata csak akkor megengedett, ha ez a típusjóváahagyási bizonyítványban szerepel.

A szálvázazás műanyag tartányokra lásd a 4.4.1 szakaszt és a 6.9 fejezetet; a hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra lásd a 4.5.1 szakaszt és a 6.10 fejezetet.

**Megjegyzés:** A 13 oszlopban található különleges előírások módosítják az előző követelményeket.

### 13 oszlop

„Különleges előírások az ADR-tartányokra”

Itt vannak feltüntetve az ADR-tartányokra vonatkozó, ugyancsak betartandó különleges előírások betűkből és számokból álló kódjai:

- a „TU” betűkkel kezdődő kódok a tartányok használatára vonatkozó különleges előírásokra utalnak, és a 4.3.5 szakaszban találhatók;
- a „TC” betűkkel kezdődő kódok a tartányok gyártására vonatkozó különleges előírásokra utalnak, és a 6.8.4 a) bekezdésben találhatók;
- a „TE” betűkkel kezdődő kódok a tartányok szerelvényeire vonatkozó különleges előírásokra utalnak, és a 6.8.4 b) bekezdésben találhatók;
- a „TA” betűkkel kezdődő kódok a tartányok típusjóváahagyására vonatkozó különleges előírásokra utalnak, és a 6.8.4 c) bekezdésben találhatók;
- a „TT” betűkkel kezdődő kódok a tartányok vizsgálatára vonatkozó különleges előírásokra utalnak, és a 6.8.4 d) bekezdésben találhatók;
- a „TM” betűkkel kezdődő kódok a tartányok jelölésére vonatkozó különleges előírásokra utalnak, és a 6.8.4 e) bekezdésben találhatók.

**Megjegyzés:** Az itt feltüntetett különleges előírások nemcsak a 12 oszlopban előírt tartányokra vonatkoznak, hanem – amennyiben műszakilag értelmezhető – azokra a tartányokra is, amelyek a 4.3.3.1.2, ill. a 4.3.4.1.2 pontban lévő tartányrangsor alapján szintén használhatók.

### 14 oszlop

„Jármű a tartányos szállításhoz”

Itt van feltüntetve az a kód (lásd a 9.1.1 szakaszt) amely az anyag tartányos szállítására használható járművet (beleértve a pótkocsi, ill. félpótkocsi vontatóját is) jelöli, a 7.4.2 szakasz szerint. A járművek szerkezetére és jóváahagyására vonatkozó követelményeket a 9.1, a 9.2 és a 9.7 fejezet tartalmazza.

### 15 oszlop

„Szállítási kategória / (Alagútkorlátozási kód)”

A rovat felső sorában van feltüntetve a szállítási kategóriát jelölő szám, amelyhez az anyag vagy a tárgy hozzá van rendelve az egy szállítóegységben szállított mennyiségből adódó mentesség alkalmazásához (lásd az 1.1.3.6 bekezdést).

A rovat alsó sorában, zárójelben van feltüntetve az alagútkorlátozási kód,

mely utal az anyagot vagy tárgyat szállító jármű közúti alagúton való átszállításánál alkalmazandó korlátozásra. Ezek a korlátozások a 8.6 fejezetben találhatók. A „(-)” jelölés azt jelenti, hogy a tételhez nincs alagútkorlátozási kód hozzárendelve

**16 oszlop**

„Különleges előírások a küldeménydarabok szállítására”

Itt vannak feltüntetve a „V” betűből és számokból álló kódok, amelyek a küldeménydarabok szállítására vonatkozó, esetleges különleges előírásokra utalnak, és a 7.2.4 szakaszban vannak felsorolva. A küldeménydarabok szállítására vonatkozó általános előírásokat a 7.1 és a 7.2 fejezet tartalmazza.

***Megjegyzés:** Ezen kívül a berakásra, kirakásra és árukezelésre vonatkozó, a 18 oszlopban található különleges előírásokat is be kell tartani.*

**17 oszlop**

„Különleges előírások az ömlesztett szállításra”

Itt vannak feltüntetve a „VV” betűkből és számokból álló kódok, amelyek az ömlesztett szállításra vonatkozó különleges előírásokra utalnak, és a 7.3.3 szakaszban vannak felsorolva. Ha nincs kód megadva, az ömlesztett szállítás nem engedélyezett. Az ömlesztett szállításra vonatkozó általános előírásokat a 7.1 és a 7.3 fejezet tartalmazza.

***Megjegyzés:** Ezen kívül a berakásra, kirakásra és árukezelésre vonatkozó, a 18 oszlopban található különleges előírásokat is be kell tartani.*

**18 oszlop**

„Különleges előírások a szállításra – Berakás, kirakás és árukezelés”

Itt vannak feltüntetve a „CV” betűkből és számokból álló kódok, amelyek a berakásra, kirakásra és árukezelésre vonatkozó különleges előírásokra utalnak, és a 7.5.11 szakaszban vannak felsorolva. Ha nincs kód megadva, csak az általános követelményeket kell betartani (lásd a 7.5.1 – 7.5.10 szakaszt).

**19 oszlop**

„Különleges előírások a szállításra – A szállítás lebonyolítása”

Itt vannak feltüntetve az „S” betűből és számokból álló kódok, amelyek a szállítás lebonyolítására vonatkozó különleges előírásokra utalnak, és a 8.5 fejezetben vannak felsorolva. Ezeket az előírásokat a 8.1 – 8.4 fejezet követelményein felül kell alkalmazni, azonban ha ellentétben állnak a 8.1 – 8.4 fejezet előírásaival, akkor az itt feltüntetett különleges előírások érvényesek.

**20 oszlop**

„Veszélyt jelölő szám”

Itt van feltüntetve a két vagy három számjegyből (egyes esetekben előtte egy „X” betűből) álló veszélyt jelölő szám a 2 – 9 osztály anyagaira és tárgyaira, ill. az 1 osztály anyagaira és tárgyaira az osztályozási kód (lásd a 3b oszlopot). Az 5.3.2.1 bekezdésben leírt esetekben ezt a számot narancssárga tábla felső részén kell feltüntetni. A veszélyt jelölő számok jelentése az 5.3.2.3 bekezdésben található.

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|---|---------|--------------------------|-----------------------------|----------------|-----------------------------------|--|---------|--------------------------------|---|---|--|---------|
|            |   |         |                          |                             |                |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 0004       | AMMÓNIUM-PIKRÁT, száraz vagy<br>10 tömeg%-nál kevesebb vízzel<br>nedvesített                      | 1       | 1.1D                     |                             | 1              |                                   | LQ0  | E0      | P112a<br>P112b<br>P112c        | PP26  | MP20                                    |  |         |
| 0005       | TÖLTÉNYEK FEGYVEREKHEZ<br>robbanólövedékkel   | 1       | 1.1F                     |                             | 1              |                                   | LQ0  | E0      | P130                           |   | MP23                                    |  |         |
| 0006       | TÖLTÉNYEK FEGYVEREKHEZ<br>robbanólövedékkel   | 1       | 1.1E                     |                             | 1              |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                    |  |         |
| 0007       | TÖLTÉNYEK FEGYVEREKHEZ<br>robbanólövedékkel   | 1       | 1.2F                     |                             | 1              |                                   | LQ0  | E0      | P130                           |   | MP23                                    |  |         |
| 0009       | GYÚJTÓ HATÁSÚ LŐSZER robbanó-,<br>kidobó- vagy hajtótöltettel vagy anélkül                        | 1       | 1.2G                     |                             | 1              |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0010       | GYÚJTÓ HATÁSÚ LŐSZER robbanó-,<br>kidobó- vagy hajtótöltettel vagy anélkül                        | 1       | 1.3G                     |                             | 1              |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0012       | TÖLTÉNYEK FEGYVEREKHEZ<br>INERT LÖVEDÉKKEL vagy<br>KÉZIFEGYVER TÖLTÉNYEK                          | 1       | 1.4S                     |                             | 1.4            |                                   | LQ0  | E0      | P130                           |   | MP23<br>MP24                            |  |         |
| 0014       | VAKTÖLTÉNYEK FEGYVEREKHEZ<br>vagy VAKTÖLTÉNYEK KÉZI-<br>FEGYVEREKHEZ                              | 1       | 1.4S                     |                             | 1.4            |                                   | LQ0  | E0      | P130                           |   | MP23<br>MP24                            |  |         |
| 0015       | FÜSTKÉPZŐ LŐSZER robbanó-,<br>kidobó- vagy hajtótöltettel vagy anélkül                            | 1       | 1.2G                     |                             | 1              |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0015       | FÜSTKÉPZŐ LŐSZER robbanó-,<br>kidobó- vagy hajtótöltettel vagy anélkül,<br>maró anyag tartalommal | 1       | 1.2G                     |                             | 1 + 8          |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0016       | FÜSTKÉPZŐ LŐSZER robbanó-,<br>kidobó- vagy hajtótöltettel vagy anélkül                            | 1       | 1.3G                     |                             | 1              |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0016       | FÜSTKÉPZŐ LŐSZER robbanó-,<br>kidobó- vagy hajtótöltettel vagy anélkül,<br>maró anyag tartalommal | 1       | 1.3G                     |                             | 1 + 8          |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0018       | KÖNNYEZTETŐ HATÁSÚ LŐSZER<br>robbanó-, kidobó- vagy hajtótöltettel                                | 1       | 1.2G                     |                             | 1 + 6.1<br>+ 8 |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0019       | KÖNNYEZTETŐ HATÁSÚ LŐSZER<br>robbanó-, kidobó- vagy hajtótöltettel                                | 1       | 1.3G                     |                             | 1 + 6.1<br>+ 8 |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0020       | MÉRGEZŐ HATÁSÚ LŐSZER<br>robbanó-, kidobó- vagy hajtótöltettel                                    | 1       | 1.2K                     | A szállításból ki van zárva |                |                                   |  |         |                                |   |   |  |         |
| 0021       | MÉRGEZŐ HATÁSÚ LŐSZER<br>robbanó-, kidobó- vagy hajtótöltettel                                    | 1       | 1.3K                     | A szállításból ki van zárva |                |                                   |  |         |                                |   |   |  |         |
| 0027       | FEKETE LŐPOR (PUSKAPOR),<br>szemcsés vagy por alakú   | 1       | 1.1D                     |                             | 1              |                                   | LQ0  | E0      | P113                           | PP50  | MP20<br>MP24                            |  |         |
| 0028       | FEKETE LŐPOR (PUSKAPOR),<br>SAJTOLT vagy FEKETE LŐPOR<br>(PUSKAPOR), PELLET                       | 1       | 1.1D                     |                             | 1              |                                   | LQ0  | E0      | P113                           | PP51  | MP20<br>MP24                            |  |         |
| 0029       | NEMVILLAMOS GYUTACSONK<br>robbantáshoz  | 1       | 1.1B                     |                             | 1              |                                   | LQ0  | E0      | P131                           | PP68  | MP23                                    |  |         |

| ADR-tartály                 |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-----------------------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód                  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|                             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0004    | AMMÓNIUM-PIKRÁT, száraz vagy 10 tömeg%-nál kevesebb vízzel nedvesített                      |
|                             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0005    | TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékekkel  |
|                             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0006    | TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékekkel  |
|                             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0007    | TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékekkel  |
|                             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0009    | GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül                     |
|                             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0010    | GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül                     |
|                             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0012    | TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL vagy KÉZIFEGYVER TÖLTÉNYEK                          |
|                             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0014    | VAKTÖLTÉNYEK FEGYVEREKHEZ vagy VAKTÖLTÉNYEK KÉZI-FEGYVEREKHEZ                               |
|                             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0015    | FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül                         |
|                             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0015    | FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül, maró anyag tartalommal |
|                             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0016    | FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül                         |
|                             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0016    | FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül, maró anyag tartalommal |
|                             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3<br>CV28                              | S1   |                        | 0018    | KÖNNYEZTETŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel                             |
|                             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3<br>CV28                              | S1   |                        | 0019    | KÖNNYEZTETŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel                             |
| A szállításból ki van zárva |                      |                                |  |   |  |  |  |                        | 0020    | MÉRGEZŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel                                 |
| A szállításból ki van zárva |                      |                                |  |   |  |  |  |                        | 0021    | MÉRGEZŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel                                 |
|                             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0027    | FEKETE LŐPOR (PUSKAPOR), szemcsés vagy por alakú  |
|                             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0028    | FEKETE LŐPOR (PUSKAPOR), SAJTOLT vagy FEKETE LŐPOR (PUSKAPOR), PELLET                       |
|                             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0029    | NEMVILLAMOS GYUTACSKOK robbantáshoz   |

| UN<br>szám |  | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |  | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|--|--|---------|
|            |  |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csmago-<br>lási<br>előírások |  |         |
|            | 3.1.2                                  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                 | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)                                    | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                   | (10)   | (11)    |
| 0030       | VILLAMOS GYUTACSONK<br>robbantáshoz    | 1       | 1.1B                     |                             | 1      |                                   | LQ0  | E0      | P131                           |   | MP23                                   |  |         |
| 0033       | BOMBÁK robbanótöltettel                | 1       | 1.1F                     |                             | 1      |                                   | LQ0  | E0      | P130                           |   | MP23                                   |  |         |
| 0034       | BOMBÁK robbanótöltettel                | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                   |  |         |
| 0035       | BOMBÁK robbanótöltettel                | 1       | 1.2D                     |                             | 1      |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                   |  |         |
| 0037       | BOMBÁK VILLANÓFÉNY<br>TÖLTETTEL        | 1       | 1.1F                     |                             | 1      |                                   | LQ0  | E0      | P130                           |   | MP23                                   |  |         |
| 0038       | BOMBÁK VILLANÓFÉNY<br>TÖLTETTEL        | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                   |  |         |
| 0039       | BOMBÁK VILLANÓFÉNY<br>TÖLTETTEL        | 1       | 1.2G                     |                             | 1      |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                   |  |         |
| 0042       | GYÚJTÁSERŐSÍTŐK detonátor nélkül       | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P132a<br>P132b                 |   | MP21                                   |  |         |
| 0043       | SZÉTVETŐK robbanótöltettel             | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P133                           | PP69  | MP21                                   |  |         |
| 0044       | GYUTACSKAPSZULÁK                       | 1       | 1.4S                     |                             | 1.4    |                                   | LQ0  | E0      | P133                           |   | MP23<br>MP24                           |  |         |
| 0048       | ROBBANÓTÖLTETEK                        | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                   |  |         |
| 0049       | VILLANÓFÉNY- PATRONOK                  | 1       | 1.1G                     |                             | 1      |                                   | LQ0  | E0      | P135                           |   | MP23                                   |  |         |
| 0050       | VILLANÓFÉNY- PATRONOK                  | 1       | 1.3G                     |                             | 1      |                                   | LQ0  | E0      | P135                           |   | MP23                                   |  |         |
| 0054       | JELZŐPATRONOK                          | 1       | 1.3G                     |                             | 1      |                                   | LQ0  | E0      | P135                           |   | MP23<br>MP24                           |  |         |
| 0055       | ÜRES TÖLTÉNYHÜVELYEK<br>GYUTACCSAL     | 1       | 1.4S                     |                             | 1.4    |                                   | LQ0  | E0      | P136                           |   | MP23                                   |  |         |
| 0056       | VÍZIBOMBÁK                             | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                   |  |         |
| 0059       | FORMÁZOTT TÖLTETEK detonátor<br>nélkül | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P137                           | PP70  | MP21                                   |  |         |
| 0060       | KIEGÉSZÍTŐ ROBBANÓTÖLTETEK             | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P132a<br>P132b                 |   | MP21                                   |  |         |
| 0065       | ROBBANÓZSINÓR, hajlékony               | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P139                           | PP71<br>PP72                                  | MP21                                   |  |         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                                  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                                    |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0030    | VILLAMOS GYUTACSONK<br>robbantáshoz    |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0033    | BOMBÁK robbanótöltettel                |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0034    | BOMBÁK robbanótöltettel                |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0035    | BOMBÁK robbanótöltettel                |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0037    | BOMBÁK VILLANÓFÉNY<br>TÖLTETTEL        |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0038    | BOMBÁK VILLANÓFÉNY<br>TÖLTETTEL        |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0039    | BOMBÁK VILLANÓFÉNY<br>TÖLTETTEL        |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0042    | GYÚJTÁSERŐSÍTŐK detonátor nélkül       |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0043    | SZÉTVETŐK robbanótöltettel             |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0044    | GYUTACSKAPSZULÁK                       |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0048    | ROBBANÓTÖLTETEK                        |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0049    | VILLANÓFÉNY- PATRONOK                  |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0050    | VILLANÓFÉNY- PATRONOK                  |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0054    | JELZŐPATRONOK                          |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0055    | ÜRES TÖLTÉNYHÜVELYEK<br>GYUTACCSAL     |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0056    | VÍZIBOMBÁK                             |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0059    | FORMÁZOTT TÖLTETEK detonátor<br>nélkül |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0060    | KIEGÉSZÍTŐ ROBBANÓTÖLTETEK             |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0065    | ROBBANÓZSINÓR, hajlékony               |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |  | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|--|--|-------------------------|
|            |   |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csmago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                 | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                   | (10)   | (11)                    |
| 0066       | GYÚJTÓZSINÓR  | 1       | 1.4G                     |                             | 1.4     |                                   | LQ0                                       | E0      | P140                           |   | MP23                                   |  |                         |
| 0070       | KÁBELVÁGÓ SZERKEZET<br>ROBBANÓANYAGGAL  | 1       | 1.4S                     |                             | 1.4     |                                   | LQ0                                       | E0      | P134<br>LP102                  |   | MP23                                   |  |                         |
| 0072       | CIKLOTRIMETILÉN-TRINITRAMIN<br>(CIKLONIT, HEXOGÉN, RDX),<br>legalább 15 tömeg% vízzel<br>NEDVESÍTETT                    | 1       | 1.1D                     |                             | 1       | 266                               | LQ0                                       | E0      | P112a                          | PP45  | MP20                                   |  |                         |
| 0073       | GYUTACSKOK LŐSZEREKHEZ  | 1       | 1.1B                     |                             | 1       |                                   | LQ0                                       | E0      | P133                           |   | MP23                                   |  |                         |
| 0074       | DIAZO-DINITRO-FENOL, legalább<br>40 tömeg% vízzel vagy alkohol és víz<br>keverékével NEDVESÍTETT                        | 1       | 1.1A                     |                             | 1       | 266                               | LQ0                                       | E0      | P110b                          | PP42  | MP20                                   |  |                         |
| 0075       | DIETILÉNGLIKOL-DINITRÁT,<br>legalább 25 tömeg% nem illó, vízben<br>oldhatatlan flegmatizáló-szerrel<br>DESZENZIBILIZÁLT | 1       | 1.1D                     |                             | 1       | 266                               | LQ0                                       | E0      | P115                           | PP53<br>PP54<br>PP57<br>PP58                  | MP20                                   |  |                         |
| 0076       | DINITRO-FENOL, száraz vagy 15<br>tömeg%-nál kevesebb vízzel nedvesített   | 1       | 1.1D                     |                             | 1 + 6.1 |                                   | LQ0                                       | E0      | P112a<br>P112b<br>P112c        | PP26  | MP20                                   |  |                         |
| 0077       | DINITRO-FENOLÁTOK (alkálifémeké),<br>száraz vagy 15 tömeg%-nál kevesebb<br>vízzel nedvesített                           | 1       | 1.3C                     |                             | 1 + 6.1 |                                   | LQ0                                       | E0      | P114a<br>P114b                 | PP26  | MP20                                   |  |                         |
| 0078       | DINITRO-REZORCIN, száraz vagy<br>15 tömeg%-nál kevesebb vízzel<br>nedvesített   | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112a<br>P112b<br>P112c        | PP26  | MP20                                   |  |                         |
| 0079       | HEXANITRO-DIFENIL-AMIN<br>(DIPIKRIL-AMIN, HEXIL)  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112b<br>P112c                 |   | MP20                                   |  |                         |
| 0081       | A TÍPUSÚ ROBBANTÓANYAG  | 1       | 1.1D                     |                             | 1       | 616<br>617                        | LQ0                                       | E0      | P116                           | PP63<br>PP66                                  | MP20                                   |  |                         |
| 0082       | B TÍPUSÚ ROBBANTÓANYAG  | 1       | 1.1D                     |                             | 1       | 617                               | LQ0                                       | E0      | P116                           | PP61<br>PP62<br>PP65<br>B9<br>IBC100          | MP20                                   |  |                         |
| 0083       | C TÍPUSÚ ROBBANTÓANYAG  | 1       | 1.1D                     |                             | 1       | 267<br>617                        | LQ0                                       | E0      | P116                           |   | MP20                                   |  |                         |
| 0084       | D TÍPUSÚ ROBBANTÓANYAG  | 1       | 1.1D                     |                             | 1       | 617                               | LQ0                                       | E0      | P116                           |   | MP20                                   |  |                         |
| 0092       | FÖLDI VILÁGÍTÓTESTEK  | 1       | 1.3G                     |                             | 1       |                                   | LQ0                                       | E0      | P135                           |   | MP23                                   |  |                         |
| 0093       | LÉGI VILÁGÍTÓTESTEK   | 1       | 1.3G                     |                             | 1       |                                   | LQ0                                       | E0      | P135                           |   | MP23                                   |  |                         |
| 0094       | VILLANÓFÉNYPOR  | 1       | 1.1G                     |                             | 1       |                                   | LQ0                                       | E0      | P113                           | PP49  | MP20                                   |  |                         |



| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0066    | GYÚJTÓZSINÓR   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0070    | KÁBELVÁGÓ SZERKEZET ROBBANÓANYAGGAL  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0072    | CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT, HEXOGÉN, RDX), legalább 15 tömeg% vízzel NEDVESÍTETT                    |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0073    | GYUTACSOK LŐSZEREKHEZ  |
|             |                      |                                | 0<br>(B)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0074    | DIAZO-DINITRO-FENOL, legalább 40 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT                     |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0075    | DIETILÉNGLIKOL-DINITRÁT, legalább 25 tömeg% nem illó, vízben oldhatatlan flegmatizáló-szerrel DESZENZIBILIZÁLT |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3<br>CV28                              | S1   |                        | 0076    | DINITRO-FENOL, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített   |
|             |                      |                                | 1<br>(C5000D)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3<br>CV28                              | S1   |                        | 0077    | DINITRO-FENOLÁTOK (alkálifémeké), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített                        |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0078    | DINITRO-REZORCIN, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0079    | HEXANITRO-DIFENIL-AMIN (DIPIKRIL-AMIN, HEXIL)  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0081    | A TÍPUSÚ ROBBANTÓANYAG   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0082    | B TÍPUSÚ ROBBANTÓANYAG   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0083    | C TÍPUSÚ ROBBANTÓANYAG   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0084    | D TÍPUSÚ ROBBANTÓANYAG   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0092    | FÖLDI VILÁGÍTÓTESTEK   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0093    | LÉGI VILÁGÍTÓTESTEK  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0094    | VILLANÓFÉNYPOR   |

| UN<br>szám |  | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|---------------------|------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|---|--|---------|
|            |  |         |                     |                        |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                | (4)                    | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 0099       | KÖZETREPESZTŐ TORPEDÓK<br>detonátor nélkül, olajkutak fúrásához  | 1       | 1.1D                |                        | 1      |                                   | LQ0  | E0      | P134<br>LP102                  |   | MP21                                    |  |         |
| 0101       | NEM ROBBANÓ<br>PILLANATGYÚJTÓK   | 1       | 1.3G                |                        | 1      |                                   | LQ0  | E0      | P140                           | PP74<br>PP75                                  | MP23                                    |  |         |
| 0102       | ROBBANÓZSINÓR, fémköpenyes   | 1       | 1.2D                |                        | 1      |                                   | LQ0  | E0      | P139                           | PP71  | MP21                                    |  |         |
| 0103       | GYÚJTÓZSINÓR-GYÚJTÓK cső alakú<br>fémköpennyel   | 1       | 1.4G                |                        | 1.4    |                                   | LQ0  | E0      | P140                           |   | MP23                                    |  |         |
| 0104       | KISHATÁSÚ ROBBANÓZSINÓR<br>fémköpennyel  | 1       | 1.4D                |                        | 1.4    |                                   | LQ0  | E0      | P139                           | PP71  | MP21                                    |  |         |
| 0105       | BIZTONSÁGI GYÚJTÓZSINÓR  | 1       | 1.4S                |                        | 1.4    |                                   | LQ0  | E0      | P140                           | PP73  | MP23                                    |  |         |
| 0106       | ROBBANÓGYÚJTÓK   | 1       | 1.1B                |                        | 1      |                                   | LQ0  | E0      | P141                           |   | MP23                                    |  |         |
| 0107       | ROBBANÓGYÚJTÓK   | 1       | 1.2B                |                        | 1      |                                   | LQ0  | E0      | P141                           |   | MP23                                    |  |         |
| 0110       | GYAKORLÓGRÁNÁTOK (kézi- vagy<br>fegyvergránátok)   | 1       | 1.4S                |                        | 1.4    |                                   | LQ0  | E0      | P141                           |   | MP23                                    |  |         |
| 0113       | GUANIL-NITRÓZAMINO-<br>GUANILIDÉN-HIDRAZIN,<br>legalább 30 tömeg% vízzel<br>NEDVESÍTETT  | 1       | 1.1A                |                        | 1      | 266                               | LQ0  | E0      | P110b                          | PP42  | MP20                                    |  |         |
| 0114       | GUANIL-NITRÓZAMINO-GUANIL-<br>TETRAZÉN (TETRAZÉN),<br>legalább 30 tömeg% vízzel vagy alkohol<br>és víz keverékével NEDVESÍTETT | 1       | 1.1A                |                        | 1      | 266                               | LQ0  | E0      | P110b                          | PP42  | MP20                                    |  |         |
| 0118       | HEXOLIT (HEXOTOL), száraz vagy<br>15 tömeg%-nál kevesebb vízzel<br>nedvesített   | 1       | 1.1D                |                        | 1      |                                   | LQ0  | E0      | P112a<br>P112b<br>P112c        |   | MP20                                    |  |         |
| 0121       | GYÚJTÓK  | 1       | 1.1G                |                        | 1      |                                   | LQ0  | E0      | P142                           |   | MP23                                    |  |         |
| 0124       | PERFORÁTOR PUSKÁK TÖLTETTEL<br>detonátor nélkül, olajkutak fúrásához   | 1       | 1.1D                |                        | 1      |                                   | LQ0  | E0      | P101                           |   | MP21                                    |  |         |
| 0129       | ÓLOM-AZID, legalább 20 tömeg%<br>vízzel vagy alkohol és víz keverékével<br>NEDVESÍTETT   | 1       | 1.1A                |                        | 1      | 266                               | LQ0  | E0      | P110b                          | PP42  | MP20                                    |  |         |
| 0130       | ÓLOM-SZTIFNÁT (ÓLOM-TRINITRO-<br>REZORCINÁT), legalább 20 tömeg%<br>vízzel vagy alkohol és víz keverékével<br>NEDVESÍTETT      | 1       | 1.1A                |                        | 1      | 266                               | LQ0  | E0      | P110b                          | PP42  | MP20                                    |  |         |
| 0131       | GYÚJTÓZSINÓR-GYÚJTÓK   | 1       | 1.4S                |                        | 1.4    |                                   | LQ0  | E0      | P142                           |   | MP23                                    |  |         |
| 0132       | AROMÁS NITROVEGYÜLETEK<br>DEFLAGRÁLÓ FÉMSÓI, M.N.N.  | 1       | 1.3C                |                        | 1      | 274                               | LQ0  | E0      | P114a<br>P114b                 | PP26  | MP2                                     |  |         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0099    | KÖZETREPESZTŐ TORPEDÓK<br>detonátor nélkül, olajkutak fúrásához  |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0101    | NEM ROBBANÓ<br>PILLANATGYÚJTÓK   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0102    | ROBBANÓZSINÓR, fémköpenyes   |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0103    | GYÚJTÓZSINÓR-GYÚJTÓK cső alakú<br>fémköpennyel   |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0104    | KISHATÁSÚ ROBBANÓZSINÓR<br>fémköpennyel  |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0105    | BIZTONSÁGI GYÚJTÓZSINÓR  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0106    | ROBBANÓGYÚJTÓK   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0107    | ROBBANÓGYÚJTÓK   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0110    | GYAKORLÓGRÁNÁTOK (kézi- vagy<br>fegyvergránátok)   |
|             |                      |                                | 0<br>(B)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0113    | GUANIL-NITRÓZAMINO-<br>GUANILIDÉN-HIDRAZIN,<br>legalább 30 tömeg% vízzel<br>NEDVESÍTETT  |
|             |                      |                                | 0<br>(B)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0114    | GUANIL-NITRÓZAMINO-GUANIL-<br>TETRAZÉN (TETRAZÉN),<br>legalább 30 tömeg% vízzel vagy alkohol<br>és víz keverékével NEDVESÍTETT |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0118    | HEXOLIT (HEXOTOL), száraz vagy<br>15 tömeg%-nál kevesebb vízzel<br>nedvesített   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0121    | GYÚJTÓK  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0124    | PERFORÁTOR PUSKÁK TÖLTETTEL<br>detonátor nélkül, olajkutak fúrásához   |
|             |                      |                                | 0<br>(B)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0129    | ÓLOM-AZID, legalább 20 tömeg%<br>vízzel vagy alkohol és víz keverékével<br>NEDVESÍTETT   |
|             |                      |                                | 0<br>(B)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0130    | ÓLOM-SZTIFNÁT (ÓLOM-TRINITRO-<br>REZORCINÁT), legalább 20 tömeg%<br>vízzel vagy alkohol és víz keverékével<br>NEDVESÍTETT      |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0131    | GYÚJTÓZSINÓR-GYÚJTÓK   |
|             |                      |                                | 1<br>(C5000D)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0132    | AROMÁS NITROVEGYÜLETEK<br>DEFLAGRÁLÓ FÉMSÓI, M.N.N.  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 0133       | MANNIT-HEXANITRÁT<br>(NITROMANNIT), legalább 40 tömeg%<br>vízzel vagy alkohol és víz keverékével<br>NEDVESÍTETT  | 1       | 1.1D                     |                             | 1       | 266                               | LQ0                                       | E0      | P112a                          |   | MP20                                    |  |                         |
| 0135       | HIGANY-FULMINÁT, legalább<br>20 tömeg% vízzel vagy alkohol és víz<br>keverékével NEDVESÍTETT   | 1       | 1.1A                     |                             | 1       | 266                               | LQ0                                       | E0      | P110b                          | PP42  | MP20                                    |  |                         |
| 0136       | AKNÁK robbanótöltettel   | 1       | 1.1F                     |                             | 1       |                                   | LQ0                                       | E0      | P130                           |   | MP23                                    |  |                         |
| 0137       | AKNÁK robbanótöltettel   | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                    |  |                         |
| 0138       | AKNÁK robbanótöltettel   | 1       | 1.2D                     |                             | 1       |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                    |  |                         |
| 0143       | NITROGLICERIN, legalább 40 tömeg%<br>nem illó, vízben oldhatatlan<br>flegmatizálószerrel<br>DESZENZIBILIZÁLT   | 1       | 1.1D                     |                             | 1 + 6.1 | 266<br>271                        | LQ0                                       | E0      | P115                           | PP53<br>PP54<br>PP57<br>PP58                  | MP20                                    |  |                         |
| 0144       | NITROGLICERIN ALKOHOLOS<br>OLDATBAN 1%-nál több, de legfeljebb<br>10% nitroglicerín-tartalommal  | 1       | 1.1D                     |                             | 1       | 500                               | LQ0                                       | E0      | P115                           | PP45<br>PP55<br>PP56<br>PP59<br>PP60          | MP20                                    |  |                         |
| 0146       | NITROKEMÉNYÍTŐ, száraz vagy<br>20 tömeg%-nál kevesebb vízzel<br>nedvesített  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112a<br>P112b<br>P112c        |   | MP20                                    |  |                         |
| 0147       | NITROKARBAMID  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112b                          |   | MP20                                    |  |                         |
| 0150       | PENTAERITRIT-TETRANITRÁT<br>(PENTRIT, PETN), legalább 25 tömeg%<br>vízzel NEDVESÍTETT vagy<br>PENTAERITRIT-TETRANITRÁT<br>(PENTRIT, PETN), legalább<br>15 tömeg% flegmatizálószerrel<br>DESZENZIBILIZÁLT | 1       | 1.1D                     |                             | 1       | 266                               | LQ0                                       | E0      | P112a<br>P112b                 |   | MP20                                    |  |                         |
| 0151       | PENTOLIT, száraz vagy 15 tömeg%-nál<br>kevesebb vízzel nedvesített   | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112a<br>P112b<br>P112c        |   | MP20                                    |  |                         |
| 0153       | TRINITRO-ANILIN (PIKRAMID)   | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112b<br>P112c                 |   | MP20                                    |  |                         |
| 0154       | TRINITRO-FENOL (PIKRINSÁV),<br>száraz vagy 30 tömeg%-nál kevesebb<br>vízzel nedvesített  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112a<br>P112b<br>P112c        | PP26  | MP20                                    |  |                         |
| 0155       | TRINITRO-KLÓR-BENZOL (PIKRIL-<br>KLORID)   | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112b<br>P112c                 |   | MP20                                    |  |                         |
| 0159       | LÓPORBRIKETT (LÓPORPASZTA),<br>legalább 25 tömeg% vízzel<br>NEDVESÍTETT  | 1       | 1.3C                     |                             | 1       | 266                               | LQ0                                       | E0      | P111                           | PP43  | MP20                                    |  |                         |
| 0160       | FÜST NÉLKÜLI LÓPOR   | 1       | 1.1C                     |                             | 1       |                                   | LQ0                                       | E0      | P114b                          | PP50<br>PP52                                  | MP20<br>MP24                            |  |                         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0133    | MANNIT-HEXANITRÁT (NITROMANNIT), legalább 40 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT   |
|             |                      |                                | 0<br>(B)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0135    | HIGANY-FULMINÁT, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0136    | AKNÁK robbanótöltettel   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0137    | AKNÁK robbanótöltettel   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0138    | AKNÁK robbanótöltettel   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3<br>CV28                              | S1   |                        | 0143    | NITROGLICERIN, legalább 40 tömeg% nem illó, vízben oldhatatlan flegmatizálószerrel DESZENZIBILIZÁLT  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0144    | NITROGLICERIN ALKOHOLOS OLDATBAN 1%-nál több, de legfeljebb 10% nitroglicerintartalommal   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0146    | NITROKEMÉNYÍTŐ, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0147    | NITROKARBAMID  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0150    | PENTAERITRIT-TETRANITRÁT (PENTRIT, PETN), legalább 25 tömeg% vízzel NEDVESÍTETT vagy PENTAERITRIT-TETRANITRÁT (PENTRIT, PETN), legalább 15 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0151    | PENTOLIT, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0153    | TRINITRO-ANILIN (PIKRAMID)   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0154    | TRINITRO-FENOL (PIKRINSAV), száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0155    | TRINITRO-KLÓR-BENZOL (PIKRIL-KLORID)   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0159    | LŐPORBRIKETT (LŐPORPASZTA), legalább 25 tömeg% vízzel NEDVESÍTETT  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0160    | FÜST NÉLKÜLI LŐPOR   |

| UN<br>szám |   | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák | Különleges<br>előírások | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz           |                                     |                                    | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|---|---------|---------------------|------------------------|--------|-------------------------|--|---------|---------------------------|-------------------------------------|------------------------------------|--|---------|
|            |   |         |                     |                        |        |                         |  |         | Csomagolási<br>utasítások | Különleges csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2  | 3.3                     | 3.4.6                                      | 3.5.1.2 | 4.1.4                     | 4.1.4                               | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                | (4)                    | (5)    | (6)                     | (7a)                                       | (7b)    | (8)                       | (9a)                                | (9b)                               | (10)   | (11)    |
| 0161       | FÜST NÉLKÜLI LŐPOR  | 1       | 1.3C                |                        | 1      |                         | LQ0  | E0      | P114b                     | PP50<br>PP52                        | MP20<br>MP24                       |  |         |
| 0167       | LÖVEDÉKEK robbanótöltettel  | 1       | 1.1F                |                        | 1      |                         | LQ0  | E0      | P130                      |                                     | MP23                               |  |         |
| 0168       | LÖVEDÉKEK robbanótöltettel  | 1       | 1.1D                |                        | 1      |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                          | MP21                               |  |         |
| 0169       | LÖVEDÉKEK robbanótöltettel  | 1       | 1.2D                |                        | 1      |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                          | MP21                               |  |         |
| 0171       | VILÁGÍTÓ HATÁSÚ LŐSZER<br>robbanó-, kidobó- vagy hajtótöltettel<br>vagy anélkül | 1       | 1.2G                |                        | 1      |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                          | MP23                               |  |         |
| 0173       | ROBBANÓANYAG TARTALMŰ<br>KIOLDÓSZERKEZETEK                                      | 1       | 1.4S                |                        | 1.4    |                         | LQ0  | E0      | P134<br>LP102             |                                     | MP23                               |  |         |
| 0174       | ROBBANÓSZEGECSEK  | 1       | 1.4S                |                        | 1.4    |                         | LQ0  | E0      | P134<br>LP102             |                                     | MP23                               |  |         |
| 0180       | RAKÉTÁK robbanótöltettel  | 1       | 1.1F                |                        | 1      |                         | LQ0  | E0      | P130                      |                                     | MP23                               |  |         |
| 0181       | RAKÉTÁK robbanótöltettel  | 1       | 1.1E                |                        | 1      |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                          | MP21                               |  |         |
| 0182       | RAKÉTÁK robbanótöltettel  | 1       | 1.2E                |                        | 1      |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                          | MP21                               |  |         |
| 0183       | RAKÉTÁK inert fejjel  | 1       | 1.3C                |                        | 1      |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                          | MP22                               |  |         |
| 0186       | RAKÉTAHAJTÓMŰVEK  | 1       | 1.3C                |                        | 1      |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                          | MP22<br>MP24                       |  |         |
| 0190       | ROBBANÓANYAG MINTÁK,<br>az indító robbanóanyagok kivételével                    | 1       |                     |                        |        | 16<br>274               | LQ0  | E0      | P101                      |                                     | MP2                                |  |         |
| 0191       | KÉZI JELZŐTESTEK  | 1       | 1.4G                |                        | 1.4    |                         | LQ0  | E0      | P135                      |                                     | MP23<br>MP24                       |  |         |
| 0192       | VASÚTI DURRANTYÚK   | 1       | 1.1G                |                        | 1      |                         | LQ0  | E0      | P135                      |                                     | MP23                               |  |         |
| 0193       | VASÚTI DURRANTYÚK   | 1       | 1.4S                |                        | 1.4    |                         | LQ0  | E0      | P135                      |                                     | MP23                               |  |         |
| 0194       | VÉSZJELZŐK, tengeri   | 1       | 1.1G                |                        | 1      |                         | LQ0  | E0      | P135                      |                                     | MP23<br>MP24                       |  |         |
| 0195       | VÉSZJELZŐK, tengeri   | 1       | 1.3G                |                        | 1      |                         | LQ0  | E0      | P135                      |                                     | MP23<br>MP24                       |  |         |
| 0196       | FÜSTJELZŐK  | 1       | 1.1G                |                        | 1      |                         | LQ0  | E0      | P135                      |                                     | MP23                               |  |         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|             |                      |                                | 1<br>(C5000D)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0161    | FÜST NÉLKÜLI LŐPOR  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0167    | LÖVEDÉKEK robbanótöltettel  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0168    | LÖVEDÉKEK robbanótöltettel  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0169    | LÖVEDÉKEK robbanótöltettel  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0171    | VILÁGÍTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0173    | ROBBANÓANYAG TARTALMÚ KIOLDÓSZERKEZETEK                                   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0174    | ROBBANÓSZEGECSEK  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0180    | RAKÉTÁK robbanótöltettel  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0181    | RAKÉTÁK robbanótöltettel  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0182    | RAKÉTÁK robbanótöltettel  |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0183    | RAKÉTÁK inert fejjel  |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0186    | RAKÉTAHAJTÓMŰVEK  |
|             |                      |                                | 0<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0190    | ROBBANÓANYAG MINTÁK, az indító robbanóanyagok kivételével                 |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0191    | KÉZI JELZŐTESTEK  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0192    | VASÚTI DURRANTYÚK   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0193    | VASÚTI DURRANTYÚK   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0194    | VÉSZJELZŐK, tengeri   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0195    | VÉSZJELZŐK, tengeri   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0196    | FÜSTJELZŐK  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 0197       | FÜSTJELZŐK   | 1       | 1.4G                     |                             | 1.4     |                                   | LQ0                                       | E0      | P135                           |   | MP23<br>MP24                            |  |                         |
| 0204       | ROBBANÓSZONDÁK   | 1       | 1.2F                     |                             | 1       |                                   | LQ0                                       | E0      | P134<br>LP102                  |   | MP23                                    |  |                         |
| 0207       | TETRANITRO-ANILIN  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112b<br>P112c                 |   | MP20                                    |  |                         |
| 0208       | TRINITRO-FENIL-METIL-NITRAMIN<br>(TETRIL)  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112b<br>P112c                 |   | MP20                                    |  |                         |
| 0209       | TRINITRO-TOLUOL (TROIL, TNT),<br>száraz vagy 30 tömeg%-nál kevesebb<br>vízzel nedvesített  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112b<br>P112c                 | PP46  | MP20                                    |  |                         |
| 0212       | NYOMJELZŐK LŐSZEREKHEZ   | 1       | 1.3G                     |                             | 1       |                                   | LQ0                                       | E0      | P133                           | PP69  | MP23                                    |  |                         |
| 0213       | TRINITRO-ANIZOL  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112b<br>P112c                 |   | MP20                                    |  |                         |
| 0214       | TRINITRO-BENZOL, száraz vagy<br>30 tömeg%-nál kevesebb vízzel<br>nedvesített   | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112a<br>P112b<br>P112c        |   | MP20                                    |  |                         |
| 0215       | TRINITRO-BENZOESAV, száraz vagy<br>30 tömeg%-nál kevesebb vízzel<br>nedvesített  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112a<br>P112b<br>P112c        |   | MP20                                    |  |                         |
| 0216       | TRINITRO-m-KREZOL  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112b<br>P112c                 | PP26  | MP20                                    |  |                         |
| 0217       | TRINITRO-NAFTALIN  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112b<br>P112c                 |   | MP20                                    |  |                         |
| 0218       | TRINITRO-FENETOL   | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112b<br>P112c                 |   | MP20                                    |  |                         |
| 0219       | TRINITRO-REZORCIN<br>(SZTIFNINSAV), száraz vagy<br>20 tömeg%-nál kevesebb vízzel vagy<br>alkohol és víz keverékével nedvesített  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112a<br>P112b<br>P112c        | PP26  | MP20                                    |  |                         |
| 0220       | KARBAMID-NITRÁT, száraz vagy<br>20 tömeg%-nál kevesebb vízzel<br>nedvesített   | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112a<br>P112b<br>P112c        |   | MP20                                    |  |                         |
| 0221       | TÁMADÓFEJEK TORPEDÓKHOZ<br>robbanótöltettel  | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                    |  |                         |
| 0222       | AMMÓNIUM-NITRÁT 0,2%-nál több<br>gyúlékony anyag tartalommal, beleértve<br>a szénegyenértékben kifejezett szerves<br>anyagokat is, minden más adalékanyagot<br>kizárva | 1       | 1.1D                     |                             | 1       |                                   | LQ0                                       | E0      | P112b<br>P112c                 | PP47  | MP20                                    |  |                         |
| 0224       | BARIUM-AZID, száraz vagy 50 tömeg%<br>nál kevesebb vízzel nedvesített  | 1       | 1.1A                     |                             | 1 + 6.1 |                                   | LQ0                                       | E0      | P110b                          | PP42  | MP20                                    |  |                         |



| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0197    | FÜSTJELZŐK   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0204    | ROBBANÓSZONDÁK   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0207    | TETRANITRO-ANILIN  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0208    | TRINITRO-FENIL-METIL-NITRAMIN<br>(TETRIL)  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0209    | TRINITRO-TOLUOL (TROTEL, TNT),<br>száraz vagy 30 tömeg%-nál kevesebb<br>vízzel nedvesített   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0212    | NYOMJELZŐK LŐSZEREKHEZ   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0213    | TRINITRO-ANIZOL  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0214    | TRINITRO-BENZOL, száraz vagy<br>30 tömeg%-nál kevesebb vízzel<br>nedvesített   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0215    | TRINITRO-BENZOESAV, száraz vagy<br>30 tömeg%-nál kevesebb vízzel<br>nedvesített  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0216    | TRINITRO-m-KREZOL  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0217    | TRINITRO-NAFTALIN  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0218    | TRINITRO-FENETOL   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0219    | TRINITRO-REZORCIN<br>(SZTIFNINSAV), száraz vagy<br>20 tömeg%-nál kevesebb vízzel vagy<br>alkohol és víz keverékével nedvesített  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0220    | KARBAMID-NITRÁT, száraz vagy<br>20 tömeg%-nál kevesebb vízzel<br>nedvesített   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0221    | TÁMADÓFEJEK TORPEDÓKHOZ<br>robbanótöltettel  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0222    | AMMÓNIUM-NITRÁT 0,2%-nál több<br>gyúlékony anyag tartalommal, beleértve<br>a szénegyenértékben kifejezett szerves<br>anyagokat is, minden más adalékanyagot<br>kizárva |
|             |                      |                                | 0<br>(B)   | V2<br>V3                                  |  | CV1<br>CV2<br>CV3<br>CV28                              | S1   |                        | 0224    | BÁRIUM-AZID, száraz vagy 50 tömeg%<br>nál kevesebb vízzel nedvesített  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztartá-<br>r-konténer |         |
|------------|---|---------|--------------------------|-----------------------------|--------|-----------------------------------|---|---------|--------------------------------|---|---|--|---------|
|            |   |         |                          |                             |        |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 0225       | GYÚJTÁSERŐSÍTŐK<br>DETONÁTORRAL   | 1       | 1.1B                     |                             | 1      |                                   | LQ0                                       | E0      | P133                           | PP69  | MP23                                    |  |         |
| 0226       | CIKLOTETRAMETILÉN-<br>TETRANITRAMIN (OKTOGÉN,<br>HMX), legalább 15 tömeg%<br>vízzel NEDVESÍTETT           | 1       | 1.1D                     |                             | 1      | 266                               | LQ0                                       | E0      | P112a                          | PP45  | MP20                                    |  |         |
| 0234       | NÁTRIUM-DINITRO-o-KREZOLÁT,<br>száraz vagy 15 tömeg%-nál kevesebb<br>vízzel nedvesített                   | 1       | 1.3C                     |                             | 1      |                                   | LQ0                                       | E0      | P114a<br>P114b                 | PP26  | MP20                                    |  |         |
| 0235       | NÁTRIUM-PIKRAMÁT, száraz vagy<br>20 tömeg%-nál kevesebb vízzel<br>nedvesített                             | 1       | 1.3C                     |                             | 1      |                                   | LQ0                                       | E0      | P114a<br>P114b                 | PP26  | MP20                                    |  |         |
| 0236       | CIRKÓNIUM-PIKRAMÁT, száraz vagy<br>20 tömeg%-nál kevesebb vízzel<br>nedvesített                           | 1       | 1.3C                     |                             | 1      |                                   | LQ0                                       | E0      | P114a<br>P114b                 | PP26  | MP20                                    |  |         |
| 0237       | PROFILOZOTT, HAJLÉKONY,<br>VONAL ALAKÚ<br>ROBBANTÓTÖLTETEK  | 1       | 1.4D                     |                             | 1.4    |                                   | LQ0                                       | E0      | P138                           |   | MP21                                    |  |         |
| 0238       | KÖTÉLVETŐ RAKÉTÁK   | 1       | 1.2G                     |                             | 1      |                                   | LQ0                                       | E0      | P130                           |   | MP23<br>MP24                            |  |         |
| 0240       | KÖTÉLVETŐ RAKÉTÁK   | 1       | 1.3G                     |                             | 1      |                                   | LQ0                                       | E0      | P130                           |   | MP23<br>MP24                            |  |         |
| 0241       | E TÍPUSÚ ROBBANTÓANYAG  | 1       | 1.1D                     |                             | 1      | 617                               | LQ0                                       | E0      | P116<br><br>IBC100             | PP61<br>PP62<br>PP65<br>B10                   | MP20                                    |  |         |
| 0242       | KIDOBÓTÖLTETEK LÖVEGEKHEZ   | 1       | 1.3C                     |                             | 1      |                                   | LQ0                                       | E0      | P130                           |   | MP22                                    |  |         |
| 0243       | FEHÉRFOSZFOR TARTALMÚ,<br>GYÚJTÓ HATÁSÚ LŐSZER<br>robbanó-, kidobó- vagy hajtótöltettel                   | 1       | 1.2H                     |                             | 1      |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0244       | FEHÉRFOSZFOR TARTALMÚ,<br>GYÚJTÓ HATÁSÚ LŐSZER<br>robbanó-, kidobó- vagy hajtótöltettel                   | 1       | 1.3H                     |                             | 1      |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0245       | FEHÉRFOSZFOR TARTALMÚ,<br>FÜSTKÉPZŐ LŐSZER robbanó-,<br>kidobó- vagy hajtótöltettel                       | 1       | 1.2H                     |                             | 1      |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0246       | FEHÉRFOSZFOR TARTALMÚ,<br>FÜSTKÉPZŐ LŐSZER robbanó- kidobó-<br>vagy hajtótöltettel                        | 1       | 1.3H                     |                             | 1      |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0247       | GYÚJTÓ HATÁSÚ LŐSZER gyúlékony<br>folyadék vagy gél tartalommal,<br>robbanó-, kidobó- vagy hajtótöltettel | 1       | 1.3J                     |                             | 1      |                                   | LQ0                                       | E0      | P101                           |   | MP23                                    |  |         |
| 0248       | VÍZZEL AKTÍVÁLHATÓ<br>SZERKEZETEK robbanó-, kidobó- vagy<br>hajtótöltettel                                | 1       | 1.2L                     |                             | 1      | 274                               | LQ0                                       | E0      | P144                           | PP77  | MP1                                     |  |         |
| 0249       | VÍZZEL AKTÍVÁLHATÓ<br>SZERKEZETEK robbanó-, kidobó- vagy<br>hajtótöltettel                                | 1       | 1.3L                     |                             | 1      | 274                               | LQ0                                       | E0      | P144                           | PP77  | MP1                                     |  |         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0225    | GYÚJTÁSERŐSÍTŐK<br>DETONÁTORRAL   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0226    | CIKLOTETRAMETILÉN-<br>TETRANITRAMIN (OKTOGÉN,<br>HMX), legalább 15 tömeg%<br>vízzel NEDVESÍTETT           |
|             |                      |                                | 1<br>(C5000D)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0234    | NÁTRIUM-DINITRO-o-KREZOLÁT,<br>száraz vagy 15 tömeg%-nál kevesebb<br>vízzel nedvesített                   |
|             |                      |                                | 1<br>(C5000D)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0235    | NÁTRIUM-PIKRAMÁT, száraz vagy<br>20 tömeg%-nál kevesebb vízzel<br>nedvesített                             |
|             |                      |                                | 1<br>(C5000D)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0236    | CIRKÓNIUM-PIKRAMÁT, száraz vagy<br>20 tömeg%-nál kevesebb vízzel<br>nedvesített                           |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0237    | PROFILOZOTT, HAJLÉKONY,<br>VONAL ALAKÚ<br>ROBBANTÓTÖLTETEK  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0238    | KÖTÉLVETŐ RAKÉTÁK   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0240    | KÖTÉLVETŐ RAKÉTÁK   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0241    | E TÍPUSÚ ROBBANTÓANYAG  |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0242    | KIDOBÓTÖLTETEK LÖVEGEKHEZ   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0243    | FEHÉRFOSSZFOR TARTALMÚ,<br>GYÚJTÓ HATÁSÚ LŐSZER<br>robbanó-, kidobó- vagy hajtótöltettel                  |
|             |                      |                                | 1<br>(C)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0244    | FEHÉRFOSSZFOR TARTALMÚ,<br>GYÚJTÓ HATÁSÚ LŐSZER<br>robbanó-, kidobó- vagy hajtótöltettel                  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0245    | FEHÉRFOSSZFOR TARTALMÚ,<br>FÜSTKÉPZŐ LŐSZER robbanó-,<br>kidobó- vagy hajtótöltettel                      |
|             |                      |                                | 1<br>(C)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0246    | FEHÉRFOSSZFOR TARTALMÚ,<br>FÜSTKÉPZŐ LŐSZER robbanó- kidobó-<br>vagy hajtótöltettel                       |
|             |                      |                                | 1<br>(C)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0247    | GYÚJTÓ HATÁSÚ LŐSZER gyúlékony<br>folyadék vagy gél tartalommal,<br>robbanó-, kidobó- vagy hajtótöltettel |
|             |                      |                                | 0<br>(B)   | V2  |  | CV1<br>CV2<br>CV3<br>CV4                               | S1   |                        | 0248    | VÍZZEL AKTÍVÁLHATÓ<br>SZERKEZETEK robbanó-, kidobó- vagy<br>hajtótöltettel                                |
|             |                      |                                | 0<br>(B)   | V2  |  | CV1<br>CV2<br>CV3<br>CV4                               | S1   |                        | 0249    | VÍZZEL AKTÍVÁLHATÓ<br>SZERKEZETEK robbanó-, kidobó- vagy<br>hajtótöltettel                                |

| UN<br>szám |  | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|---------------------|------------------------|--------|-----------------------------------|---|---------|--------------------------------|---|---|--|---------|
|            |  |         |                     |                        |        |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2  | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                | (4)                    | (5)    | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 0250       | RAKÉTAHAJTÓMŰVEK HIPERGOL<br>FOLYADÉKOKKAL, kidobótöltettel<br>vagy anélkül          | 1       | 1.3L                |                        | 1      |                                   | LQ0                                       | E0      | P101                           |   | MP1                                     |  |         |
| 0254       | VILÁGÍTÓ HATÁSÚ LŐSZER<br>robbanó-, kidobó- vagy hajtótöltettel<br>vagy anélkül      | 1       | 1.3G                |                        | 1      |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |         |
| 0255       | VILLAMOS GYUTACSONK<br>robbantáshoz  | 1       | 1.4B                |                        | 1.4    |                                   | LQ0                                       | E0      | P131                           |   | MP23                                    |  |         |
| 0257       | ROBBANÓGYÚJTÓK   | 1       | 1.4B                |                        | 1.4    |                                   | LQ0                                       | E0      | P141                           |   | MP23                                    |  |         |
| 0266       | OKTOLIT (OKTOL), száraz vagy<br>15 tömeg%-nál kevesebb vízzel<br>nedvesített         | 1       | 1.1D                |                        | 1      |                                   | LQ0                                       | E0      | P112a<br>P112b<br>P112c        |   | MP20                                    |  |         |
| 0267       | NEMVILLAMOS GYUTACSONK<br>robbantáshoz   | 1       | 1.4B                |                        | 1.4    |                                   | LQ0                                       | E0      | P131                           | PP68  | MP23                                    |  |         |
| 0268       | GYÚJTÁSERŐSÍTŐK<br>DETONÁTORRAL  | 1       | 1.2B                |                        | 1      |                                   | LQ0                                       | E0      | P133                           | PP69  | MP23                                    |  |         |
| 0271       | HAJTÓTÖLTETEK  | 1       | 1.1C                |                        | 1      |                                   | LQ0                                       | E0      | P143                           | PP76  | MP22                                    |  |         |
| 0272       | HAJTÓTÖLTETEK  | 1       | 1.3C                |                        | 1      |                                   | LQ0                                       | E0      | P143                           | PP76  | MP22                                    |  |         |
| 0275       | MUNKAVÉGZŐ TÖLTETEK  | 1       | 1.3C                |                        | 1      |                                   | LQ0                                       | E0      | P134<br>LP102                  |   | MP22                                    |  |         |
| 0276       | MUNKAVÉGZŐ TÖLTETEK  | 1       | 1.4C                |                        | 1.4    |                                   | LQ0                                       | E0      | P134<br>LP102                  |   | MP22                                    |  |         |
| 0277       | GOLYÓS PERFORÁTOR-TÖLTÉNY<br>OLAJKUTAK FÚRÁSÁHOZ                                     | 1       | 1.3C                |                        | 1      |                                   | LQ0                                       | E0      | P134<br>LP102                  |   | MP22                                    |  |         |
| 0278       | GOLYÓS PERFORÁTOR-TÖLTÉNY<br>OLAJKUTAK FÚRÁSÁHOZ                                     | 1       | 1.4C                |                        | 1.4    |                                   | LQ0                                       | E0      | P134<br>LP102                  |   | MP22                                    |  |         |
| 0279       | KIDOBÓTÖLTETEK LÖVEGEKHEZ  | 1       | 1.1C                |                        | 1      |                                   | LQ0                                       | E0      | P130                           |   | MP22                                    |  |         |
| 0280       | RAKÉTAHAJTÓMŰVEK   | 1       | 1.1C                |                        | 1      |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP22                                    |  |         |
| 0281       | RAKÉTAHAJTÓMŰVEK   | 1       | 1.2C                |                        | 1      |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP22                                    |  |         |
| 0282       | NITRO-GUANIDIN (PIKRIT), száraz<br>vagy 20 tömeg%-nál kevesebb vízzel<br>nedvesített | 1       | 1.1D                |                        | 1      |                                   | LQ0                                       | E0      | P112a<br>P112b<br>P112c        |   | MP20                                    |  |         |
| 0283       | GYÚJTÁSERŐSÍTŐK detonátor nélkül   | 1       | 1.2D                |                        | 1      |                                   | LQ0                                       | E0      | P132a<br>P132b                 |   | MP21                                    |  |         |
| 0284       | GRÁNÁTOK, kézi- vagy<br>fegyvergránátok robbanótöltettel                             | 1       | 1.1D                |                        | 1      |                                   | LQ0                                       | E0      | P141                           |   | MP21                                    |  |         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |                      |                                | 0<br>(B)   | V2  |  | CV1<br>CV2<br>CV3<br>CV4                               | S1   |                        | 0250    | RAKÉTAHAJTÓMŰVEK HIPERGOL FOLYADÉKOKKAL, kidobótöltettel vagy anélkül          |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0254    | VILÁGÍTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül      |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0255    | VILLAMOS GYUTACSOK robbantáshoz  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0257    | ROBBANÓGYÚJTÓK   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0266    | OKTOLIT (OKTOL), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített         |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0267    | NEMVILLAMOS GYUTACSOK robbantáshoz   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0268    | GYÚJTÁSERŐSÍTŐK DETONÁTORRAL   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0271    | HAJTÓTÖLTETEK  |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0272    | HAJTÓTÖLTETEK  |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0275    | MUNKAVÉGZŐ TÖLTETEK  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0276    | MUNKAVÉGZŐ TÖLTETEK  |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0277    | GOLYÓS PERFORÁTOR-TÖLTÉNY OLAJKUTAK FÚRÁSÁHOZ                                  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0278    | GOLYÓS PERFORÁTOR-TÖLTÉNY OLAJKUTAK FÚRÁSÁHOZ                                  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0279    | KIDOBÓTÖLTETEK LÖVEGEKHEZ  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0280    | RAKÉTAHAJTÓMŰVEK   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0281    | RAKÉTAHAJTÓMŰVEK   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0282    | NITRO-GUANIDIN (PIKRIT), száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0283    | GYÚJTÁSERŐSÍTŐK detonátor nélkül   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0284    | GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel                          |

| UN<br>szám | 3.1.2   | Osztály<br>2.2 | Osztályozási<br>kód<br>2.2 | Csomagolási<br>csoport<br>2.1.1.3 | Bárcák<br>5.2.2  | Különleges<br>előírások<br>3.3 | Korlátozott és<br>engedményes<br>mennyiség<br>3.4.6 3.5.1.2 |      | Csomagolóeszköz                         |  |  | Mobil tartány és<br>ömlesztettáru-<br>konténer |                                    |
|------------|---|----------------|----------------------------|-----------------------------------|------------------|--------------------------------|---|------|---|--|--|--|------------------------------------|
|            |   |                |                            |                                   |                  |                                |   |      | Csoma-<br>golási<br>utasítások<br>4.1.4 | Különle-<br>ges cso-<br>magolási<br>előírások<br>4.1.4 | Egybe-<br>csmago-<br>lási<br>előírások<br>4.1.10 | Utasítá-<br>sok<br>4.2.5.2,<br>7.3.2           | Különleges<br>előírások<br>4.2.5.3 |
| (1)        | (2)   | (3a)           | (3b)                       | (4)                               | (5)              | (6)                            | (7a)  | (7b) | (8)                                     | (9a)   | (9b)   | (10)   | (11)                               |
| 0285       | GRÁNÁTOK, kézi- vagy<br>fegyvergránátok robbanótöltettel  | 1              | 1.2D                       |                                   | 1                |                                | LQ0   | E0   | P141                                    |  | MP21   |  |                                    |
| 0286       | TÁMADÓFEJEK RAKÉTÁKHOZ<br>robbanótöltettel  | 1              | 1.1D                       |                                   | 1                |                                | LQ0   | E0   | P130<br>LP101                           | PP67<br>L1   | MP21   |  |                                    |
| 0287       | TÁMADÓFEJEK RAKÉTÁKHOZ<br>robbanótöltettel  | 1              | 1.2D                       |                                   | 1                |                                | LQ0   | E0   | P130<br>LP101                           | PP67<br>L1   | MP21   |  |                                    |
| 0288       | PROFILOZOTT, HAJLÉKONY,<br>VONAL ALAKÚ<br>ROBBANTÓTÖLTETEK  | 1              | 1.1D                       |                                   | 1                |                                | LQ0   | E0   | P138                                    |  | MP21   |  |                                    |
| 0289       | ROBBANÓZSINÓR, hajlékony  | 1              | 1.4D                       |                                   | 1.4              |                                | LQ0   | E0   | P139                                    | PP71<br>PP72   | MP21   |  |                                    |
| 0290       | ROBBANÓZSINÓR, fémköpenyes  | 1              | 1.1D                       |                                   | 1                |                                | LQ0   | E0   | P139                                    | PP71   | MP21   |  |                                    |
| 0291       | BOMBÁK robbanótöltettel   | 1              | 1.2F                       |                                   | 1                |                                | LQ0   | E0   | P130                                    |  | MP23   |  |                                    |
| 0292       | GRÁNÁTOK, kézi- vagy<br>fegyvergránátok robbanótöltettel  | 1              | 1.1F                       |                                   | 1                |                                | LQ0   | E0   | P141                                    |  | MP23   |  |                                    |
| 0293       | GRÁNÁTOK, kézi- vagy<br>fegyvergránátok robbanótöltettel  | 1              | 1.2F                       |                                   | 1                |                                | LQ0   | E0   | P141                                    |  | MP23   |  |                                    |
| 0294       | AKNÁK robbanótöltettel  | 1              | 1.2F                       |                                   | 1                |                                | LQ0   | E0   | P130                                    |  | MP23   |  |                                    |
| 0295       | RAKÉTÁK robbanótöltettel  | 1              | 1.2F                       |                                   | 1                |                                | LQ0   | E0   | P130                                    |  | MP23   |  |                                    |
| 0296       | ROBBANÓSZONDÁK  | 1              | 1.1F                       |                                   | 1                |                                | LQ0   | E0   | P134<br>LP102                           |  | MP23   |  |                                    |
| 0297       | VILÁGÍTÓ HATÁSÚ LŐSZER<br>robbanó-, kidobó- vagy hajtótöltettel<br>vagy anélkül                   | 1              | 1.4G                       |                                   | 1.4              |                                | LQ0   | E0   | P130<br>LP101                           | PP67<br>L1   | MP23   |  |                                    |
| 0299       | BOMBÁK VILLANÓFÉNY<br>TÖLTETTEL   | 1              | 1.3G                       |                                   | 1                |                                | LQ0   | E0   | P130<br>LP101                           | PP67<br>L1   | MP23   |  |                                    |
| 0300       | GYÚJTÓ HATÁSÚ LŐSZER robbanó-,<br>kidobó- vagy hajtótöltettel vagy anélkül                        | 1              | 1.4G                       |                                   | 1.4              |                                | LQ0   | E0   | P130<br>LP101                           | PP67<br>L1   | MP23   |  |                                    |
| 0301       | KÖNNYEZTETŐ HATÁSÚ LŐSZER<br>robbanó-, kidobó- vagy hajtótöltettel                                | 1              | 1.4G                       |                                   | 1.4 +<br>6.1 + 8 |                                | LQ0   | E0   | P130<br>LP101                           | PP67<br>L1   | MP23   |  |                                    |
| 0303       | FÜSTKÉPZŐ LŐSZER robbanó-,<br>kidobó- vagy hajtótöltettel vagy anélkül                            | 1              | 1.4G                       |                                   | 1.4              |                                | LQ0   | E0   | P130<br>LP101                           | PP67<br>L1   | MP23   |  |                                    |
| 0303       | FÜSTKÉPZŐ LŐSZER robbanó-,<br>kidobó- vagy hajtótöltettel vagy anélkül,<br>maró anyag tartalommal | 1              | 1.4G                       |                                   | 1.4 + 8          |                                | LQ0   | E0   | P130<br>LP101                           | PP67<br>L1   | MP23   |  |                                    |
| 0305       | VILLANÓFÉNYPOR  | 1              | 1.3G                       |                                   | 1                |                                | LQ0   | E0   | P113                                    | PP49   | MP20   |  |                                    |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0285    | GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel                                       |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0286    | TÁMADÓFEJEK RAKÉTÁKHOZ robbanótöltettel   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0287    | TÁMADÓFEJEK RAKÉTÁKHOZ robbanótöltettel   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0288    | PROFILOZOTT, HAJLÉKONY, VONAL ALAKÚ ROBBANTÓTÖLTETEK  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0289    | ROBBANÓZSINÓR, hajlékony  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0290    | ROBBANÓZSINÓR, fémköpenyes  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0291    | BOMBÁK robbanótöltettel   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0292    | GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel                                       |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0293    | GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel                                       |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0294    | AKNÁK robbanótöltettel  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0295    | RAKÉTÁK robbanótöltettel  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0296    | ROBBANÓSZONDÁK  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0297    | VILÁGÍTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül                   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0299    | BOMBÁK VILLANÓFÉNY TÖLTETTEL  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0300    | GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül                     |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3<br>CV28                              | S1   |                        | 0301    | KÖNNYEZTETŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel                             |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0303    | FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül                         |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0303    | FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül, maró anyag tartalommal |
|             |                      |                                | 1<br>(C5000D)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0305    | VILLANÓFÉNYPOR  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |  | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|---|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|--|--|---------|
|            |   |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csmago-<br>lási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                 | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                   | (10)   | (11)    |
| 0306       | NYOMJELZŐK LŐSZEREKHEZ  | 1       | 1.4G                     |                             | 1.4    |                                   | LQ0  | E0      | P133                           | PP69  | MP23                                   |  |         |
| 0312       | JELZÓPATRONOK   | 1       | 1.4G                     |                             | 1.4    |                                   | LQ0  | E0      | P135                           |   | MP23<br>MP24                           |  |         |
| 0313       | FÜSTJELZŐK  | 1       | 1.2G                     |                             | 1      |                                   | LQ0  | E0      | P135                           |   | MP23                                   |  |         |
| 0314       | GYÚJTÓK   | 1       | 1.2G                     |                             | 1      |                                   | LQ0  | E0      | P142                           |   | MP23                                   |  |         |
| 0315       | GYÚJTÓK   | 1       | 1.3G                     |                             | 1      |                                   | LQ0  | E0      | P142                           |   | MP23                                   |  |         |
| 0316       | INDÍTÓGYÚJTÓK   | 1       | 1.3G                     |                             | 1      |                                   | LQ0  | E0      | P141                           |   | MP23                                   |  |         |
| 0317       | INDÍTÓGYÚJTÓK   | 1       | 1.4G                     |                             | 1.4    |                                   | LQ0  | E0      | P141                           |   | MP23                                   |  |         |
| 0318       | GYAKORLÓGRÁNÁTOK (kézi- vagy<br>fegyvergránátok)                            | 1       | 1.3G                     |                             | 1      |                                   | LQ0  | E0      | P141                           |   | MP23                                   |  |         |
| 0319       | GYUTACSCSÖVEK,<br>GYUTACSSZELENCÉK  | 1       | 1.3G                     |                             | 1      |                                   | LQ0  | E0      | P133                           |   | MP23                                   |  |         |
| 0320       | GYUTACSCSÖVEK,<br>GYUTACSSZELENCÉK  | 1       | 1.4G                     |                             | 1.4    |                                   | LQ0  | E0      | P133                           |   | MP23                                   |  |         |
| 0321       | TÖLTÉNYEK FEGYVEREKHEZ<br>robbanólövedékkel                                 | 1       | 1.2E                     |                             | 1      |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                   |  |         |
| 0322       | RAKÉTAHAJTÓMŰVEK HIPERGOL<br>FOLYADÉKOKKAL, kidobótöltettel<br>vagy anélkül | 1       | 1.2L                     |                             | 1      |                                   | LQ0  | E0      | P101                           |   | MP1                                    |  |         |
| 0323       | MUNKAVÉGZŐ TÖLTETEK   | 1       | 1.4S                     |                             | 1.4    |                                   | LQ0  | E0      | P134<br>LP102                  |   | MP23                                   |  |         |
| 0324       | LÖVEDÉKEK robbanótöltettel  | 1       | 1.2F                     |                             | 1      |                                   | LQ0  | E0      | P130                           |   | MP23                                   |  |         |
| 0325       | GYÚJTÓK   | 1       | 1.4G                     |                             | 1.4    |                                   | LQ0  | E0      | P142                           |   | MP23                                   |  |         |
| 0326       | VAKTÖLTÉNYEK FEGYVEREKHEZ   | 1       | 1.1C                     |                             | 1      |                                   | LQ0  | E0      | P130                           |   | MP22                                   |  |         |
| 0327       | VAKTÖLTÉNYEK FEGYVEREKHEZ<br>vagy VAKTÖLTÉNYEK<br>KÉZIFEGYVEREKHEZ          | 1       | 1.3C                     |                             | 1      |                                   | LQ0  | E0      | P130                           |   | MP22                                   |  |         |
| 0328       | TÖLTÉNYEK FEGYVEREKHEZ<br>INERT LÖVEDÉKKEL                                  | 1       | 1.2C                     |                             | 1      |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP22                                   |  |         |
| 0329       | TORPEDÓK robbanótöltettel   | 1       | 1.1E                     |                             | 1      |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                   |  |         |



| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0306    | NYOMJELZŐK LŐSZEREKHEZ  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0312    | JELZÓPATRONOK   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0313    | FÜSTJELZŐK  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0314    | GYÚJTÓK   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0315    | GYÚJTÓK   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0316    | INDÍTÓGYÚJTÓK   |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0317    | INDÍTÓGYÚJTÓK   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0318    | GYAKORLÓGRÁNÁTOK (kézi- vagy fegyvergránátok)                         |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0319    | GYUTACSCSÖVEK, GYUTACSSZELENCÉK                                       |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0320    | GYUTACSCSÖVEK, GYUTACSSZELENCÉK                                       |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0321    | TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékkel                              |
|             |                      |                                | 0<br>(B)   | V2  |  | CV1<br>CV2<br>CV3<br>CV4                               | S1   |                        | 0322    | RAKÉTAHAJTÓMŰVEK HIPERGOL FOLYADÉKOKKAL, kidobótöltettel vagy anélkül |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0323    | MUNKAVÉGZŐ TÖLTETEK   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0324    | LÖVEDÉKEK robbanótöltettel  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0325    | GYÚJTÓK   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0326    | VAKTÖLTÉNYEK FEGYVEREKHEZ   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0327    | VAKTÖLTÉNYEK FEGYVEREKHEZ vagy VAKTÖLTÉNYEK KÉZIFEGYVEREKHEZ          |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0328    | TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL                               |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0329    | TORPEDÓK robbanótöltettel   |

| UN<br>szám |  | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|--------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |        |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 0330       | TORPEDÓK robbanótöltettel  | 1       | 1.1F                     |                             | 1      |                                   | LQ0                                       | E0      | P130                           |   | MP23                                    |  |                         |
| 0331       | B TÍPUSÚ ROBBANTÓANYAG   | 1       | 1.5D                     |                             | 1.5    | 617                               | LQ0                                       | E0      | P116<br><br>IBC100             | PP61<br>PP62<br>PP64<br>PP65                  | MP20                                    | T1   | TP1<br>TP17<br>TP32     |
| 0332       | E TÍPUSÚ ROBBANTÓANYAG   | 1       | 1.5D                     |                             | 1.5    | 617                               | LQ0                                       | E0      | P116<br><br>IBC100             | PP61<br>PP62<br>PP65                          | MP20                                    | T1   | TP1<br>TP17<br>TP32     |
| 0333       | TŰZIJÁTÉK TESTEK   | 1       | 1.1G                     |                             | 1      | 645                               | LQ0                                       | E0      | P135                           |   | MP23<br>MP24                            |  |                         |
| 0334       | TŰZIJÁTÉK TESTEK   | 1       | 1.2G                     |                             | 1      | 645                               | LQ0                                       | E0      | P135                           |   | MP23<br>MP24                            |  |                         |
| 0335       | TŰZIJÁTÉK TESTEK   | 1       | 1.3G                     |                             | 1      | 645                               | LQ0                                       | E0      | P135                           |   | MP23<br>MP24                            |  |                         |
| 0336       | TŰZIJÁTÉK TESTEK   | 1       | 1.4G                     |                             | 1.4    | 645<br>651                        | LQ0                                       | E0      | P135                           |   | MP23<br>MP24                            |  |                         |
| 0337       | TŰZIJÁTÉK TESTEK   | 1       | 1.4S                     |                             | 1.4    | 645                               | LQ0                                       | E0      | P135                           |   | MP23<br>MP24                            |  |                         |
| 0338       | VAKTÖLTÉNYEK FEGYVEREKHEZ<br>vagy VAKTÖLTÉNYEK<br>KÉZIFEGYVEREKHEZ                           | 1       | 1.4C                     |                             | 1.4    |                                   | LQ0                                       | E0      | P130                           |   | MP22                                    |  |                         |
| 0339       | TÖLTÉNYEK FEGYVEREKHEZ<br>INERT LÖVEDÉKKEL vagy<br>KÉZIFEGYVER TÖLTÉNYEK                     | 1       | 1.4C                     |                             | 1.4    |                                   | LQ0                                       | E0      | P130                           |   | MP22                                    |  |                         |
| 0340       | NITROCELLULÓZ, száraz vagy<br>25 tömeg%-nál kevesebb vízzel (vagy<br>alkohollal) nedvesített | 1       | 1.1D                     |                             | 1      |                                   | LQ0                                       | E0      | P112a<br>P112b                 |   | MP20                                    |  |                         |
| 0341       | NITROCELLULÓZ, módosítás nélkül<br>vagy 18 tömeg%-nál kevesebb lágyítóval<br>plasztifikálva  | 1       | 1.1D                     |                             | 1      |                                   | LQ0                                       | E0      | P112b                          |   | MP20                                    |  |                         |
| 0342       | NITROCELLULÓZ, legalább<br>25 tömeg% alkohollal NEDVESÍTETT                                  | 1       | 1.3C                     |                             | 1      | 105                               | LQ0                                       | E0      | P114a                          | PP43  | MP20                                    |  |                         |
| 0343       | NITROCELLULÓZ, PLASZTIFIKÁLT<br>legalább 18 tömeg% plasztifikálóval                          | 1       | 1.3C                     |                             | 1      | 105                               | LQ0                                       | E0      | P111                           |   | MP20                                    |  |                         |
| 0344       | LÖVEDÉKEK robbanótöltettel   | 1       | 1.4D                     |                             | 1.4    |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                    |  |                         |
| 0345       | LÖVEDÉKEK (inertek,<br>nyomjelzőszerrel)   | 1       | 1.4S                     |                             | 1.4    |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |                         |
| 0346       | LÖVEDÉKEK robbanó- vagy<br>kidobótöltettel   | 1       | 1.2D                     |                             | 1      |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                    |  |                         |
| 0347       | LÖVEDÉKEK robbanó- vagy<br>kidobótöltettel   | 1       | 1.4D                     |                             | 1.4    |                                   | LQ0                                       | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                    |  |                         |

| ADR-tartály |                              | Jármű a<br>tartályos<br>szállítás-<br>hoz | Szállítási<br>kategória<br>1.1.3.6<br>(Alagútkorlá-<br>tozási kód) | Szállítás  |   |   |   | Veszélyt<br>jelölő<br>számok | UN szám | Megnevezés és leírás   |
|-------------|------------------------------|---|--|--|---|---|---|------------------------------|---------|--|
| Tartálykód  | Külön-<br>leges<br>előírások |   |  | Különleges<br>előírások a<br>küldemény-<br>darabokra | Különleges<br>előírások az<br>ömlesztett<br>szállításra | Különleges<br>előírások az<br>árukezelésre,<br>be- és kirakásra | Különleges<br>előírások a<br>jármű üze-<br>meltetésre |                              |         |  |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                                   | (8.6)  | 7.2.4  | 7.3.3   | 7.5.11  | 8.5   | 5.3.2.3                      |         | 3.1.2  |
| (12)        | (13)                         | (14)                                      | (15)   | (16)   | (17)  | (18)  | (19)  | (20)                         | (1)     | (2)  |
|             |                              |   | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0330    | TORPEDÓK robbanótöltettel  |
|             |                              | EX/III                                    | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  | 1.5D                         | 0331    | B TÍPUSÚ ROBBANTÓANYAG   |
|             |                              | EX/III                                    | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  | 1.5D                         | 0332    | E TÍPUSÚ ROBBANTÓANYAG   |
|             |                              |   | 1<br>(B1000C)  | V2<br>V3   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0333    | TÚZIJÁTÉK TESTEK   |
|             |                              |   | 1<br>(B1000C)  | V2<br>V3   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0334    | TÚZIJÁTÉK TESTEK   |
|             |                              |   | 1<br>(C5000D)  | V2<br>V3   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0335    | TÚZIJÁTÉK TESTEK   |
|             |                              |   | 2<br>(E)   | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0336    | TÚZIJÁTÉK TESTEK   |
|             |                              |   | 4<br>(E)   |  |   | CV1<br>CV2<br>CV3   | S1  |                              | 0337    | TÚZIJÁTÉK TESTEK   |
|             |                              |   | 2<br>(E)   | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0338    | VAKTÖLTÉNYEK FEGYVEREKHEZ<br>vagy VAKTÖLTÉNYEK<br>KÉZIFEGYVEREKHEZ                           |
|             |                              |   | 2<br>(E)   | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0339    | TÖLTÉNYEK FEGYVEREKHEZ<br>INERT LÖVEDÉKKEL vagy<br>KÉZIFEGYVER TÖLTÉNYEK                     |
|             |                              |   | 1<br>(B1000C)  | V2<br>V3   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0340    | NITROCELLULÓZ, száraz vagy<br>25 tömeg%-nál kevesebb vízzel (vagy<br>alkohollal) nedvesített |
|             |                              |   | 1<br>(B1000C)  | V2<br>V3   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0341    | NITROCELLULÓZ, módosítás nélkül<br>vagy 18 tömeg%-nál kevesebb lágyítóval<br>plasztifikálva  |
|             |                              |   | 1<br>(C5000D)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0342    | NITROCELLULÓZ, legalább<br>25 tömeg% alkohollal NEDVESÍTETT                                  |
|             |                              |   | 1<br>(C5000D)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0343    | NITROCELLULÓZ, PLASZTIFIKÁLT<br>legalább 18 tömeg% plasztifikálóval                          |
|             |                              |   | 2<br>(E)   | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0344    | LÖVEDÉKEK robbanótöltettel   |
|             |                              |   | 4<br>(E)   |  |   | CV1<br>CV2<br>CV3   | S1  |                              | 0345    | LÖVEDÉKEK (inertek,<br>nyomjelzőszerrel)   |
|             |                              |   | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0346    | LÖVEDÉKEK robbanó- vagy<br>kidobótöltettel   |
|             |                              |   | 2<br>(E)   | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0347    | LÖVEDÉKEK robbanó- vagy<br>kidobótöltettel   |

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 0348       | TÖLTÉNYEK FEGYVEREKHEZ<br>robbanólövedékkel         | 1       | 1.4F                     |                             | 1.4    |                                   | LQ0  | E0      | P130                           |   | MP23                                    |  |                         |
| 0349       | ROBBANÓTÁRGYAK, M.N.N.                              | 1       | 1.4S                     |                             | 1.4    | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0350       | ROBBANÓTÁRGYAK, M.N.N.                              | 1       | 1.4B                     |                             | 1.4    | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0351       | ROBBANÓTÁRGYAK, M.N.N.                              | 1       | 1.4C                     |                             | 1.4    | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0352       | ROBBANÓTÁRGYAK, M.N.N.                              | 1       | 1.4D                     |                             | 1.4    | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0353       | ROBBANÓTÁRGYAK, M.N.N.                              | 1       | 1.4G                     |                             | 1.4    | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0354       | ROBBANÓTÁRGYAK, M.N.N.                              | 1       | 1.1L                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP1                                     |  |                         |
| 0355       | ROBBANÓTÁRGYAK, M.N.N.                              | 1       | 1.2L                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP1                                     |  |                         |
| 0356       | ROBBANÓTÁRGYAK, M.N.N.                              | 1       | 1.3L                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP1                                     |  |                         |
| 0357       | ROBBANÓANYAGOK, M.N.N.                              | 1       | 1.1L                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP1                                     |  |                         |
| 0358       | ROBBANÓANYAGOK, M.N.N.                              | 1       | 1.2L                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP1                                     |  |                         |
| 0359       | ROBBANÓANYAGOK, M.N.N.                              | 1       | 1.3L                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP1                                     |  |                         |
| 0360       | NEMVILLAMOS<br>DETONÁTORSZERKEZETEK<br>robbantáshoz | 1       | 1.1B                     |                             | 1      |                                   | LQ0  | E0      | P131                           |   | MP23                                    |  |                         |
| 0361       | NEMVILLAMOS<br>DETONÁTORSZERKEZETEK<br>robbantáshoz | 1       | 1.4B                     |                             | 1.4    |                                   | LQ0  | E0      | P131                           |   | MP23                                    |  |                         |
| 0362       | GYAKORLÓLŐSZER                                      | 1       | 1.4G                     |                             | 1.4    |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |                         |
| 0363       | PRÓBALŐSZER   | 1       | 1.4G                     |                             | 1.4    |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP23                                    |  |                         |
| 0364       | GYUTACSOK LŐSZEREKHEZ                               | 1       | 1.2B                     |                             | 1      |                                   | LQ0  | E0      | P133                           |   | MP23                                    |  |                         |

| ADR-tartály |                      | Jármű a tartályos szállítás-hoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                  |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                          |
|-------------|----------------------|---------------------------------|--|--|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                 |  | Különleges előírások a küldemény-darabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                         | (8.6)  | 7.2.4                                      | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                            | (15)   | (16)                                       | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|             |                      |                                 | 2<br>(E)   | V2   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0348    | TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékkel      |
|             |                      |                                 | 4<br>(E)   |  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0349    | ROBBANÓTÁRGYAK, M.N.N.                        |
|             |                      |                                 | 2<br>(E)   | V2   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0350    | ROBBANÓTÁRGYAK, M.N.N.                        |
|             |                      |                                 | 2<br>(E)   | V2   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0351    | ROBBANÓTÁRGYAK, M.N.N.                        |
|             |                      |                                 | 2<br>(E)   | V2   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0352    | ROBBANÓTÁRGYAK, M.N.N.                        |
|             |                      |                                 | 2<br>(E)   | V2   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0353    | ROBBANÓTÁRGYAK, M.N.N.                        |
|             |                      |                                 | 0<br>(B)   | V2   |  | CV1<br>CV2<br>CV3<br>CV4                               | S1   |                        | 0354    | ROBBANÓTÁRGYAK, M.N.N.                        |
|             |                      |                                 | 0<br>(B)   | V2   |  | CV1<br>CV2<br>CV3<br>CV4                               | S1   |                        | 0355    | ROBBANÓTÁRGYAK, M.N.N.                        |
|             |                      |                                 | 0<br>(B)   | V2   |  | CV1<br>CV2<br>CV3<br>CV4                               | S1   |                        | 0356    | ROBBANÓTÁRGYAK, M.N.N.                        |
|             |                      |                                 | 0<br>(B)   | V2   |  | CV1<br>CV2<br>CV3<br>CV4                               | S1   |                        | 0357    | ROBBANÓANYAGOK, M.N.N.                        |
|             |                      |                                 | 0<br>(B)   | V2   |  | CV1<br>CV2<br>CV3<br>CV4                               | S1   |                        | 0358    | ROBBANÓANYAGOK, M.N.N.                        |
|             |                      |                                 | 0<br>(B)   | V2   |  | CV1<br>CV2<br>CV3<br>CV4                               | S1   |                        | 0359    | ROBBANÓANYAGOK, M.N.N.                        |
|             |                      |                                 | 1<br>(B1000C)  | V2   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0360    | NEMVILLAMOS DETONÁTORSZERKEZETEK robbantáshoz |
|             |                      |                                 | 2<br>(E)   | V2   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0361    | NEMVILLAMOS DETONÁTORSZERKEZETEK robbantáshoz |
|             |                      |                                 | 2<br>(E)   | V2   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0362    | GYAKORLÓLŐSZER                                |
|             |                      |                                 | 2<br>(E)   | V2   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0363    | PRÓBALŐSZER                                   |
|             |                      |                                 | 1<br>(B1000C)  | V2   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0364    | GYUTACSOK LŐSZEREKHEZ                         |

| UN<br>szám | 3.1.2   | Osztály<br>2.2 | Oszta-<br>lyozási<br>kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Bárcák<br>5.2.2 | Külön-<br>leges<br>előírá-<br>sok<br>3.3 | Korlátozott és<br>engedményes<br>mennyiség<br>3.4.6 3.5.1.2 |      | Csomagolóeszköz                         |  |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                                    |
|------------|---|----------------|---------------------------------|--|-----------------|--|---|------|---|--|---|--|------------------------------------|
|            |   |                |                                 |  |                 |  |   |      | Csoma-<br>golási<br>utasítások<br>4.1.4 | Különle-<br>ges cso-<br>magolási<br>előírások<br>4.1.4 | Egybe-<br>csomago-<br>lási<br>előírások<br>4.1.10 | Utasítá-<br>sok<br>4.2.5.2,<br>7.3.2           | Különleges<br>előírások<br>4.2.5.3 |
| (1)        | (2)   | (3a)           | (3b)                            | (4)                                    | (5)             | (6)                                      | (7a)  | (7b) | (8)                                     | (9a)   | (9b)  | (10)   | (11)                               |
| 0365       | GYUTACSON LÖSZEREKHEZ                                   | 1              | 1.4B                            |  | 1.4             |  | LQ0   | E0   | P133                                    |  | MP23  |  |                                    |
| 0366       | GYUTACSON LÖSZEREKHEZ                                   | 1              | 1.4S                            |  | 1.4             |  | LQ0   | E0   | P133                                    |  | MP23  |  |                                    |
| 0367       | ROBBANÓGYÚJTÓK  | 1              | 1.4S                            |  | 1.4             |  | LQ0   | E0   | P141                                    |  | MP23  |  |                                    |
| 0368       | INDÍTÓGYÚJTÓK   | 1              | 1.4S                            |  | 1.4             |  | LQ0   | E0   | P141                                    |  | MP23  |  |                                    |
| 0369       | TÁMADÓFEJEK RAKÉTÁKHOZ<br>robbanótöltettel              | 1              | 1.1F                            |  | 1               |  | LQ0   | E0   | P130                                    |  | MP23  |  |                                    |
| 0370       | TÁMADÓFEJEK RAKÉTÁKHOZ<br>robbanó- vagy kidobótöltettel | 1              | 1.4D                            |  | 1.4             |  | LQ0   | E0   | P130<br>LP101                           | PP67<br>L1   | MP21  |  |                                    |
| 0371       | TÁMADÓFEJEK RAKÉTÁKHOZ<br>robbanó- vagy kidobótöltettel | 1              | 1.4F                            |  | 1.4             |  | LQ0   | E0   | P130                                    |  | MP23  |  |                                    |
| 0372       | GYAKORLÓGRÁNÁTOK (kézi- vagy<br>fegyvergránátok)        | 1              | 1.2G                            |  | 1               |  | LQ0   | E0   | P141                                    |  | MP23  |  |                                    |
| 0373       | KÉZI JELZŐTESTEK  | 1              | 1.4S                            |  | 1.4             |  | LQ0   | E0   | P135                                    |  | MP23<br>MP24                                      |  |                                    |
| 0374       | ROBBANÓSZONDÁK  | 1              | 1.1D                            |  | 1               |  | LQ0   | E0   | P134<br>LP102                           |  | MP21  |  |                                    |
| 0375       | ROBBANÓSZONDÁK  | 1              | 1.2D                            |  | 1               |  | LQ0   | E0   | P134<br>LP102                           |  | MP21  |  |                                    |
| 0376       | GYUTACSCSÖVEK,<br>GYUTACSSZELENCÉK                      | 1              | 1.4S                            |  | 1.4             |  | LQ0   | E0   | P133                                    |  | MP23  |  |                                    |
| 0377       | GYUTACSKAPSZULÁK  | 1              | 1.1B                            |  | 1               |  | LQ0   | E0   | P133                                    |  | MP23  |  |                                    |
| 0378       | GYUTACSKAPSZULÁK  | 1              | 1.4B                            |  | 1.4             |  | LQ0   | E0   | P133                                    |  | MP23  |  |                                    |
| 0379       | ÜRES TÖLTÉNYHÜVELYEK<br>GYUTACCSAL                      | 1              | 1.4C                            |  | 1.4             |  | LQ0   | E0   | P136                                    |  | MP22  |  |                                    |
| 0380       | PIROFOROS TÁRGYAK                                       | 1              | 1.2L                            |  | 1               |  | LQ0   | E0   | P101                                    |  | MP1   |  |                                    |
| 0381       | MUNKAVÉGZŐ TÖLTETEK                                     | 1              | 1.2C                            |  | 1               |  | LQ0   | E0   | P134<br>LP102                           |  | MP22  |  |                                    |
| 0382       | ROBBANÓLÁNC ALKOTÓRÉSZEI,<br>M.N.N.                     | 1              | 1.2B                            |  | 1               | 178<br>274                               | LQ0   | E0   | P101                                    |  | MP2   |  |                                    |
| 0383       | ROBBANÓLÁNC ALKOTÓRÉSZEI,<br>M.N.N.                     | 1              | 1.4B                            |  | 1.4             | 178<br>274                               | LQ0   | E0   | P101                                    |  | MP2   |  |                                    |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                    |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0365    | GYUTACSOK LÖSZEREKHEZ                                   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0366    | GYUTACSOK LÖSZEREKHEZ                                   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0367    | ROBBANÓGYÚJTÓK  |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0368    | INDÍTÓGYÚJTÓK   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0369    | TÁMADÓFEJEK RAKÉTÁKHOZ<br>robbanótöltettel              |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0370    | TÁMADÓFEJEK RAKÉTÁKHOZ<br>robbanó- vagy kidobótöltettel |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0371    | TÁMADÓFEJEK RAKÉTÁKHOZ<br>robbanó- vagy kidobótöltettel |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0372    | GYAKORLÓGRÁNÁTOK (kézi- vagy<br>fegyvergránátok)        |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0373    | KÉZI JELZŐTESTEK  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0374    | ROBBANÓSZONDÁK  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0375    | ROBBANÓSZONDÁK  |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0376    | GYUTACSCSŐVEK,<br>GYUTACSSZELENCÉK                      |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0377    | GYUTACSKAPSZULÁK  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0378    | GYUTACSKAPSZULÁK  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0379    | ÜRES TÖLTÉNYHÜVELYEK<br>GYUTACCSAL                      |
|             |                      |                                | 0<br>(B)   | V2  |  | CV1<br>CV2<br>CV3<br>CV4                               | S1   |                        | 0380    | PIROFOROS TÁRGYAK                                       |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0381    | MUNKAVÉGZŐ TÖLTETEK                                     |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0382    | ROBBANÓLÁNC ALKOTÓRÉSZEI,<br>M.N.N.                     |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0383    | ROBBANÓLÁNC ALKOTÓRÉSZEI,<br>M.N.N.                     |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |  | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|--|--|-------------------------|
|            |  |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csmago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                 | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                   | (10)   | (11)                    |
| 0384       | ROBBANÓLÁNC ALKOTÓRÉSZEI,<br>M.N.N.  | 1       | 1.4S                     |                             | 1.4    | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                    |  |                         |
| 0385       | 5-NITRO-BENZO-TRIAZOL  | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P112b<br>P112c                 |   | MP20                                   |  |                         |
| 0386       | TRINITRO-BENZOLSZULFONSAV  | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P112b<br>P112c                 | PP26  | MP20                                   |  |                         |
| 0387       | TRINITRO-FLUORENON   | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P112b<br>P112c                 |   | MP20                                   |  |                         |
| 0388       | TRINITRO-TOLUOL (TNT) ÉS<br>TRINITRO-BENZOL KEVERÉKE vagy<br>TRINITRO-TOLUOL (TNT) ÉS<br>HEXANITRO-SZTLBÉN KEVERÉKE  | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P112b<br>P112c                 |   | MP20                                   |  |                         |
| 0389       | TRINITRO-TOLUOL (TNT) KEVERÉK<br>TRINITRO-BENZOL ÉS HEXANITRO-<br>SZTLBÉN TARTALOMMAL  | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P112b<br>P112c                 |   | MP20                                   |  |                         |
| 0390       | TRITONAL   | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P112b<br>P112c                 |   | MP20                                   |  |                         |
| 0391       | CIKLOTRIMETILÉN-TRINITRAMIN<br>(CIKLONIT; HEXOGÉN; RDX) ÉS<br>CIKLOTETRAMETILÉN-<br>TETRAMIN (OKTOGÉN; HMX)<br>KEVERÉKE, legalább<br>15 tömeg% vízzel NEDVESÍTETT vagy<br>legalább 10 tömeg% flegmatizálószerrel<br>DESZENZIBILIZÁLT | 1       | 1.1D                     |                             | 1      | 266                               | LQ0  | E0      | P112a<br>P112b                 |   | MP20                                   |  |                         |
| 0392       | HEXANITRO-SZTLBÉN  | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P112b<br>P112c                 |   | MP20                                   |  |                         |
| 0393       | HEXOTONAL  | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P112b                          |   | MP20                                   |  |                         |
| 0394       | TRINITRO-REZORCIN<br>(SZTIFNINSAV), legalább 20 tömeg%<br>vízzel vagy alkohol és víz keverékével<br>NEDVESÍTETT  | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P112a                          | PP26  | MP20                                   |  |                         |
| 0395       | RAKÉTAHAJTÓMŰVEK<br>FOLYÉKONY HAJTÓANYAGGAL  | 1       | 1.2J                     |                             | 1      |                                   | LQ0  | E0      | P101                           |   | MP23                                   |  |                         |
| 0396       | RAKÉTAHAJTÓMŰVEK<br>FOLYÉKONY HAJTÓANYAGGAL  | 1       | 1.3J                     |                             | 1      |                                   | LQ0  | E0      | P101                           |   | MP23                                   |  |                         |
| 0397       | RAKÉTÁK FOLYÉKONY<br>HAJTÓANYAGGAL, robbanótöltettel   | 1       | 1.1J                     |                             | 1      |                                   | LQ0  | E0      | P101                           |   | MP23                                   |  |                         |
| 0398       | RAKÉTÁK FOLYÉKONY<br>HAJTÓANYAGGAL, robbanótöltettel   | 1       | 1.2J                     |                             | 1      |                                   | LQ0  | E0      | P101                           |   | MP23                                   |  |                         |
| 0399       | BOMBÁK GYŰLÉKONY FOLYADÉK<br>TARTALOMMAL, robbanótöltettel   | 1       | 1.1J                     |                             | 1      |                                   | LQ0  | E0      | P101                           |   | MP23                                   |  |                         |



| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0384    | ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0385    | 5-NITRO-BENZO-TRIAZOL   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0386    | TRINITRO-BENZOLSZULFONSAV   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0387    | TRINITRO-FLUORENON  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0388    | TRINITRO-TOLUOL (TNT) ÉS TRINITRO-BENZOL KEVERÉKE vagy TRINITRO-TOLUOL (TNT) ÉS HEXANITRO-SZTILBÉN KEVERÉKE   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0389    | TRINITRO-TOLUOL (TNT) KEVERÉK TRINITRO-BENZOL ÉS HEXANITRO-SZTILBÉN TARTALOMMAL   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0390    | TRITONAL  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0391    | CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT; HEXOGÉN; RDX) ÉS CIKLOTETRAMETILÉN-TETRAMITRAMIN (OKTOGÉN; HMX) KEVERÉKE, legalább 15 tömeg% vízzel NEDVESÍTETT vagy legalább 10 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0392    | HEXANITRO-SZTILBÉN  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0393    | HEXOTONAL   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0394    | TRINITRO-REZORCIN (SZTIFNINSAV), legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0395    | RAKÉTAHAJTÓMŰVEK FOLYÉKONY HAJTÓANYAGGAL  |
|             |                      |                                | 1<br>(C)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0396    | RAKÉTAHAJTÓMŰVEK FOLYÉKONY HAJTÓANYAGGAL  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0397    | RAKÉTÁK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0398    | RAKÉTÁK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0399    | BOMBÁK GYÚLÉKONY FOLYADÉK TARTALOMMAL, robbanótöltettel   |

| UN<br>szám |   | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák | Különleges<br>előírások | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz           |  |                                    | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|---|---------|---------------------|------------------------|--------|-------------------------|--|---------|---------------------------|--|------------------------------------|--|---------|
|            |   |         |                     |                        |        |                         |  |         | Csomagolási<br>utasítások | Különleges<br>csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2  | 3.3                     | 3.4.6                                      | 3.5.1.2 | 4.1.4                     | 4.1.4                                  | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                | (4)                    | (5)    | (6)                     | (7a)                                       | (7b)    | (8)                       | (9a)                                   | (9b)                               | (10)   | (11)    |
| 0400       | BOMBÁK GYÚLÉKONY FOLYADÉK<br>TARTALOMMAL, robbanótöltettel                    | 1       | 1.2J                |                        | 1      |                         | LQ0  | E0      | P101                      |  | MP23                               |  |         |
| 0401       | DIPIKRIL-SZULFID, száraz vagy<br>10 tömeg%-nál kevesebb vízzel<br>nedvesített | 1       | 1.1D                |                        | 1      |                         | LQ0  | E0      | P112a<br>P112b<br>P112c   |  | MP20                               |  |         |
| 0402       | AMMÓNIUM-PERKLORÁT  | 1       | 1.1D                |                        | 1      | 152                     | LQ0  | E0      | P112b<br>P112c            |  | MP20                               |  |         |
| 0403       | LÉGI VILÁGÍTÓTESTEK   | 1       | 1.4G                |                        | 1.4    |                         | LQ0  | E0      | P135                      |  | MP23                               |  |         |
| 0404       | LÉGI VILÁGÍTÓTESTEK   | 1       | 1.4S                |                        | 1.4    |                         | LQ0  | E0      | P135                      |  | MP23                               |  |         |
| 0405       | JELZÓPATRONOK   | 1       | 1.4S                |                        | 1.4    |                         | LQ0  | E0      | P135                      |  | MP23<br>MP24                       |  |         |
| 0406       | DINITROZO-BENZOL  | 1       | 1.3C                |                        | 1      |                         | LQ0  | E0      | P114b                     |  | MP20                               |  |         |
| 0407       | TETRAZOL-1-ECETSAV  | 1       | 1.4C                |                        | 1.4    |                         | LQ0  | E0      | P114b                     |  | MP20                               |  |         |
| 0408       | ROBBANÓGYÚJTÓK biztonsági<br>szerkezettel                                     | 1       | 1.1D                |                        | 1      |                         | LQ0  | E0      | P141                      |  | MP21                               |  |         |
| 0409       | ROBBANÓGYÚJTÓK biztonsági<br>szerkezettel                                     | 1       | 1.2D                |                        | 1      |                         | LQ0  | E0      | P141                      |  | MP21                               |  |         |
| 0410       | ROBBANÓGYÚJTÓK biztonsági<br>szerkezettel                                     | 1       | 1.4D                |                        | 1.4    |                         | LQ0  | E0      | P141                      |  | MP21                               |  |         |
| 0411       | PENTAERITRIT-TETRANITRÁT<br>(PETN) legalább 7 tömeg% viasszal                 | 1       | 1.1D                |                        | 1      | 131                     | LQ0  | E0      | P112b<br>P112c            |  | MP20                               |  |         |
| 0412       | TÖLTÉNYEK FEGYVEREKHEZ<br>robbanólövedékkel                                   | 1       | 1.4E                |                        | 1.4    |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                             | MP21                               |  |         |
| 0413       | VAKTÖLTÉNYEK FEGYVEREKHEZ   | 1       | 1.2C                |                        | 1      |                         | LQ0  | E0      | P130                      |  | MP22                               |  |         |
| 0414       | KIDOBÓTÖLTETEK LÖVEGEKHEZ   | 1       | 1.2C                |                        | 1      |                         | LQ0  | E0      | P130                      |  | MP22                               |  |         |
| 0415       | HAJTÓTÖLTETEK   | 1       | 1.2C                |                        | 1      |                         | LQ0  | E0      | P143                      | PP76                                   | MP22                               |  |         |
| 0417       | TÖLTÉNYEK FEGYVEREKHEZ<br>INERT LÖVEDÉKKEL vagy<br>KÉZIFEGYVER TÖLTÉNYEK      | 1       | 1.3C                |                        | 1      |                         | LQ0  | E0      | P130                      |  | MP22                               |  |         |
| 0418       | FÖLDI VILÁGÍTÓTESTEK  | 1       | 1.1G                |                        | 1      |                         | LQ0  | E0      | P135                      |  | MP23                               |  |         |
| 0419       | FÖLDI VILÁGÍTÓTESTEK  | 1       | 1.2G                |                        | 1      |                         | LQ0  | E0      | P135                      |  | MP23                               |  |         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0400    | BOMBÁK GYÚLÉKONY FOLYADÉK TARTALOMMAL, robbanótöltettel                 |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0401    | DIPIKRIL-SZULFID, száraz vagy 10 tömeg%-nál kevesebb vízzel nedvesített |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0402    | AMMÓNIUM-PERKLORÁT  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0403    | LÉGI VILÁGÍTÓTESTEK   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0404    | LÉGI VILÁGÍTÓTESTEK   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0405    | JELZÓPATRONOK   |
|             |                      |                                | 1<br>(C5000D)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0406    | DINITROZO-BENZOL  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0407    | TETRAZOL-1-ECETSAV  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0408    | ROBBANÓGYÚJTÓK biztonsági szerkezettel                                  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0409    | ROBBANÓGYÚJTÓK biztonsági szerkezettel                                  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0410    | ROBBANÓGYÚJTÓK biztonsági szerkezettel                                  |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0411    | PENTAERITRIT-TETRANITRÁT (PETN) legalább 7 tömeg% viasszal              |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0412    | TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékkel                                |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0413    | VAKTÖLTÉNYEK FEGYVEREKHEZ   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0414    | KIDOBÓTÖLTETEK LÖVEGEKHEZ   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0415    | HAJTÓTÖLTETEK   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0417    | TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL vagy KÉZIFEGYVER TÖLTÉNYEK      |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0418    | FÖLDI VILÁGÍTÓTESTEK  |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0419    | FÖLDI VILÁGÍTÓTESTEK  |

| UN<br>szám |   | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák | Különleges<br>előírások | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz           |  |                                    | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|---------------------|------------------------|--------|-------------------------|--|---------|---------------------------|--|------------------------------------|--|-------------------------|
|            |   |         |                     |                        |        |                         |  |         | Csomagolási<br>utasítások | Különleges<br>csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2  | 3.3                     | 3.4.6                                      | 3.5.1.2 | 4.1.4                     | 4.1.4                                  | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                | (4)                    | (5)    | (6)                     | (7a)                                       | (7b)    | (8)                       | (9a)                                   | (9b)                               | (10)   | (11)                    |
| 0420       | LÉGI VILÁGÍTÓTESTEK   | 1       | 1.1G                |                        | 1      |                         | LQ0  | E0      | P135                      |  | MP23                               |  |                         |
| 0421       | LÉGI VILÁGÍTÓTESTEK   | 1       | 1.2G                |                        | 1      |                         | LQ0  | E0      | P135                      |  | MP23                               |  |                         |
| 0424       | LÖVEDÉKEK (inertek,<br>nyomjelzőszerrel)                                    | 1       | 1.3G                |                        | 1      |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                             | MP23                               |  |                         |
| 0425       | LÖVEDÉKEK (inertek,<br>nyomjelzőszerrel)                                    | 1       | 1.4G                |                        | 1.4    |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                             | MP23                               |  |                         |
| 0426       | LÖVEDÉKEK robbanó- vagy<br>kidobótöltettel                                  | 1       | 1.2F                |                        | 1      |                         | LQ0  | E0      | P130                      |  | MP23                               |  |                         |
| 0427       | LÖVEDÉKEK robbanó- vagy<br>kidobótöltettel                                  | 1       | 1.4F                |                        | 1.4    |                         | LQ0  | E0      | P130                      |  | MP23                               |  |                         |
| 0428       | PIROTECHNIKAI TÁRGYAK<br>műszaki célokra                                    | 1       | 1.1G                |                        | 1      |                         | LQ0  | E0      | P135                      |  | MP23<br>MP24                       |  |                         |
| 0429       | PIROTECHNIKAI TÁRGYAK<br>műszaki célokra                                    | 1       | 1.2G                |                        | 1      |                         | LQ0  | E0      | P135                      |  | MP23<br>MP24                       |  |                         |
| 0430       | PIROTECHNIKAI TÁRGYAK<br>műszaki célokra                                    | 1       | 1.3G                |                        | 1      |                         | LQ0  | E0      | P135                      |  | MP23<br>MP24                       |  |                         |
| 0431       | PIROTECHNIKAI TÁRGYAK<br>műszaki célokra                                    | 1       | 1.4G                |                        | 1.4    |                         | LQ0  | E0      | P135                      |  | MP23<br>MP24                       |  |                         |
| 0432       | PIROTECHNIKAI TÁRGYAK<br>műszaki célokra                                    | 1       | 1.4S                |                        | 1.4    |                         | LQ0  | E0      | P135                      |  | MP23<br>MP24                       |  |                         |
| 0433       | LŐPORBRIKETT (LŐPORPASZTA),<br>legalább 17 tömeg% alkohollal<br>NEDVESÍTETT | 1       | 1.1C                |                        | 1      | 266                     | LQ0  | E0      | P111                      |  | MP20                               |  |                         |
| 0434       | LÖVEDÉKEK robbanó- vagy<br>kidobótöltettel                                  | 1       | 1.2G                |                        | 1      |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                             | MP23                               |  |                         |
| 0435       | LÖVEDÉKEK robbanó- vagy<br>kidobótöltettel                                  | 1       | 1.4G                |                        | 1.4    |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                             | MP23                               |  |                         |
| 0436       | RAKÉTÁK kidobótöltettel   | 1       | 1.2C                |                        | 1      |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                             | MP22                               |  |                         |
| 0437       | RAKÉTÁK kidobótöltettel   | 1       | 1.3C                |                        | 1      |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                             | MP22                               |  |                         |
| 0438       | RAKÉTÁK kidobótöltettel   | 1       | 1.4C                |                        | 1.4    |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                             | MP22                               |  |                         |
| 0439       | FORMÁZOTT TÖLTETEK<br>detonátor nélkül                                      | 1       | 1.2D                |                        | 1      |                         | LQ0  | E0      | P137                      | PP70                                   | MP21                               |  |                         |
| 0440       | FORMÁZOTT TÖLTETEK<br>detonátor nélkül                                      | 1       | 1.4D                |                        | 1.4    |                         | LQ0  | E0      | P137                      | PP70                                   | MP21                               |  |                         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0420    | LÉGI VILÁGÍTÓTESTEK   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0421    | LÉGI VILÁGÍTÓTESTEK   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0424    | LÖVEDÉKEK (inertek, nyomjelzőszerrel)                                 |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0425    | LÖVEDÉKEK (inertek, nyomjelzőszerrel)                                 |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0426    | LÖVEDÉKEK robbanó- vagy kidobótöltettel                               |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0427    | LÖVEDÉKEK robbanó- vagy kidobótöltettel                               |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0428    | PIROTECHNIKAI TÁRGYAK műszaki célokra                                 |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0429    | PIROTECHNIKAI TÁRGYAK műszaki célokra                                 |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0430    | PIROTECHNIKAI TÁRGYAK műszaki célokra                                 |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0431    | PIROTECHNIKAI TÁRGYAK műszaki célokra                                 |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0432    | PIROTECHNIKAI TÁRGYAK műszaki célokra                                 |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0433    | LŐPORBRIKETT (LŐPORPASZTA), legalább 17 tömeg% alkohollal NEDVESÍTETT |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0434    | LÖVEDÉKEK robbanó- vagy kidobótöltettel                               |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0435    | LÖVEDÉKEK robbanó- vagy kidobótöltettel                               |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0436    | RAKÉTÁK kidobótöltettel   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0437    | RAKÉTÁK kidobótöltettel   |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0438    | RAKÉTÁK kidobótöltettel   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0439    | FORMÁZOTT TÖLTETEK detonátor nélkül                                   |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0440    | FORMÁZOTT TÖLTETEK detonátor nélkül                                   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |  | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|--|--|-------------------------|
|            |   |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csmago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                 | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                   | (10)   | (11)                    |
| 0441       | FORMÁZOTT TÖLTETEK<br>detonátor nélkül                                | 1       | 1.4S                     |                             | 1.4    |                                   | LQ0  | E0      | P137                           | PP70  | MP23                                   |  |                         |
| 0442       | IPARI ROBBANÓTÖLTETEK<br>detonátor nélkül                             | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P137                           |   | MP21                                   |  |                         |
| 0443       | IPARI ROBBANÓTÖLTETEK<br>detonátor nélkül                             | 1       | 1.2D                     |                             | 1      |                                   | LQ0  | E0      | P137                           |   | MP21                                   |  |                         |
| 0444       | IPARI ROBBANÓTÖLTETEK<br>detonátor nélkül                             | 1       | 1.4D                     |                             | 1.4    |                                   | LQ0  | E0      | P137                           |   | MP21                                   |  |                         |
| 0445       | IPARI ROBBANÓTÖLTETEK<br>detonátor nélkül                             | 1       | 1.4S                     |                             | 1.4    |                                   | LQ0  | E0      | P137                           |   | MP23                                   |  |                         |
| 0446       | ÜRES TÖLTÉNYHÜVELYEK,<br>ÉGHETŐK, GYUTACS NÉLKÜL                      | 1       | 1.4C                     |                             | 1.4    |                                   | LQ0  | E0      | P136                           |   | MP22                                   |  |                         |
| 0447       | ÜRES TÖLTÉNYHÜVELYEK,<br>ÉGHETŐK, GYUTACS NÉLKÜL                      | 1       | 1.3C                     |                             | 1      |                                   | LQ0  | E0      | P136                           |   | MP22                                   |  |                         |
| 0448       | 5-MERKAPTO-TETRAZOL-1-<br>ECETSAV                                     | 1       | 1.4C                     |                             | 1.4    |                                   | LQ0  | E0      | P114b                          |   | MP20                                   |  |                         |
| 0449       | TORPEDÓK FOLYÉKONY<br>HAJTÓANYAGGAL, robbanótöltettel<br>vagy anélkül | 1       | 1.1J                     |                             | 1      |                                   | LQ0  | E0      | P101                           |   | MP23                                   |  |                         |
| 0450       | TORPEDÓK FOLYÉKONY<br>HAJTÓANYAGGAL, inert fejjel                     | 1       | 1.3J                     |                             | 1      |                                   | LQ0  | E0      | P101                           |   | MP23                                   |  |                         |
| 0451       | TORPEDÓK robbanótöltettel   | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P130<br>LP101                  | PP67<br>L1                                    | MP21                                   |  |                         |
| 0452       | GYAKORLÓGRÁNÁTOK (kézi- vagy<br>fegyvergránátok)                      | 1       | 1.4G                     |                             | 1.4    |                                   | LQ0  | E0      | P141                           |   | MP23                                   |  |                         |
| 0453       | KÖTÉLVETŐ RAKÉTÁK   | 1       | 1.4G                     |                             | 1.4    |                                   | LQ0  | E0      | P130                           |   | MP23                                   |  |                         |
| 0454       | GYÚJTÓK   | 1       | 1.4S                     |                             | 1.4    |                                   | LQ0  | E0      | P142                           |   | MP23                                   |  |                         |
| 0455       | NEMVILLAMOS GYUTACSOK<br>robbantáshoz                                 | 1       | 1.4S                     |                             | 1.4    |                                   | LQ0  | E0      | P131                           | PP68  | MP23                                   |  |                         |
| 0456       | VILLAMOS GYUTACSOK<br>robbantáshoz                                    | 1       | 1.4S                     |                             | 1.4    |                                   | LQ0  | E0      | P131                           |   | MP23                                   |  |                         |
| 0457       | MŰANYAG KÖTÉSŰ<br>ROBBANÓTÖLTETEK                                     | 1       | 1.1D                     |                             | 1      |                                   | LQ0  | E0      | P130                           |   | MP21                                   |  |                         |
| 0458       | MŰANYAG KÖTÉSŰ<br>ROBBANÓTÖLTETEK                                     | 1       | 1.2D                     |                             | 1      |                                   | LQ0  | E0      | P130                           |   | MP21                                   |  |                         |
| 0459       | MŰANYAG KÖTÉSŰ<br>ROBBANÓTÖLTETEK                                     | 1       | 1.4D                     |                             | 1.4    |                                   | LQ0  | E0      | P130                           |   | MP21                                   |  |                         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0441    | FORMÁZOTT TÖLTETEK<br>detonátor nélkül                                |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0442    | IPARI ROBBANÓTÖLTETEK<br>detonátor nélkül                             |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0443    | IPARI ROBBANÓTÖLTETEK<br>detonátor nélkül                             |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0444    | IPARI ROBBANÓTÖLTETEK<br>detonátor nélkül                             |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0445    | IPARI ROBBANÓTÖLTETEK<br>detonátor nélkül                             |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0446    | ÜRES TÖLTÉNYHÜVELYEK,<br>ÉGHETŐK, GYUTACS NÉLKÜL                      |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0447    | ÜRES TÖLTÉNYHÜVELYEK,<br>ÉGHETŐK, GYUTACS NÉLKÜL                      |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0448    | 5-MERKAPTO-TETRAZOL-1-<br>ECETSAV                                     |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0449    | TORPEDÓK FOLYÉKONY<br>HAJTÓANYAGGAL, robbanótöltettel<br>vagy anélkül |
|             |                      |                                | 1<br>(C)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0450    | TORPEDÓK FOLYÉKONY<br>HAJTÓANYAGGAL, inert fejjel                     |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0451    | TORPEDÓK robbanótöltettel   |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0452    | GYAKORLÓGRÁNÁTOK (kézi- vagy<br>fegyvergránátok)                      |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0453    | KÖTÉLVETŐ RAKÉTÁK   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0454    | GYÚJTÓK   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0455    | NEMVILLAMOS GYUTACSONK<br>robbantáshoz                                |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0456    | VILLAMOS GYUTACSONK<br>robbantáshoz                                   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0457    | MŰANYAG KÖTÉSŰ<br>ROBBANÓTÖLTETEK                                     |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0458    | MŰANYAG KÖTÉSŰ<br>ROBBANÓTÖLTETEK                                     |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0459    | MŰANYAG KÖTÉSŰ<br>ROBBANÓTÖLTETEK                                     |

| UN<br>szám |                                     | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|-------------------------------------|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |                                     |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2                               | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)                                 | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 0460       | MŰANYAG KÖTÉSŰ<br>ROBBANÓTÖLTETEK   | 1       | 1.4S                     |                             | 1.4    |                                   | LQ0  | E0      | P130                           |   | MP23                                    |  |                         |
| 0461       | ROBBANÓLÁNC ALKOTÓRÉSZEI,<br>M.N.N. | 1       | 1.1B                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0462       | ROBBANÓTÁRGYAK, M.N.N.              | 1       | 1.1C                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0463       | ROBBANÓTÁRGYAK, M.N.N.              | 1       | 1.1D                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0464       | ROBBANÓTÁRGYAK, M.N.N.              | 1       | 1.1E                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0465       | ROBBANÓTÁRGYAK, M.N.N.              | 1       | 1.1F                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0466       | ROBBANÓTÁRGYAK, M.N.N.              | 1       | 1.2C                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0467       | ROBBANÓTÁRGYAK, M.N.N.              | 1       | 1.2D                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0468       | ROBBANÓTÁRGYAK, M.N.N.              | 1       | 1.2E                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0469       | ROBBANÓTÁRGYAK, M.N.N.              | 1       | 1.2F                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0470       | ROBBANÓTÁRGYAK, M.N.N.              | 1       | 1.3C                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0471       | ROBBANÓTÁRGYAK, M.N.N.              | 1       | 1.4E                     |                             | 1.4    | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0472       | ROBBANÓTÁRGYAK, M.N.N.              | 1       | 1.4F                     |                             | 1.4    | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0473       | ROBBANÓANYAGOK, M.N.N.              | 1       | 1.1A                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0474       | ROBBANÓANYAGOK, M.N.N.              | 1       | 1.1C                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0475       | ROBBANÓANYAGOK, M.N.N.              | 1       | 1.1D                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0476       | ROBBANÓANYAGOK, M.N.N.              | 1       | 1.1G                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0477       | ROBBANÓANYAGOK, M.N.N.              | 1       | 1.3C                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |
| 0478       | ROBBANÓANYAGOK, M.N.N.              | 1       | 1.3G                     |                             | 1      | 178<br>274                        | LQ0  | E0      | P101                           |   | MP2                                     |  |                         |



| ADR-tartály |                              | Jármű a<br>tartályos<br>szállítás-<br>hoz | Szállítási<br>kategória<br>1.1.3.6<br>(Alagútkorlá-<br>tozási kód) | Szállítás  |   |   |   | Veszélyt<br>jelölő<br>számok | UN szám | Megnevezés és leírás                |
|-------------|------------------------------|---|--|--|---|---|---|------------------------------|---------|-------------------------------------|
| Tartálykód  | Külön-<br>leges<br>előírások |   |  | Különleges<br>előírások a<br>küldemény-<br>darabokra | Különleges<br>előírások az<br>ömlesztett<br>szállításra | Különleges<br>előírások az<br>árukezelésre,<br>be- és kirakásra | Különleges<br>előírások a<br>jármű üze-<br>meltetésre |                              |         |                                     |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                                   | (8.6)  | 7.2.4  | 7.3.3   | 7.5.11  | 8.5   | 5.3.2.3                      |         | 3.1.2                               |
| (12)        | (13)                         | (14)                                      | (15)   | (16)   | (17)  | (18)  | (19)  | (20)                         | (1)     | (2)                                 |
|             |                              |   | 4<br>(E)   |  |   | CV1<br>CV2<br>CV3   | S1  |                              | 0460    | MŰANYAG KÖTÉSŰ<br>ROBBANÓTÖLTETEK   |
|             |                              |   | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0461    | ROBBANÓLÁNC ALKOTÓRÉSZEI,<br>M.N.N. |
|             |                              |   | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0462    | ROBBANÓTÁRGYAK, M.N.N.              |
|             |                              |   | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0463    | ROBBANÓTÁRGYAK, M.N.N.              |
|             |                              |   | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0464    | ROBBANÓTÁRGYAK, M.N.N.              |
|             |                              |   | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0465    | ROBBANÓTÁRGYAK, M.N.N.              |
|             |                              |   | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0466    | ROBBANÓTÁRGYAK, M.N.N.              |
|             |                              |   | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0467    | ROBBANÓTÁRGYAK, M.N.N.              |
|             |                              |   | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0468    | ROBBANÓTÁRGYAK, M.N.N.              |
|             |                              |   | 1<br>(B1000C)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0469    | ROBBANÓTÁRGYAK, M.N.N.              |
|             |                              |   | 1<br>(C5000D)  | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0470    | ROBBANÓTÁRGYAK, M.N.N.              |
|             |                              |   | 2<br>(E)   | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0471    | ROBBANÓTÁRGYAK, M.N.N.              |
|             |                              |   | 2<br>(E)   | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0472    | ROBBANÓTÁRGYAK, M.N.N.              |
|             |                              |   | 0<br>(B)   | V2   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0473    | ROBBANÓANYAGOK, M.N.N.              |
|             |                              |   | 1<br>(B1000C)  | V2<br>V3   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0474    | ROBBANÓANYAGOK, M.N.N.              |
|             |                              |   | 1<br>(B1000C)  | V2<br>V3   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0475    | ROBBANÓANYAGOK, M.N.N.              |
|             |                              |   | 1<br>(B1000C)  | V2<br>V3   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0476    | ROBBANÓANYAGOK, M.N.N.              |
|             |                              |   | 1<br>(C5000D)  | V2<br>V3   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0477    | ROBBANÓANYAGOK, M.N.N.              |
|             |                              |   | 1<br>(C5000D)  | V2<br>V3   |   | CV1<br>CV2<br>CV3   | S1  |                              | 0478    | ROBBANÓANYAGOK, M.N.N.              |

| UN<br>szám |  | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák | Különleges<br>előírások | Korlátozott és<br>engedélyezett<br>mennyiség |         | Csomagolóeszköz           |  |                                    | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|---------------------|------------------------|--------|-------------------------|--|---------|---------------------------|--|------------------------------------|--|---------|
|            |  |         |                     |                        |        |                         |  |         | Csomagolási<br>utasítások | Különleges<br>csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2  | 3.3                     | 3.4.6  | 3.5.1.2 | 4.1.4                     | 4.1.4                                  | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                | (4)                    | (5)    | (6)                     | (7a)   | (7b)    | (8)                       | (9a)                                   | (9b)                               | (10)   | (11)    |
| 0479       | ROBBANÓANYAGOK, M.N.N.   | 1       | 1.4C                |                        | 1.4    | 178<br>274              | LQ0  | E0      | P101                      |  | MP2                                |  |         |
| 0480       | ROBBANÓANYAGOK, M.N.N.   | 1       | 1.4D                |                        | 1.4    | 178<br>274              | LQ0  | E0      | P101                      |  | MP2                                |  |         |
| 0481       | ROBBANÓANYAGOK, M.N.N.   | 1       | 1.4S                |                        | 1.4    | 178<br>274              | LQ0  | E0      | P101                      |  | MP2                                |  |         |
| 0482       | NAGYON ÉRZÉKETLEN<br>ROBBANÓANYAGOK (EVI<br>ANYAGOK), M.N.N.                 | 1       | 1.5D                |                        | 1.5    | 178<br>274              | LQ0  | E0      | P101                      |  | MP2                                |  |         |
| 0483       | CIKLOTRIMETILÉN-TRINITRAMIN<br>(CIKLONIT, HEXOGÉN, RDX),<br>DESZENZIBILIZÁLT | 1       | 1.1D                |                        | 1      |                         | LQ0  | E0      | P112b<br>P112c            |  | MP20                               |  |         |
| 0484       | CIKLOTETRAMETILÉN-<br>TETRANITRAMIN (OKTOGÉN,<br>HMX), DESZENZIBILIZÁLT      | 1       | 1.1D                |                        | 1      |                         | LQ0  | E0      | P112b<br>P112c            |  | MP20                               |  |         |
| 0485       | ROBBANÓANYAGOK, M.N.N.   | 1       | 1.4G                |                        | 1.4    | 178<br>274              | LQ0  | E0      | P101                      |  | MP2                                |  |         |
| 0486       | RENDKÍVÜL ÉRZÉKETLEN<br>ROBBANÓTÁRGYAK (EEI<br>TÁRGYAK)                      | 1       | 1.6N                |                        | 1.6    |                         | LQ0  | E0      | P101                      |  | MP23                               |  |         |
| 0487       | FÜSTJELZŐK   | 1       | 1.3G                |                        | 1      |                         | LQ0  | E0      | P135                      |  | MP23                               |  |         |
| 0488       | GYAKORLÓLŐSZER   | 1       | 1.3G                |                        | 1      |                         | LQ0  | E0      | P130<br>LP101             | PP67<br>L1                             | MP23                               |  |         |
| 0489       | DINITRO-GLIKOLURIL (DINGU)   | 1       | 1.1D                |                        | 1      |                         | LQ0  | E0      | P112b<br>P112c            |  | MP20                               |  |         |
| 0490       | NITRO-TRIAZOLON (NTO)  | 1       | 1.1D                |                        | 1      |                         | LQ0  | E0      | P112b<br>P112c            |  | MP20                               |  |         |
| 0491       | HAJTÓTÖLTETEK  | 1       | 1.4C                |                        | 1.4    |                         | LQ0  | E0      | P143                      | PP76                                   | MP22                               |  |         |
| 0492       | VASÚTI DURRANTYŰK  | 1       | 1.3G                |                        | 1      |                         | LQ0  | E0      | P135                      |  | MP23                               |  |         |
| 0493       | VASÚTI DURRANTYŰK  | 1       | 1.4G                |                        | 1.4    |                         | LQ0  | E0      | P135                      |  | MP23                               |  |         |
| 0494       | PERFORÁTOR PUSKÁK,<br>TÖLTETTEL, detonátor nélkül,<br>olajkutak fúráshoz     | 1       | 1.4D                |                        | 1.4    |                         | LQ0  | E0      | P101                      |  | MP21                               |  |         |
| 0495       | FOLYÉKONY HAJTÓANYAG   | 1       | 1.3C                |                        | 1      | 224                     | LQ0  | E0      | P115                      | PP53<br>PP54<br>PP57                   | MP20                               |  |         |
| 0496       | OKTONAL  | 1       | 1.1D                |                        | 1      |                         | LQ0  | E0      | P112b<br>P112c            |  | MP20                               |  |         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0479    | ROBBANÓANYAGOK, M.N.N.   |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0480    | ROBBANÓANYAGOK, M.N.N.   |
|             |                      |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0481    | ROBBANÓANYAGOK, M.N.N.   |
|             |                      |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0482    | NAGYON ÉRZÉKETLEN<br>ROBBANÓANYAGOK (EVI<br>ANYAGOK), M.N.N.                 |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0483    | CIKLOTRIMETILÉN-TRINITRAMIN<br>(CIKLONIT, HEXOGÉN, RDX),<br>DESZENZIBILIZÁLT |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0484    | CIKLOTETRAMETILÉN-<br>TETRANITRAMIN (OKTOGÉN,<br>HMX), DESZENZIBILIZÁLT      |
|             |                      |                                | 2<br>(E)   | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0485    | ROBBANÓANYAGOK, M.N.N.   |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0486    | RENDKÍVÜL ÉRZÉKETLEN<br>ROBBANÓTÁRGYAK (EEI<br>TÁRGYAK)                      |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0487    | FÜSTJELZŐK   |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0488    | GYAKORLÓLŐSZER   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0489    | DINITRO-GLIKOLURIL (DINGU)   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0490    | NITRO-TRIAZOLON (NTO)  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0491    | HAJTÓTÖLTETEK  |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0492    | VASÚTI DÜRRANTYÚK  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0493    | VASÚTI DÜRRANTYÚK  |
|             |                      |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0494    | PERFORÁTOR PUSKÁK,<br>TÖLTETTEL, detonátor nélkül,<br>olajkutak fúráshoz     |
|             |                      |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0495    | FOLYÉKONY HAJTÓANYAG   |
|             |                      |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0496    | OKTONAL  |

| UN<br>szám |   | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák       | Különleges<br>előírások | Korlátozott és<br>engedélyezett mennyiség |         | Csomagolóeszköz           |                                     |                                    | Mobil tartály és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|---------------------|------------------------|--------------|-------------------------|---|---------|---------------------------|-------------------------------------|------------------------------------|--|-------------------------|
|            |   |         |                     |                        |              |                         |   |         | Csomagolási<br>utasítások | Különleges csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2        | 3.3                     | 3.4.6                                     | 3.5.1.2 | 4.1.4                     | 4.1.4                               | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                | (4)                    | (5)          | (6)                     | (7a)                                      | (7b)    | (8)                       | (9a)                                | (9b)                               | (10)   | (11)                    |
| 0497       | FOLYÉKONY HAJTÓANYAG  | 1       | 1.1C                |                        | 1            | 224                     | LQ0                                       | E0      | P115                      | PP53<br>PP54<br>PP57<br>PP58        | MP20                               |  |                         |
| 0498       | SZILÁRD HAJTÓANYAG  | 1       | 1.1C                |                        | 1            |                         | LQ0                                       | E0      | P114b                     |                                     | MP20                               |  |                         |
| 0499       | SZILÁRD HAJTÓANYAG  | 1       | 1.3C                |                        | 1            |                         | LQ0                                       | E0      | P114b                     |                                     | MP20                               |  |                         |
| 0500       | NEMVILLAMOS DETONÁTOR-<br>SZERKEZETEK robbantáshoz  | 1       | 1.4S                |                        | 1.4          |                         | LQ0                                       | E0      | P131                      |                                     | MP23                               |  |                         |
| 0501       | SZILÁRD HAJTÓANYAG  | 1       | 1.4C                |                        | 1.4          |                         | LQ0                                       | E0      | P114b                     |                                     | MP20                               |  |                         |
| 0502       | RAKÉTÁK inert fejjel  | 1       | 1.2C                |                        | 1            |                         | LQ0                                       | E0      | P130<br>LP101             | PP67<br>L1                          | MP22                               |  |                         |
| 0503       | LÉGZSÁK GÁZGENERÁTOR vagy<br>LÉGZSÁK MODUL vagy<br>BIZTONSÁGI ÖV ELŐFESZÍTŐ                       | 1       | 1.4G                |                        | 1.4          | 235<br>289              | LQ0                                       | E0      | P135                      |                                     | MP23                               |  |                         |
| 0504       | IH-TETRAZOL   | 1       | 1.1D                |                        | 1            |                         | LQ0                                       | E0      | P112c                     | PP48                                | MP20                               |  |                         |
| 0505       | VÉSZJELZŐK, tengeri   | 1       | 1.4G                |                        | 1.4          |                         | LQ0                                       | E0      | P135                      |                                     | MP23<br>MP24                       |  |                         |
| 0506       | VÉSZJELZŐK, tengeri   | 1       | 1.4S                |                        | 1.4          |                         | LQ0                                       | E0      | P135                      |                                     | MP23<br>MP24                       |  |                         |
| 0507       | FÜSTJELZŐK  | 1       | 1.4S                |                        | 1.4          |                         | LQ0                                       | E0      | P135                      |                                     | MP23<br>MP24                       |  |                         |
| 0508       | 1-HIDROXIBENZOTRIAZOL,<br>VÍZMENTES, száraz vagy<br>20 tömeg%- nál kevesebb vízzel<br>nedvesített | 1       | 1.3C                |                        | 1            |                         | LQ0                                       | E0      | P114b                     | PP48<br>PP50                        | MP20                               |  |                         |
| 1001       | ACETILÉN, OLDOTT  | 2       | 4F                  |                        | 2.1          |                         | LQ0                                       | E0      | P200                      |                                     | MP9                                |  |                         |
| 1002       | LEVEGŐ, SŰRÍTETT  | 2       | 1A                  |                        | 2.2          | 292                     | LQ1                                       | E1      | P200                      |                                     | MP9                                | (M)  |                         |
| 1003       | LEVEGŐ, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT   | 2       | 3O                  |                        | 2.2 +<br>5.1 |                         | LQ0                                       | E0      | P203                      |                                     | MP9                                | T75  | TP5<br>TP22             |
| 1005       | AMMÓNIA, VÍZMENTES  | 2       | 2TC                 |                        | 2.3 + 8      | 23                      | LQ0                                       | E0      | P200                      |                                     | MP9                                | T50<br>(M)                                     |                         |
| 1006       | ARGON, SŰRÍTETT   | 2       | 1A                  |                        | 2.2          |                         | LQ1                                       | E1      | P200                      |                                     | MP9                                | (M)  |                         |
| 1008       | BÓR-TRIFLUORID  | 2       | 2TC                 |                        | 2.3 + 8      |                         | LQ0                                       | E0      | P200                      |                                     | MP9                                | (M)  |                         |

| ADR-tartály |                           | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|---------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások      |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4              | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                      | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |                           |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0497    | FOLYÉKONY HAJTÓANYAG   |
|             |                           |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0498    | SZILÁRD HAJTÓANYAG   |
|             |                           |                                | 1<br>(C5000D)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0499    | SZILÁRD HAJTÓANYAG   |
|             |                           |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0500    | NEMVILLAMOS DETONÁTOR-SZERKEZETEK robbantáshoz   |
|             |                           |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0501    | SZILÁRD HAJTÓANYAG   |
|             |                           |                                | 1<br>(B1000C)  | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0502    | RAKÉTÁK inert fejjel   |
|             |                           |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0503    | LÉGZSÁK GÁZGENERÁTOR vagy LÉGZSÁK MODUL vagy BIZTONSÁGI ÖV ELŐFESZÍTŐ                    |
|             |                           |                                | 1<br>(B1000C)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0504    | 1H-TETRAZOL  |
|             |                           |                                | 2<br>(E)   | V2  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0505    | VÉSZJELZŐK, tengeri  |
|             |                           |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0506    | VÉSZJELZŐK, tengeri  |
|             |                           |                                | 4<br>(E)   |   |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0507    | FÜSTJELZŐK   |
|             |                           |                                | 1<br>(C5000D)  | V2<br>V3                                  |  | CV1<br>CV2<br>CV3                                      | S1   |                        | 0508    | 1-HIDROXIBENZOTRIAZOL, VÍZMENTES, száraz vagy 20 tömeg%- nál kevesebb vízzel nedvesített |
| P*BN(M)     | TU17<br>TA4<br>TT9        | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2   | 239                    | 1001    | ACETILÉN, OLDOTT   |
| C*BN(M)     | TA4<br>TT9                | AT                             | 3<br>(E)   |   |  | CV9<br>CV10  |  | 20                     | 1002    | LEVEGŐ, SŰRÍTETT   |
| R*BN        | TU7<br>TU19<br>TA4<br>TT9 | AT                             | 3<br>(C/E)   | V5  |  | CV9<br>CV11<br>CV36                                    | S20  | 225                    | 1003    | LEVEGŐ, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT   |
| P*BH(M)     | TA4<br>TT8<br>TT9         | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                    | 1005    | AMMÓNIA, VÍZMENTES   |
| C*BN(M)     | TA4<br>TT9                | AT                             | 3<br>(E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1006    | ARGON, SŰRÍTETT  |
| P*BH(M)     | TA4<br>TT9                | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                    | 1008    | BÓR-TRIFLUORID   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák           | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|------------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |                  |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2            | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)              | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1009       | BRÓM-TRIFLUOR-METÁN<br>(R 13B1 HÜTŐGÁZ)   | 2       | 2A                       |                             | 2.2              |                                   | LQ1  | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1010       | BUTADIÉNEK, STABILIZÁLT vagy<br>BUTADIÉNEK ÉS SZÉNHIDROGÉN<br>KEVERÉKE, STABILIZÁLT, amelynek<br>gőznyomása 70 °C-on nem haladja meg<br>az 1,1 MPa-t (11 bar-t) és sűrűsége<br>50 °C-on legalább 0,525 kg/l | 2       | 2F                       |                             | 2.1              | 618                               | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1011       | BUTÁN   | 2       | 2F                       |                             | 2.1              | 652                               | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1012       | BUTÉN KEVERÉK vagy 1-BUTÉN<br>vagy cisz-2-BUTÉN vagy transz-2-<br>BUTÉN   | 2       | 2F                       |                             | 2.1              |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1013       | SZÉN-DIOXID   | 2       | 2A                       |                             | 2.2              | 584<br>653                        | LQ1  | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1016       | SZÉN-MONOXID, SŰRÍTETT  | 2       | 1TF                      |                             | 2.3 +<br>2.1     |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1017       | KLÓR  | 2       | 2TOC                     |                             | 2.3 +<br>5.1 + 8 |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     | TP19                    |
| 1018       | KLÓR-DIFLUOR-METÁN<br>(R 22 HÜTŐGÁZ)  | 2       | 2A                       |                             | 2.2              |                                   | LQ1  | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1020       | KLÓR-PENTAFLUOR-ETÁN<br>(R 115 HÜTŐGÁZ)   | 2       | 2A                       |                             | 2.2              |                                   | LQ1  | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1021       | 1-KLÓR-1,2,2,2-TETRAFLUOR-ETÁN<br>(R 124 HÜTŐGÁZ)   | 2       | 2A                       |                             | 2.2              |                                   | LQ1  | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1022       | KLÓR-TRIFLUOR-METÁN<br>(R 13 HÜTŐGÁZ)   | 2       | 2A                       |                             | 2.2              |                                   | LQ1  | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1023       | VÁROSI GÁZ, SŰRÍTETT  | 2       | 1TF                      |                             | 2.3 +<br>2.1     |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1026       | DICIÁN  | 2       | 2TF                      |                             | 2.3 +<br>2.1     |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1027       | CIKLOPROPÁN   | 2       | 2F                       |                             | 2.1              |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1028       | DIKLÓR-DIFLUOR-METÁN<br>(R 12 HÜTŐGÁZ)  | 2       | 2A                       |                             | 2.2              |                                   | LQ1  | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1029       | DIKLÓR-FLUOR-METÁN<br>(R 21 HÜTŐGÁZ)  | 2       | 2A                       |                             | 2.2              |                                   | LQ1  | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1030       | 1,1-DIFLUOR-ETÁN<br>(R 152a HÜTŐGÁZ)  | 2       | 2F                       |                             | 2.1              |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1032       | DIMETIL-AMIN, VÍZMENTES   | 2       | 2F                       |                             | 2.1              |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1009    | BRÓM-TRIFLUOR-METÁN<br>(R 13B1 HŰTŐGÁZ)   |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 239                    | 1010    | BUTADIÉNEK, STABILIZÁLT vagy BUTADIÉNEK ÉS SZÉNHIIDROGÉN KEVERÉKE, STABILIZÁLT, amelynek gőznyomása 70 °C-on nem haladja meg az 1,1 MPa-t (11 bar-t) és sűrűsége 50 °C-on legalább 0,525 kg/l |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1011    | BUTÁN   |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1012    | BUTÉN KEVERÉK vagy 1-BUTÉN vagy cisz-2-BUTÉN vagy transz-2-BUTÉN  |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1013    | SZÉN-DIOXID   |
| C*BH(M)     | TA4<br>TT9           | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 1016    | SZÉN-MONOXID, SŰRÍTETT  |
| P22DH(M)    | TA4<br>TT9           | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 265                    | 1017    | KLÓR  |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1018    | KLÓR-DIFLUOR-METÁN<br>(R 22 HŰTŐGÁZ)  |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1020    | KLÓR-PENTAFLUOR-ETÁN<br>(R 115 HŰTŐGÁZ)   |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1021    | 1-KLÓR-1,2,2,2-TETRAFLUOR-ETÁN<br>(R 124 HŰTŐGÁZ)   |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1022    | KLÓR-TRIFLUOR-METÁN<br>(R 13 HŰTŐGÁZ)   |
| C*BH(M)     | TA4<br>TT9           | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 1023    | VÁROSI GÁZ, SŰRÍTETT  |
| P*BH(M)     | TA4<br>TT9           | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 1026    | DICIÁN  |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1027    | CIKLOPROPÁN   |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1028    | DIKLÓR-DIFLUOR-METÁN<br>(R 12 HŰTŐGÁZ)  |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1029    | DIKLÓR-FLUOR-METÁN<br>(R 21 HŰTŐGÁZ)  |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1030    | 1,1-DIFLUOR-ETÁN<br>(R 152a HŰTŐGÁZ)  |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1032    | DIMETIL-AMIN, VÍZMENTES   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák           | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|------------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |                  |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2            | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)              | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1033       | DIMETIL-ÉTER  | 2       | 2F                       |                             | 2.1              |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1035       | ETÁN  | 2       | 2F                       |                             | 2.1              |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1036       | ETIL-AMIN   | 2       | 2F                       |                             | 2.1              |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1037       | ETIL-KLORID   | 2       | 2F                       |                             | 2.1              |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1038       | ETILÉN, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT   | 2       | 3F                       |                             | 2.1              |                                   | LQ0                                       | E0      | P203                           |   | MP9                                     | T75  | TP5                     |
| 1039       | ETIL-METIL-ÉTER   | 2       | 2F                       |                             | 2.1              |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1040       | ETILÉN-OXID   | 2       | 2TF                      |                             | 2.3 +<br>2.1     |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1040       | ETILÉN-OXID NITROGÉNNEL<br>50 °C-on legfeljebb 1 MPa (10 bar)<br>össznyomásig                   | 2       | 2TF                      |                             | 2.3 +<br>2.1     |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     | TP20                    |
| 1041       | ETILÉN-OXID ÉS SZÉN-DIOXID<br>KEVERÉK 9%-nál több, de legfeljebb<br>87% etilén-oxid tartalommal | 2       | 2F                       |                             | 2.1              |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1043       | AMMÓNIA MŰTRÁGYA OLDAT<br>szabad ammónia-tartalommal  | 2       | 4A                       |                             | 2.2              | 642                               |   |         |                                |   |   |  |                         |
| 1044       | TŰZOLTÓKÉSZÜLÉKEK sűrített vagy<br>cseppfolyósított gázzal                                      | 2       | 6A                       |                             | 2.2              | 225<br>594                        | LQ0                                       | E0      | P003                           |   | MP9                                     |  |                         |
| 1045       | FLUOR, SŰRÍTETT   | 2       | 1TOC                     |                             | 2.3 +<br>5.1 + 8 |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     |  |                         |
| 1046       | HÉLIUM, SŰRÍTETT  | 2       | 1A                       |                             | 2.2              |                                   | LQ1                                       | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1048       | HIDROGÉN-BROMID, VÍZMENTES  | 2       | 2TC                      |                             | 2.3 + 8          |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1049       | HIDROGÉN, SŰRÍTETT  | 2       | 1F                       |                             | 2.1              |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1050       | HIDROGÉN-KLORID, VÍZMENTES  | 2       | 2TC                      |                             | 2.3 + 8          |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1051       | HIDROGÉN-CIANID, STABILIZÁLT,<br>3%-nál kevesebb víztartalommal                                 | 6.1     | TF1                      | I                           | 6.1 + 3          | 603                               | LQ0                                       | E5      | P200                           |   | MP2                                     |  |                         |



| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1033    | DIMETIL-ÉTER  |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1035    | ETÁN  |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1036    | ETIL-AMIN   |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1037    | ETIL-KLORID   |
| R*BN        | TU18<br>TA4<br>TT9   | FL                             | 2<br>(B/D)   | V5  |  | CV9<br>CV11<br>CV36                                    | S2<br>S17                                  | 223                    | 1038    | ETILÉN, MÉLYHÚTÓTT, CSEPPFOLYÓSÍTOTT  |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1039    | ETIL-METIL-ÉTER   |
|             |                      | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 1040    | ETILÉN-OXID   |
| P*BH(M)     | TA4<br>TT9           | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 1040    | ETILÉN-OXID NITROGÉNNEL 50 °C-on legfeljebb 1 MPa (10 bar) össznyomásig                   |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 239                    | 1041    | ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 9%-nál több, de legfeljebb 87% etilén-oxid tartalommal |
|             |                      |                                | (E)  |   |  |  |  |                        | 1043    | AMMÓNIA MŰTRÁGYA OLDAT szabad ammónia-tartalommal   |
|             |                      |                                | 3<br>(E)   |   |  | CV9  |  |                        | 1044    | TŰZOLTÓKÉSZÜLÉKEK sűrített vagy cseppfolyósított gázzal                                   |
|             |                      |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  |                        | 1045    | FLUOR, SŰRÍTETT   |
| C*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1046    | HÉLIUM, SŰRÍTETT  |
| P*BH(M)     | TA4<br>TT9           | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                    | 1048    | HIDROGÉN-BROMID, VÍZMENTES  |
| C*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1049    | HIDROGÉN, SŰRÍTETT  |
| P*BH(M)     | TA4<br>TT9           | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                    | 1050    | HIDROGÉN-KLORID, VÍZMENTES  |
|             |                      |                                | 0<br>(D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S10<br>S14                     |                        | 1051    | HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal                              |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák           | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|------------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |                  |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2            | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)              | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1052       | HIDROGÉN-FLUORID, VÍZMENTES   | 8       | CT1                      | I                           | 8 + 6.1          |                                   | LQ0  | E0      | P200                           |   | MP2                                     | T10  | TP2                     |
| 1053       | HIDROGÉN-SZULFID  | 2       | 2TF                      |                             | 2.3 +<br>2.1     |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1055       | IZOBUTÉN  | 2       | 2F                       |                             | 2.1              |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1056       | KRIPTON, SŰRÍTETT   | 2       | 1A                       |                             | 2.2              |                                   | LQ1  | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1057       | ÖNGYÚJTÓK vagy ÖNGYÚJTÓ<br>UTÁNTÖLTŐK gyúlékony gáz<br>tartalommal                      | 2       | 6F                       |                             | 2.1              | 201<br>654                        | LQ0  | E0      | P002                           | PP84<br>RR5                                   | MP9                                     |  |                         |
| 1058       | CSEPPFOLYÓSÍTOTT GÁZ, nem<br>gyúlékony, nitrogén, szén-dioxid vagy<br>levegő alatt      | 2       | 2A                       |                             | 2.2              |                                   | LQ1  | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1060       | METIL-ACETILÉN ÉS PROPADIÉN<br>KEVERÉK, STABILIZÁLT, mint<br>P1 keverék vagy P2 keverék | 2       | 2F                       |                             | 2.1              | 581                               | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1061       | METIL-AMIN, VÍZMENTES   | 2       | 2F                       |                             | 2.1              |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1062       | METIL-BROMID legfeljebb 2%<br>klórpikrin tartalommal                                    | 2       | 2T                       |                             | 2.3              | 23                                | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1063       | METIL-KLORID (R 40 HŰTŐGÁZ)   | 2       | 2F                       |                             | 2.1              |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1064       | METIL-MERKAPTÁN   | 2       | 2TF                      |                             | 2.3 +<br>2.1     |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1065       | NEON, SŰRÍTETT  | 2       | 1A                       |                             | 2.2              |                                   | LQ1  | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1066       | NITROGÉN, SŰRÍTETT  | 2       | 1A                       |                             | 2.2              |                                   | LQ1  | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1067       | DINITROGÉN-TETROXID<br>(NITROGÉN-DIOXID)  | 2       | 2TOC                     |                             | 2.3 +<br>5.1 + 8 |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50  | TP21                    |
| 1069       | NITROZIL-KLORID   | 2       | 2TC                      |                             | 2.3 + 8          |                                   | LQ0  | E0      | P200                           |   | MP9                                     |  |                         |
| 1070       | DINITROGÉN-OXID   | 2       | 2O                       |                             | 2.2 +<br>5.1     | 584                               | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1071       | KRAKKGÁZ, SŰRÍTETT  | 2       | 1TF                      |                             | 2.3 +<br>2.1     |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |

| ADR-tartály |  | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                  |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|--|--------------------------------|--|--|--|--|--|------------------------|---------|---|
| Tartánykód  | Különleges előírások                             |                                |  | Különleges előírások a küldemény-darabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4                                     | 9.1.1.2                        | (8.6)  | 7.2.4                                      | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)   | (14)                           | (15)   | (16)                                       | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L21DH(+)    | TU14<br>TU34<br>TC1<br>TE21<br>TA4<br>TT9<br>TM3 | AT                             | 1<br>(C/D)   |  |  | CV13<br>CV28<br>CV34                                   | S14  | 886                    | 1052    | HIDROGÉN-FLUORID, VÍZMENTES   |
| P*DH(M)     | TA4<br>TT9                                       | FL                             | 1<br>(B/D)   |  |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 1053    | HIDROGÉN-SZULFID  |
| P*BN(M)     | TA4<br>TT9                                       | FL                             | 2<br>(B/D)   |  |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1055    | IZOBUTÉN  |
| C*BN(M)     | TA4<br>TT9                                       | AT                             | 3<br>(E)   |  |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1056    | KRIPTON, SÚRÍTETT   |
|             |  |                                | 2<br>(D)   |  |  | CV9  | S2   |                        | 1057    | ÖNGYÚJTÓK vagy ÖNGYÚJTÓ UTÁNTÖLTŐK gyúlékony gáz tartalommal                      |
| P*BN(M)     | TA4<br>TT9                                       | AT                             | 3<br>(C/E)   |  |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1058    | CSEPPFOLYÓSÍTOTT GÁZ, nem gyúlékony, nitrogén, szén-dioxid vagy levegő alatt      |
| P*BN(M)     | TA4<br>TT9                                       | FL                             | 2<br>(B/D)   |  |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 239                    | 1060    | METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK, STABILIZÁLT, mint P1 keverék vagy P2 keverék |
| P*BN(M)     | TA4<br>TT9                                       | FL                             | 2<br>(B/D)   |  |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1061    | METIL-AMIN, VÍZMENTES   |
| P*BH(M)     | TA4<br>TT9                                       | AT                             | 1<br>(C/D)   |  |  | CV9<br>CV10<br>CV36                                    | S14  | 26                     | 1062    | METIL-BROMID legfeljebb 2% klórpikrin tartalommal                                 |
| P*BN(M)     | TA4<br>TT9                                       | FL                             | 2<br>(B/D)   |  |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1063    | METIL-KLORID (R 40 HŰTŐGÁZ)   |
| P*DH(M)     | TA4<br>TT9                                       | FL                             | 1<br>(B/D)   |  |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 1064    | METIL-MERKAPTÁN   |
| C*BN(M)     | TA4<br>TT9                                       | AT                             | 3<br>(E)   |  |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1065    | NEON, SÚRÍTETT  |
| C*BN(M)     | TA4<br>TT9                                       | AT                             | 3<br>(E)   |  |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1066    | NITROGÉN, SÚRÍTETT  |
| P*BH(M)     | TU17<br>TA4<br>TT9                               | AT                             | 1<br>(C/D)   |  |  | CV9<br>CV10<br>CV36                                    | S14  | 265                    | 1067    | DINITROGÉN-TETROXID (NITROGÉN-DIOXID)   |
|             |  |                                | 1<br>(D)   |  |  | CV9<br>CV10<br>CV36                                    | S14  |                        | 1069    | NITROZIL-KLORID   |
| P*BN(M)     | TA4<br>TT9                                       | AT                             | 3<br>(C/E)   |  |  | CV9<br>CV10<br>CV36                                    |  | 25                     | 1070    | DINITROGÉN-OXID   |
| C*BH(M)     | TA4<br>TT9                                       | FL                             | 1<br>(B/D)   |  |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 1071    | KRAKKGÁZ, SÚRÍTETT  |

| UN<br>szám |   | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák       | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|---------------------|------------------------|--------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                     |                        |              |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2        | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                | (4)                    | (5)          | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1072       | OXIGÉN, SÚRÍTETT  | 2       | 1O                  |                        | 2.2 +<br>5.1 |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1073       | OXIGÉN, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT                         | 2       | 3O                  |                        | 2.2 +<br>5.1 |                                   | LQ0  | E0      | P203                           |   | MP9                                     | T75  | TP5<br>TP22             |
| 1075       | PETRÓLEUMGÁZ,<br>CSEPPFOLYÓSÍTOTT                               | 2       | 2F                  |                        | 2.1          | 274<br>583<br>639                 | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1076       | FOSZGÉN   | 2       | 2TC                 |                        | 2.3 + 8      |                                   | LQ0  | E0      | P200                           |   | MP9                                     |  |                         |
| 1077       | PROPILÉN  | 2       | 2F                  |                        | 2.1          |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1078       | HŰTŐGÁZ, M.N.N., mint F1 keverék,<br>F2 keverék vagy F3 keverék | 2       | 2A                  |                        | 2.2          | 274<br>582                        | LQ1  | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1079       | KÉN-DIOXID  | 2       | 2TC                 |                        | 2.3 + 8      |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     | TP19                    |
| 1080       | KÉN-HEXAFLUORID   | 2       | 2A                  |                        | 2.2          |                                   | LQ1  | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1081       | TETRAFLUOR-ETILÉN,<br>STABILIZÁLT                               | 2       | 2F                  |                        | 2.1          |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1082       | TRIFLUOR-KLÓR-ETILÉN,<br>STABILIZÁLT                            | 2       | 2TF                 |                        | 2.3 +<br>2.1 |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1083       | TRIMETIL-AMIN, VÍZMENTES  | 2       | 2F                  |                        | 2.1          |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1085       | VINIL-BROMID, STABILIZÁLT                                       | 2       | 2F                  |                        | 2.1          |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1086       | VINIL-KLORID, STABILIZÁLT                                       | 2       | 2F                  |                        | 2.1          |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1087       | VINIL-METIL-ÉTER, STABILIZÁLT                                   | 2       | 2F                  |                        | 2.1          |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1088       | ACETÁL  | 3       | F1                  | II                     | 3            |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1089       | ACETALDEHID   | 3       | F1                  | I                      | 3            |                                   | LQ3  | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2<br>TP7              |
| 1090       | ACETON  | 3       | F1                  | II                     | 3            |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1091       | ACETON OLAJOK   | 3       | F1                  | II                     | 3            |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1<br>TP8              |
| 1092       | AKROLEIN, STABILIZÁLT   | 6.1     | TF1                 | I                      | 6.1 + 3      |                                   | LQ0  | E5      | P601                           |   | MP8<br>MP17                             | T22  | TP2<br>TP7<br>TP35      |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyjelölő számok | UN szám | Megnevezés és leírás   |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|----------------------|---------|--|
| Tartánykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                      |         |  |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3              |         | 3.1.2  |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                 | (1)     | (2)  |
| C*BN(M)     | TA4<br>TT9                   | AT                             | 3<br>(E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 25                   | 1072    | OXIGÉN, SŰRÍTETT   |
| R*BN        | TU7<br>TU19<br>TA4<br>TT9    | AT                             | 3<br>(C/E)   | V5  |  | CV9<br>CV11<br>CV36                                    | S20  | 225                  | 1073    | OXIGÉN, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT                         |
| P*BN(M)     | TA4<br>TT9                   | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                   | 1075    | PETRÓLEUMGÁZ, CSEPPFOLYÓSÍTOTT                               |
| P22DH(M)    | TU17<br>TA4<br>TT9           | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                  | 1076    | FOSZGÉN  |
| P*BN(M)     | TA4<br>TT9                   | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                   | 1077    | PROPILÉN   |
| P*BN(M)     | TA4<br>TT9                   | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                   | 1078    | HŰTŐGÁZ, M.N.N., mint F1 keverék, F2 keverék vagy F3 keverék |
| P*DH(M)     | TA4<br>TT9                   | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                  | 1079    | KÉN-DIOXID   |
| P*BN(M)     | TA4<br>TT9                   | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                   | 1080    | KÉN-HEXAFLUORID  |
|             |                              | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 239                  | 1081    | TETRAFLUOR-ETILÉN, STABILIZÁLT                               |
| P*BH(M)     | TA4<br>TT9                   | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                  | 1082    | TRIFLUOR-KLÓR-ETILÉN, STABILIZÁLT                            |
| P*BN(M)     | TA4<br>TT9                   | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                   | 1083    | TRIMETIL-AMIN, VÍZMENTES                                     |
| P*BN(M)     | TA4<br>TT9                   | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 239                  | 1085    | VINIL-BROMID, STABILIZÁLT                                    |
| P*BN(M)     | TA4<br>TT9                   | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 239                  | 1086    | VINIL-KLORID, STABILIZÁLT                                    |
| P*BN(M)     | TA4<br>TT9                   | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 239                  | 1087    | VINIL-METIL-ÉTER, STABILIZÁLT                                |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                   | 1088    | ACETÁL   |
| L4BN        | TU8                          | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                   | 1089    | ACETALDEHID  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                   | 1090    | ACETON   |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                   | 1091    | ACETON OLAJOK  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                  | 1092    | AKROLEIN, STABILIZÁLT  |

| UN<br>szám | 3.1.2                    | Osztály<br>2.2 | Osztá-<br>lyozási<br>kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Bárcák<br>5.2.2 | Külön-<br>leges<br>előírá-<br>sok<br>3.3 | Korlátozott és<br>engedményes<br>mennyiség<br>3.4.6 3.5.1.2 |      | Csomagolóeszköz                         |  |   | Mobil tartány és<br>ömlesztettáru-<br>konténer<br>4.2.5.2,<br>7.3.2 |             | Különleges<br>előírások<br>4.2.5.3 |
|------------|--------------------------|----------------|---------------------------------|--|-----------------|--|---|------|---|--|---|---|-------------|------------------------------------|
|            |                          |                |                                 |  |                 |  |   |      | Csoma-<br>golási<br>utasítások<br>4.1.4 | Különle-<br>ges cso-<br>magolási<br>előírások<br>4.1.4 | Egybe-<br>csomago-<br>lási<br>előírások<br>4.1.10 |   |             |                                    |
| (1)        | (2)                      | (3a)           | (3b)                            | (4)                                    | (5)             | (6)                                      | (7a)  | (7b) | (8)                                     | (9a)   | (9b)  | (10)  | (11)        |                                    |
| 1093       | AKRILNITRIL, STABILIZÁLT | 3              | FT1                             | I                                      | 3 + 6.1         |  | LQ0   | E0   | P001                                    |  | MP7<br>MP17                                       | T14   | TP2         |                                    |
| 1098       | ALLIL-ALKOHOL            | 6.1            | TF1                             | I                                      | 6.1 + 3         |  | LQ0   | E5   | P602                                    |  | MP8<br>MP17                                       | T20   | TP2<br>TP35 |                                    |
| 1099       | ALLIL-BROMID             | 3              | FT1                             | I                                      | 3 + 6.1         |  | LQ0   | E0   | P001                                    |  | MP7<br>MP17                                       | T14   | TP2         |                                    |
| 1100       | ALLIL-KLORID             | 3              | FT1                             | I                                      | 3 + 6.1         |  | LQ0   | E0   | P001                                    |  | MP7<br>MP17                                       | T14   | TP2         |                                    |
| 1104       | AMIL-ACETÁTOK            | 3              | F1                              | III                                    | 3               |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T2  | TP1         |                                    |
| 1105       | PENTANOLOK               | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1<br>TP29 |                                    |
| 1105       | PENTANOLOK               | 3              | F1                              | III                                    | 3               |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T2  | TP1         |                                    |
| 1106       | AMIL-AMIN                | 3              | FC                              | II                                     | 3 + 8           |  | LQ4   | E2   | P001<br>IBC02                           |  | MP19  | T7  | TP1         |                                    |
| 1106       | AMIL-AMIN                | 3              | FC                              | III                                    | 3 + 8           |  | LQ7   | E1   | P001<br>IBC03<br>R001                   |  | MP19  | T4  | TP1         |                                    |
| 1107       | AMIL-KLORID              | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1         |                                    |
| 1108       | 1-PENTÉN (n-AMILÉN)      | 3              | F1                              | I                                      | 3               |  | LQ3   | E3   | P001                                    |  | MP7<br>MP17                                       | T11   | TP2         |                                    |
| 1109       | AMIL-FORMIÁTOK           | 3              | F1                              | III                                    | 3               |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T2  | TP1         |                                    |
| 1110       | n-AMIL-METIL-KETON       | 3              | F1                              | III                                    | 3               |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T2  | TP1         |                                    |
| 1111       | AMIL-MERKAPTÁNOK         | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1         |                                    |
| 1112       | AMIL-NITRÁT              | 3              | F1                              | III                                    | 3               |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T2  | TP1         |                                    |
| 1113       | AMIL-NITRIT              | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1         |                                    |
| 1114       | BENZOL                   | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1         |                                    |
| 1120       | BUTANOLOK                | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1<br>TP29 |                                    |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás     |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--------------------------|
| Tartálykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |                          |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                    |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                      |
| L10CH       | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 1093    | AKRILNITRIL, STABILIZÁLT |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1098    | ALLIL-ALKOHOL            |
| L10CH       | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 1099    | ALLIL-BROMID             |
| L10CH       | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 1100    | ALLIL-KLORID             |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1104    | AMIL-ACETÁTOK            |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1105    | PENTANOLOK               |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1105    | PENTANOLOK               |
| L4BH        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 1106    | AMIL-AMIN                |
| L4BN        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 38                     | 1106    | AMIL-AMIN                |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1107    | AMIL-KLORID              |
| L4BN        |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1108    | 1-PENTÉN (n-AMILÉN)      |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1109    | AMIL-FORMIÁTOK           |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1110    | n-AMIL-METIL-KETON       |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1111    | AMIL-MERKAPTÁNOK         |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1112    | AMIL-NITRÁT              |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1113    | AMIL-NITRIT              |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1114    | BENZOL                   |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1120    | BUTANOLOK                |

| UN<br>szám |  | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák  | Különleges<br>előírások | Korlátozott és<br>engedélyezett<br>mennyiség |         | Csomagolóeszköz               |  |                                    | Mobil tartány és<br>ömlesztartály-<br>konténer |                         |
|------------|--|---------|---------------------|------------------------|---------|-------------------------|--|---------|-------------------------------|--|------------------------------------|--|-------------------------|
|            |  |         |                     |                        |         |                         |  |         | Csomagolási<br>utasítások     | Különleges<br>csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2   | 3.3                     | 3.4.6  | 3.5.1.2 | 4.1.4                         | 4.1.4                                  | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                | (4)                    | (5)     | (6)                     | (7a)   | (7b)    | (8)                           | (9a)                                   | (9b)                               | (10)   | (11)                    |
| 1120       | BUTANOLOK  | 3       | F1                  | III                    | 3       |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1                     |
| 1123       | BUTIL-ACETÁTOK   | 3       | F1                  | II                     | 3       |                         | LQ4  | E2      | P001<br>IBC02<br>R001         |  | MP19                               | T4   | TP1                     |
| 1123       | BUTIL-ACETÁTOK   | 3       | F1                  | III                    | 3       |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1                     |
| 1125       | n-BUTIL-AMIN   | 3       | FC                  | II                     | 3 + 8   |                         | LQ4  | E2      | P001<br>IBC02                 |  | MP19                               | T7   | TP1                     |
| 1126       | 1-BRÓM-BUTÁN   | 3       | F1                  | II                     | 3       |                         | LQ4  | E2      | P001<br>IBC02<br>R001         |  | MP19                               | T4   | TP1                     |
| 1127       | KLÓR-BUTÁNOK   | 3       | F1                  | II                     | 3       |                         | LQ4  | E2      | P001<br>IBC02<br>R001         |  | MP19                               | T4   | TP1                     |
| 1128       | n-BUTIL-FORMIÁT  | 3       | F1                  | II                     | 3       |                         | LQ4  | E2      | P001<br>IBC02<br>R001         |  | MP19                               | T4   | TP1                     |
| 1129       | BUTIRALDEHID   | 3       | F1                  | II                     | 3       |                         | LQ4  | E2      | P001<br>IBC02<br>R001         |  | MP19                               | T4   | TP1                     |
| 1130       | KÁMFOROLAJ   | 3       | F1                  | III                    | 3       |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1                     |
| 1131       | SZÉN-DISZULFID   | 3       | FT1                 | I                      | 3 + 6.1 |                         | LQ0  | E0      | P001                          | PP31                                   | MP7<br>MP17                        | T14  | TP2<br>TP7              |
| 1133       | RAGASZTÓK gyúlékony folyadék<br>tartalommal  | 3       | F1                  | I                      | 3       |                         | LQ3  | E3      | P001                          |  | MP7<br>MP17                        | T11  | TP1<br>TP8<br>TP27      |
| 1133       | RAGASZTÓK gyúlékony folyadék<br>tartalommal (gőznyomás 50 °C-on<br>nagyobb mint 110 kPa)   | 3       | F1                  | II                     | 3       | 640C                    | LQ6  | E2      | P001                          | PP1                                    | MP19                               | T4   | TP1<br>TP8              |
| 1133       | RAGASZTÓK gyúlékony folyadék<br>tartalommal (gőznyomás 50 °C-on<br>legfeljebb 110 kPa)   | 3       | F1                  | II                     | 3       | 640D                    | LQ6  | E2      | P001<br>IBC02<br>R001         | PP1                                    | MP19                               | T4   | TP1<br>TP8              |
| 1133       | RAGASZTÓK gyúlékony folyadék<br>tartalommal  | 3       | F1                  | III                    | 3       | 640E                    | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 | PP1                                    | MP19                               | T2   | TP1                     |
| 1133       | RAGASZTÓK gyúlékony folyadék<br>tartalommal (lobbanáspont 23 °C alatt és<br>a 2.2.3.1.4 pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C)   | 3       | F1                  | III                    | 3       | 640F                    | LQ7  | E1      | P001<br>LP01<br>R001          | PP1                                    | MP19                               | T2   | TP1                     |
| 1133       | RAGASZTÓK gyúlékony folyadék<br>tartalommal (lobbanáspont 23 °C alatt és<br>a 2.2.3.1.4 pont szerint viszkózus)<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa, forráspont nagyobb mint 35 °C) | 3       | F1                  | III                    | 3       | 640G                    | LQ7  | E1      | P001<br>LP01<br>R001          | PP1                                    | MP19                               | T2   | TP1                     |



| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1120    | BUTANOLOK  |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1123    | BUTIL-ACETÁTOK   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1123    | BUTIL-ACETÁTOK   |
| L4BH        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 1125    | n-BUTIL-AMIN   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1126    | 1-BRÓM-BUTÁN   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1127    | KLÓR-BUTÁNOK   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1128    | n-BUTIL-FORMIÁT  |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1129    | BUTIRALDEHID   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1130    | KÁMFOROLAJ   |
| L10CH       | TU14<br>TU15<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 1131    | SZÉN-DISZULFID   |
| L4BN        |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1133    | RAGASZTÓK gyúlékony folyadék tartalommal   |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1133    | RAGASZTÓK gyúlékony folyadék tartalommal (gőznyomás 50 °C-on nagyobb mint 110 kPa)   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1133    | RAGASZTÓK gyúlékony folyadék tartalommal (gőznyomás 50 °C-on legfeljebb 110 kPa)   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1133    | RAGASZTÓK gyúlékony folyadék tartalommal   |
| L4BN        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1133    | RAGASZTÓK gyúlékony folyadék tartalommal (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)  |
| L1.5BN      |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1133    | RAGASZTÓK gyúlékony folyadék tartalommal (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C) |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                    |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|--------------------|
|            |  |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |                    |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3            |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)               |
| 1133       | RAGASZTÓK gyúlékony folyadék<br>tartalommal (lobbanáspont 23 °C alatt és<br>a 2.2.3.1.4 pont szerint viszkózus)<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)  | 3       | F1                       | III                         | 3       | 640H                              | LQ7                                       | E1      | P001<br>IBC02<br>LP01<br>R001  | PP1   | MP19                                    | T2   | TP1                |
| 1134       | KLÓR-BENZOL  | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                |
| 1135       | ETILÉN-KLÓRHIDRIN  | 6.1     | TF1                      | I                           | 6.1 + 3 |                                   | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2                |
| 1136       | GYÚLÉKONY KÖSZÉNKÁTRÁNY<br>PÁRLATOK  | 3       | F1                       | II                          | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                |
| 1136       | GYÚLÉKONY KÖSZÉNKÁTRÁNY<br>PÁRLATOK  | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1<br>TP29        |
| 1139       | BEVONÓ OLDAT (beleértve az ipari<br>vagy más célokra használt felületkezelő<br>vagy bevonó-anyagokat, pl. alapozó<br>festékeket jármű karosszériához,<br>hordóbélelő anyagokat)  | 3       | F1                       | I                           | 3       |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP1<br>TP8<br>TP27 |
| 1139       | BEVONÓ OLDAT (beleértve az ipari<br>vagy más célokra használt felületkezelő<br>vagy bevonó-anyagokat, pl. alapozó<br>festékeket jármű karosszériához,<br>hordóbélelő anyagokat) (gőznyomás<br>50 °C-on nagyobb mint 110 kPa)   | 3       | F1                       | II                          | 3       | 640C                              | LQ6                                       | E2      | P001                           |   | MP19                                    | T4   | TP1<br>TP8         |
| 1139       | BEVONÓ OLDAT (beleértve az ipari<br>vagy más célokra használt felületkezelő<br>vagy bevonó-anyagokat, pl. alapozó<br>festékeket jármű karosszériához,<br>hordóbélelő anyagokat) (gőznyomás<br>50 °C-on legfeljebb 110 kPa)   | 3       | F1                       | II                          | 3       | 640D                              | LQ6                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1<br>TP8         |
| 1139       | BEVONÓ OLDAT (beleértve az ipari<br>vagy más célokra használt felületkezelő<br>vagy bevonó-anyagokat, pl. alapozó<br>festékeket jármű karosszériához,<br>hordóbélelő anyagokat)  | 3       | F1                       | III                         | 3       | 640E                              | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                |
| 1139       | BEVONÓ OLDAT (beleértve az ipari<br>vagy más célokra használt felületkezelő<br>vagy bevonó-anyagokat, pl. alapozó<br>festékeket jármű karosszériához,<br>hordóbélelő anyagokat) (lobbanáspont<br>23 °C alatt és a 2.2.3.1.4 pont szerint<br>viszkózus) (forráspont legfeljebb 35 °C) | 3       | F1                       | III                         | 3       | 640F                              | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2   | TP1                |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1133    | RAGASZTÓK gyúlékony folyadék tartalommal (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)  |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1134    | KLÓR-BENZOL  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1135    | ETILÉN-KLÓRHIDRIN  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1136    | GYÚLÉKONY KÖSZÉNKÁTRÁNY PÁRLATOK   |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1136    | GYÚLÉKONY KÖSZÉNKÁTRÁNY PÁRLATOK   |
| L4BN        |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1139    | BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat)  |
| L1.5BN      |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1139    | BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (gőznyomás 50 °C-on nagyobb mint 110 kPa)  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1139    | BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (gőznyomás 50 °C-on legfeljebb 110 kPa)  |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1139    | BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat)  |
| L4BN        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1139    | BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C) |

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1139       | BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C) | 3       | F1                       | III                         | 3       | 640G                              | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2   | TP1                     |
| 1139       | BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)                                  | 3       | F1                       | III                         | 3       | 640H                              | LQ7                                       | E1      | P001<br>IBC02<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1143       | KROTONALDEHID vagy KROTONALDEHID, STABILIZÁLT   | 6.1     | TF1                      | I                           | 6.1 + 3 | 324                               | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T20  | TP2<br>TP35             |
| 1144       | KROTONILÉN  | 3       | F1                       | I                           | 3       |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2                     |
| 1145       | CIKLOHEXÁN  | 3       | F1                       | II                          | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1146       | CIKLOPENTÁN   | 3       | F1                       | II                          | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1                     |
| 1147       | DEKAHIDRO-NAFTALIN  | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1148       | DIACETON-ALKOHOL  | 3       | F1                       | II                          | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1148       | DIACETON-ALKOHOL  | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1149       | DIBUTIL-ÉTEREK  | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1150       | 1,2-DIKLÓR-ETILÉN   | 3       | F1                       | II                          | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP2                     |
| 1152       | DIKLÓR-PENTÁNOK   | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1153       | ETILÉNGLIKOL-DIETIL-ÉTER  | 3       | F1                       | II                          | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L1.5BN      |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1139    | BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C) |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1139    | BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)                                  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1143    | KROTONALDEHID vagy KROTONALDEHID, STABILIZÁLT   |
| L4BN        |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 1144    | KROTONILÉN  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1145    | CIKLOHEXÁN  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1146    | CIKLOPENTÁN   |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1147    | DEKAHIDRO-NAFTALIN  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1148    | DIACETON-ALKOHOL  |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1148    | DIACETON-ALKOHOL  |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1149    | DIBUTIL-ÉTEREK  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1150    | 1,2-DIKLÓR-ETILÉN   |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1152    | DIKLÓR-PENTÁNOK   |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1153    | ETILÉNGLIKOL-DIETIL-ÉTER  |

| UN<br>szám | 3.1.2  | Osztály<br>2.2 | Oszta-<br>lyozási<br>kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Bárcák<br>5.2.2 | Külön-<br>leges<br>előírá-<br>sok<br>3.3 | Korlátozott és<br>engedményes<br>mennyiség<br>3.4.6 3.5.1.2 |      | Csomagolóeszköz                         |  |  | Mobil tartány és<br>ömlesztettáru-<br>konténer<br>4.2.5.2,<br>7.3.2 |             | Különleges<br>előírások<br>4.2.5.3 |
|------------|--|----------------|---------------------------------|--|-----------------|--|---|------|---|--|--|---|-------------|------------------------------------|
|            |  |                |                                 |  |                 |  |   |      | Csoma-<br>golási<br>utasítások<br>4.1.4 | Különle-<br>ges cso-<br>magolási<br>előírások<br>4.1.4 | Egybe-<br>csmago-<br>lási<br>előírások<br>4.1.10 |   |             |                                    |
| (1)        | (2)  | (3a)           | (3b)                            | (4)                                    | (5)             | (6)                                      | (7a)  | (7b) | (8)                                     | (9a)   | (9b)   | (10)  | (11)        |                                    |
| 1153       | ETILÉNGLIKOL-DIETIL-ÉTER   | 3              | F1                              | III                                    | 3               |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19   | T2  | TP1         |                                    |
| 1154       | DIETIL-AMIN  | 3              | FC                              | II                                     | 3 + 8           |  | LQ4   | E2   | P001<br>IBC02                           |  | MP19   | T7  | TP1         |                                    |
| 1155       | DIETIL-ÉTER (ETIL-ÉTER)  | 3              | F1                              | I                                      | 3               |  | LQ3   | E3   | P001                                    |  | MP7<br>MP17                                      | T11   | TP2         |                                    |
| 1156       | DIETIL-KETON   | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19   | T4  | TP1         |                                    |
| 1157       | DIIZOBUTIL-KETON   | 3              | F1                              | III                                    | 3               |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19   | T2  | TP1         |                                    |
| 1158       | DIIZOPROPIL-AMIN   | 3              | FC                              | II                                     | 3 + 8           |  | LQ4   | E2   | P001<br>IBC02                           |  | MP19   | T7  | TP1         |                                    |
| 1159       | DIIZOPROPIL-ÉTER   | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19   | T4  | TP1         |                                    |
| 1160       | DIMETIL-AMIN VIZES OLDAT   | 3              | FC                              | II                                     | 3 + 8           |  | LQ4   | E2   | P001<br>IBC02                           |  | MP19   | T7  | TP1         |                                    |
| 1161       | DIMETIL-KARBONÁT   | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19   | T4  | TP1         |                                    |
| 1162       | DIMETIL-DIKLÓR-SZILÁN  | 3              | FC                              | II                                     | 3 + 8           |  | LQ4   | E2   | P010                                    |  | MP19   | T10   | TP2<br>TP7  |                                    |
| 1163       | ASZIMMETRIKUS DIMETIL-<br>HIDRAZIN   | 6.1            | TFC                             | I                                      | 6.1 + 3<br>+ 8  |  | LQ0   | E5   | P602                                    |  | MP8<br>MP17                                      | T20   | TP2<br>TP35 |                                    |
| 1164       | DIMETIL-SZULFID  | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02                           | B8   | MP19   | T7  | TP2         |                                    |
| 1165       | DIOXÁN   | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19   | T4  | TP1         |                                    |
| 1166       | DIOXOLÁN   | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19   | T4  | TP1         |                                    |
| 1167       | DIVINIL-ÉTER, STABILIZÁLT  | 3              | F1                              | I                                      | 3               |  | LQ3   | E3   | P001                                    |  | MP7<br>MP17                                      | T11   | TP2         |                                    |
| 1169       | FOLYÉKONY AROMÁS KIVONATOK   | 3              | F1                              | I                                      | 3               |  | LQ3   | E3   | P001                                    |  | MP7<br>MP17                                      |   |             |                                    |
| 1169       | FOLYÉKONY AROMÁS KIVONATOK<br>(gőznyomás 50 °C-on nagyobb<br>mint 110 kPa)   | 3              | F1                              | II                                     | 3               | 601<br>640C                              | LQ6   | E2   | P001                                    |  | MP19   | T4  | TP1<br>TP8  |                                    |
| 1169       | FOLYÉKONY AROMÁS KIVONATOK<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)   | 3              | F1                              | II                                     | 3               | 601<br>640D                              | LQ6   | E2   | P001<br>IBC02<br>R001                   |  | MP19   | T4  | TP1<br>TP8  |                                    |
| 1169       | FOLYÉKONY AROMÁS KIVONATOK   | 3              | F1                              | III                                    | 3               | 601<br>640E                              | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19   | T2  | TP1         |                                    |
| 1169       | FOLYÉKONY AROMÁS KIVONATOK<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C) | 3              | F1                              | III                                    | 3               | 601<br>640F                              | LQ7   | E1   | P001<br>LP01<br>R001                    |  | MP19   | T2  | TP1         |                                    |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1153    | ETILÉNGLIKOL-DIETIL-ÉTER  |
| L4BH        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 1154    | DIETIL-AMIN   |
| L4BN        |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1155    | DIETIL-ÉTER (ETIL-ÉTER)   |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1156    | DIETIL-KETON  |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1157    | DIIZOBUTIL-KETON  |
| L4BH        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 1158    | DIIZOPROPIL-AMIN  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1159    | DIIZOPROPIL-ÉTER  |
| L4BH        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 1160    | DIMETIL-AMIN VIZES OLDAT  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1161    | DIMETIL-KARBONÁT  |
| L4BH        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | X338                   | 1162    | DIMETIL-DIKLÓR-SZILÁN   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1163    | ASZIMMETRIKUS DIMETIL-HIDRAZIN  |
| L1.5BN      |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1164    | DIMETIL-SZULFID   |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1165    | DIOXÁN  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1166    | DIOXOLÁN  |
| L4BN        |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 1167    | DIVINIL-ÉTER, STABILIZÁLT   |
| L4BN        |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1169    | FOLYÉKONY AROMÁS KIVONATOK  |
| L1.5BN      |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1169    | FOLYÉKONY AROMÁS KIVONATOK<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa)   |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1169    | FOLYÉKONY AROMÁS KIVONATOK<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)   |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1169    | FOLYÉKONY AROMÁS KIVONATOK  |
| L4BN        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1169    | FOLYÉKONY AROMÁS KIVONATOK<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C) |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|----------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |                |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1169       | FOLYÉKONY AROMÁS KIVONATOK<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkozus)<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa, forráspont nagyobb mint 35 °C) | 3       | F1                       | III                         | 3              | 601<br>640G                       | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2   | TP1                     |
| 1169       | FOLYÉKONY AROMÁS KIVONATOK<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkozus)<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                                  | 3       | F1                       | III                         | 3              | 601<br>640H                       | LQ7                                       | E1      | P001<br>IBC02<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1170       | ETANOL (ETIL-ALKOHOL) vagy<br>ETANOL OLDAT (ETIL-ALKOHOL<br>OLDAT)   | 3       | F1                       | II                          | 3              | 144<br>601                        | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1170       | ETANOL OLDAT (ETIL-ALKOHOL<br>OLDAT)   | 3       | F1                       | III                         | 3              | 144<br>601                        | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1171       | ETILÉNGLIKOL-MONOETIL-ÉTER   | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1172       | ETILÉNGLIKOL-MONOETIL-ÉTER-<br>ACETÁT  | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1173       | ETIL-ACETÁT  | 3       | F1                       | II                          | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1175       | ETIL-BENZOL  | 3       | F1                       | II                          | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1176       | TRIETIL-BORÁT  | 3       | F1                       | II                          | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1177       | 2-ETIL-BUTIL-ACETÁT  | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1178       | 2-ETIL-BUTIRALDEHID  | 3       | F1                       | II                          | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1179       | ETIL-BUTIL-ÉTER  | 3       | F1                       | II                          | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1180       | ETIL-BUTIRÁT   | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1181       | ETIL-KLÓR-ACETÁT   | 6.1     | TF1                      | II                          | 6.1 + 3        |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1182       | ETIL-KLÓR-FORMIÁT  | 6.1     | TFC                      | I                           | 6.1 + 3<br>+ 8 |                                   | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T14  | TP2                     |



| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L1.5BN      |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1169    | FOLYÉKONY AROMÁS KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C) |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1169    | FOLYÉKONY AROMÁS KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)                                  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1170    | ETANOL (ETIL-ALKOHOL) vagy ETANOL OLDAT (ETIL-ALKOHOL OLDAT)   |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1170    | ETANOL OLDAT (ETIL-ALKOHOL OLDAT)  |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1171    | ETILÉNGLIKOL-MONOETIL-ÉTER   |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1172    | ETILÉNGLIKOL-MONOETIL-ÉTER-ACETÁT  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1173    | ETIL-ACETÁT  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1175    | ETIL-BENZOL  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1176    | TRIETIL-BORÁT  |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1177    | 2-ETIL-BUTIL-ACETÁT  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1178    | 2-ETIL-BUTIRALDEHID  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1179    | ETIL-BUTIL-ÉTER  |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1180    | ETIL-BUTIRÁT   |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 1181    | ETIL-KLÓR-ACETÁT   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1182    | ETIL-KLÓR-FORMIÁT  |

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |            |
|------------|---|---------|--------------------------|-----------------------------|----------------|-----------------------------------|---|---------|--------------------------------|---|---|--|------------|
|            |   |         |                          |                             |                |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |            |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3    |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)       |
| 1183       | ETIL-DIKLÓR-SZILÁN  | 4.3     | WFC                      | I                           | 4.3 + 3<br>+ 8 |                                   | LQ0                                       | E0      | P401                           | RR7   | MP2                                     | T14  | TP2<br>TP7 |
| 1184       | 1,2-DIKLÓR-ETÁN   | 3       | FT1                      | II                          | 3 + 6.1        |                                   | LQ0                                       | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1        |
| 1185       | ETILÉN-IMIN, STABILIZÁLT  | 6.1     | TF1                      | I                           | 6.1 + 3        |                                   | LQ0                                       | E5      | P601                           |   | MP2                                     | T22  | TP2        |
| 1188       | ETILÉNGLIKOL-MONOMETIL-ÉTER   | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1        |
| 1189       | ETILÉNGLIKOL-MONOMETIL-ÉTER-<br>ACETÁT  | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1        |
| 1190       | ETIL-FORMIÁT  | 3       | F1                       | II                          | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1        |
| 1191       | OKTILALDEHIDEK  | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1        |
| 1192       | ETIL-LAKTÁT   | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1        |
| 1193       | ETIL-METIL-KETON (METIL-ETIL-<br>KETON)   | 3       | F1                       | II                          | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1        |
| 1194       | ETIL-NITRIT OLDAT   | 3       | FT1                      | I                           | 3 + 6.1        |                                   | LQ0                                       | E0      | P001                           |   | MP7<br>MP17                             |  |            |
| 1195       | ETIL-PROPIONÁT  | 3       | F1                       | II                          | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1        |
| 1196       | ETIL-TRIKLÓR-SZILÁN   | 3       | FC                       | II                          | 3 + 8          |                                   | LQ4                                       | E2      | P010                           |   | MP19                                    | T10  | TP2<br>TP7 |
| 1197       | FOLYÉKONY ÍZANYAG<br>KIVONATOK  | 3       | F1                       | I                           | 3              |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             |  |            |
| 1197       | FOLYÉKONY ÍZANYAG<br>KIVONATOK (gőznyomás 50 °C-on<br>nagyobb mint 110 kPa)   | 3       | F1                       | II                          | 3              | 601<br>640C                       | LQ6                                       | E2      | P001                           |   | MP19                                    | T4   | TP1<br>TP8 |
| 1197       | FOLYÉKONY ÍZANYAG<br>KIVONATOK (gőznyomás 50 °C-on<br>legfeljebb 110 kPa)   | 3       | F1                       | II                          | 3              | 601<br>640D                       | LQ6                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1<br>TP8 |
| 1197       | FOLYÉKONY ÍZANYAG<br>KIVONATOK  | 3       | F1                       | III                         | 3              | 601<br>640E                       | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1        |
| 1197       | FOLYÉKONY ÍZANYAG<br>KIVONATOK (lobbanáspont 23 °C alatt<br>és a 2.2.3.1.4 pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C) | 3       | F1                       | III                         | 3              | 601<br>640F                       | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2   | TP1        |

| ADR-tartály |                                    | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|------------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások               |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                       | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                               | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L10DH       | TU14<br>TU23<br>TE21<br>TM2<br>TM3 | FL                             | 0<br>(B/E)   | V1  |  | CV23   | S2<br>S20                                  | X338                   | 1183    | ETIL-DIKLÓR-SZILÁN   |
| L4BH        | TU15                               | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 1184    | 1,2-DIKLÓR-ETÁN  |
| L15CH       | TU14<br>TU15<br>TE19<br>TE21       | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1185    | ETILÉN-IMIN, STABILIZÁLT   |
| LGBF        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1188    | ETILÉNGLIKOL-MONOMETIL-ÉTER  |
| LGBF        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1189    | ETILÉNGLIKOL-MONOMETIL-ÉTER-ACETÁT   |
| LGBF        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1190    | ETIL-FORMIÁT   |
| LGBF        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1191    | OKTILALDEHIDEK   |
| LGBF        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1192    | ETIL-LAKTÁT  |
| LGBF        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1193    | ETIL-METIL-KETON (METIL-ETIL-KETON)  |
| L10CH       | TU14<br>TU15<br>TE21               | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 1194    | ETIL-NITRIT OLDAT  |
| LGBF        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1195    | ETIL-PROPIONÁT   |
| L4BH        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | X338                   | 1196    | ETIL-TRIKLÓR-SZILÁN  |
| L4BN        |                                    | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1197    | FOLYÉKONY ÍZANYAG KIVONATOK  |
| L1.5BN      |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1197    | FOLYÉKONY ÍZANYAG KIVONATOK (gőznyomás 50 °C-on nagyobb mint 110 kPa)  |
| LGBF        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1197    | FOLYÉKONY ÍZANYAG KIVONATOK (gőznyomás 50 °C-on legfeljebb 110 kPa)  |
| LGBF        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1197    | FOLYÉKONY ÍZANYAG KIVONATOK  |
| L4BN        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1197    | FOLYÉKONY ÍZANYAG KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (forráspont legfeljebb 35 °C) |

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|---------|
|            |   |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 1197       | FOLYÉKONY ÍZANYAG<br>KIVONATOK (lobbanáspont 23 °C alatt<br>és a 2.2.3.1.4 pont szerint viszkózus)<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa, forráspont nagyobb mint 35 °C) | 3       | F1                       | III                         | 3       | 601<br>640G                       | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2   | TP1     |
| 1197       | FOLYÉKONY ÍZANYAG<br>KIVONATOK (lobbanáspont 23 °C alatt<br>és a 2.2.3.1.4 pont szerint viszkózus)<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                                  | 3       | F1                       | III                         | 3       | 601<br>640H                       | LQ7                                       | E1      | P001<br>IBC02<br>LP01<br>R001  |   | MP19                                    | T2   | TP1     |
| 1198       | GYÚLÉKONY FORMALDEHID<br>OLDAT  | 3       | FC                       | III                         | 3 + 8   |                                   | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1     |
| 1199       | FURFURALDEHIDEK   | 6.1     | TF1                      | II                          | 6.1 + 3 |                                   | LQ0                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 1201       | KOZMAOLAJ   | 3       | F1                       | II                          | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1     |
| 1201       | KOZMAOLAJ   | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1     |
| 1202       | GÁZOLAJ vagy<br>DÍZELOLAJ vagy<br>KÖNNYŰ FŰTŐOLAJ<br>(lobbanáspont legfeljebb 60 °C)  | 3       | F1                       | III                         | 3       | 640K                              | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1     |
| 1202       | DÍZELOLAJ, amely megfelel az<br>EN 590:2004 szabványnak vagy<br>GÁZOLAJ vagy<br>KÖNNYŰ FŰTŐOLAJ<br>az EN 590:2004 szabványban<br>meghatározott lobbanásponttal                    | 3       | F1                       | III                         | 3       | 640L                              | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1     |
| 1202       | GÁZOLAJ vagy<br>DÍZELOLAJ vagy<br>KÖNNYŰ FŰTŐOLAJ<br>(lobbanáspont magasabb mint 60 °C, de<br>legfeljebb 100 °C)  | 3       | F1                       | III                         | 3       | 640M                              | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1     |
| 1203       | MOTORBENZIN vagy<br>BENZIN vagy<br>GAZOLIN  | 3       | F1                       | II                          | 3       | 243<br>534                        | LQ4                                       | E2      | P001<br>IBC02<br>R001          | BB2   | MP19                                    | T4   | TP1     |
| 1204       | NITROGLICERIN ALKOHOLOS<br>OLDATBAN, legfeljebb 1% nitroglicerint<br>tartalommal  | 3       | D                        | II                          | 3       | 601                               | LQ0                                       | E0      | P001<br>IBC02                  | PP5   | MP2                                     |  |         |
| 1206       | HEPTÁNOK  | 3       | F1                       | II                          | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1     |
| 1207       | HEXALDEHID  | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1     |
| 1208       | HEXÁNOK   | 3       | F1                       | II                          | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1     |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L1.5BN      |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1197    | FOLYÉKONY ÍZANYAG KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C) |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1197    | FOLYÉKONY ÍZANYAG KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)                                  |
| L4BN        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 38                     | 1198    | GYŰLÉKONY FORMALDEHID OLDAT   |
| L4BH        | TU15<br>TE19         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 1199    | FURFURALDEHIDEK   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1201    | KOZMAOLAJ   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1201    | KOZMAOLAJ   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1202    | GÁZOLAJ vagy DÍZELOLAJ vagy KÖNNYŰ FŰTŐOLAJ (lobbanáspont legfeljebb 60 °C)   |
| LGBF        |                      | AT                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1202    | DÍZELOLAJ, amely megfelel az EN 590:2004 szabványnak vagy GÁZOLAJ vagy KÖNNYŰ FŰTŐOLAJ az EN 590:2004 szabványban meghatározott lobbanásponttal                       |
| LGBV        |                      | AT                             | 3<br>(D/E)   |   |  |  |  | 30                     | 1202    | GÁZOLAJ vagy DÍZELOLAJ vagy KÖNNYŰ FŰTŐOLAJ (lobbanáspont magasabb mint 60 °C, de legfeljebb 100 °C)  |
| LGBF        | TU9                  | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1203    | MOTORBENZIN vagy BENZIN vagy GAZOLIN  |
|             |                      |                                | 2<br>(B)   |   |  |  | S2<br>S14                                  |                        | 1204    | NITROGLICERIN ALKOHOLOS OLDATBAN, legfeljebb 1% nitroglicerintartalommal  |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1206    | HEPTÁNOK  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1207    | HEXALDEHID  |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1208    | HEXÁNOK   |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1210       | NYOMDAFESTÉK, gyúlékony vagy<br>NYOMDAFESTÉK SEGÉDANYAG<br>(beleértve a festékhígítókat és<br>oldószereket), gyúlékony   | 3       | F1                       | I                           | 3      | 163                               | LQ3  | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP1<br>TP8              |
| 1210       | NYOMDAFESTÉK, gyúlékony vagy<br>NYOMDAFESTÉK SEGÉDANYAG<br>(beleértve a festékhígítókat és<br>oldószereket), gyúlékony<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)   | 3       | F1                       | II                          | 3      | 163<br>640C                       | LQ6  | E2      | P001                           | PP1   | MP19                                    | T4   | TP1<br>TP8              |
| 1210       | NYOMDAFESTÉK, gyúlékony vagy<br>NYOMDAFESTÉK SEGÉDANYAG<br>(beleértve a festékhígítókat és<br>oldószereket), gyúlékony<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)   | 3       | F1                       | II                          | 3      | 163<br>640D                       | LQ6  | E2      | P001<br>IBC02<br>R001          | PP1   | MP19                                    | T4   | TP1<br>TP8              |
| 1210       | NYOMDAFESTÉK, gyúlékony vagy<br>NYOMDAFESTÉK SEGÉDANYAG<br>(beleértve a festékhígítókat és<br>oldószereket), gyúlékony   | 3       | F1                       | III                         | 3      | 163<br>640E                       | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  | PP1   | MP19                                    | T2   | TP1                     |
| 1210       | NYOMDAFESTÉK, gyúlékony vagy<br>NYOMDAFESTÉK SEGÉDANYAG<br>(beleértve a festékhígítókat és<br>oldószereket), gyúlékony<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus) (forráspont<br>legfeljebb 35 °C)   | 3       | F1                       | III                         | 3      | 163<br>640F                       | LQ7  | E1      | P001<br>LP01<br>R001           | PP1   | MP19                                    | T2   | TP1                     |
| 1210       | NYOMDAFESTÉK, gyúlékony vagy<br>NYOMDAFESTÉK SEGÉDANYAG<br>(beleértve a festékhígítókat és<br>oldószereket), gyúlékony<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa, forráspont nagyobb mint 35 °C) | 3       | F1                       | III                         | 3      | 163<br>640G                       | LQ7  | E1      | P001<br>LP01<br>R001           | PP1   | MP19                                    | T2   | TP1                     |
| 1210       | NYOMDAFESTÉK, gyúlékony vagy<br>NYOMDAFESTÉK SEGÉDANYAG<br>(beleértve a festékhígítókat és<br>oldószereket), gyúlékony<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                                  | 3       | F1                       | III                         | 3      | 163<br>640H                       | LQ7  | E1      | P001<br>IBC02<br>LP01<br>R001  | PP1   | MP19                                    | T2   | TP1                     |
| 1212       | IZOBUTANOL (IZOBUTIL-<br>ALKOHOL)  | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1213       | IZOBUTIL-ACETÁT  | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1214       | IZOBUTIL-AMIN  | 3       | FC                       | II                          | 3 + 8  |                                   | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 1216       | IZOOKTÉNEK   | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1218       | IZOPRÉN, STABILIZÁLT   | 3       | F1                       | I                           | 3      |                                   | LQ3  | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2                     |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BN        |                      | FL                             | 1 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 1210    | NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony   |
| L1.5BN      |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 1210    | NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (gőznyomás 50 °C-on nagyobb mint 110 kPa)   |
| LGBF        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 1210    | NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (gőznyomás 50 °C-on legfeljebb 110 kPa)   |
| LGBF        |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 30                     | 1210    | NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony   |
| L4BN        |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 33                     | 1210    | NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)  |
| L1.5BN      |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 33                     | 1210    | NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C) |
| LGBF        |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 33                     | 1210    | NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)                                  |
| LGBF        |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 30                     | 1212    | IZOBUTANOL (IZOBUTIL-ALKOHOL)   |
| LGBF        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 1213    | IZOBUTIL-ACETÁT   |
| L4BH        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 338                    | 1214    | IZOBUTIL-AMIN   |
| LGBF        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 1216    | IZOOKTÉNEK  |
| L4BN        |                      | FL                             | 1 (D/E)  |   |  |  | S2<br>S20                                  | 339                    | 1218    | IZOPRÉN, STABILIZÁLT  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                    |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|--------------------|
|            |   |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |                    |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3            |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)               |
| 1219       | IZOPROPANOL (IZOPROPIL-<br>ALKOHOL)   | 3       | F1                       | II                          | 3       | 601                               | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                |
| 1220       | IZOPROPIL-ACETÁT  | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                |
| 1221       | IZOPROPIL-AMIN  | 3       | FC                       | I                           | 3 + 8   |                                   | LQ3  | E0      | P001                           |   | MP7<br>MP17                             | T11  | TP2                |
| 1222       | IZOPROPIL-NITRÁT  | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          | B7  | MP19                                    |  |                    |
| 1223       | KEROZIN   | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP2                |
| 1224       | FOLYÉKONY KETONOK, M.N.N.<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)   | 3       | F1                       | II                          | 3       | 274<br>640C                       | LQ4  | E2      | P001                           |   | MP19                                    | T7   | TP1<br>TP8<br>TP28 |
| 1224       | FOLYÉKONY KETONOK, M.N.N.<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)   | 3       | F1                       | II                          | 3       | 274<br>640D                       | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1<br>TP8<br>TP28 |
| 1224       | FOLYÉKONY KETONOK, M.N.N.   | 3       | F1                       | III                         | 3       | 274                               | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1<br>TP29        |
| 1228       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ MERKAPTÁNOK, M.N.N.<br>vagy<br>FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ MERKAPTÁN KEVERÉK,<br>M.N.N. | 3       | FT1                      | II                          | 3 + 6.1 | 274                               | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T11  | TP2<br>TP27        |
| 1228       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ MERKAPTÁNOK, M.N.N.<br>vagy<br>FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ MERKAPTÁN KEVERÉK,<br>M.N.N. | 3       | FT1                      | III                         | 3 + 6.1 | 274                               | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP1<br>TP28        |
| 1229       | MEZITIL-OXID  | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                |
| 1230       | METANOL   | 3       | FT1                      | II                          | 3 + 6.1 | 279                               | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP2                |
| 1231       | METIL-ACETÁT  | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                |
| 1233       | METIL-AMIL-ACETÁT   | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                |
| 1234       | METILÁL   | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02                  | B8  | MP19                                    | T7   | TP2                |
| 1235       | METIL-AMIN VIZES OLDAT  | 3       | FC                       | II                          | 3 + 8   |                                   | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                |
| 1237       | METIL-BUTIRÁT   | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                |



| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyjelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|----------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                      |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3              |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                 | (1)     | (2)   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                   | 1219    | IZOPROPANOL (IZOPROPIL-ALKOHOL)   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                   | 1220    | IZOPROPIL-ACETÁT  |
| L10CH       | TU14<br>TE21         | FL                             | 1<br>(C/E)   |   |  |  | S2<br>S20                                  | 338                  | 1221    | IZOPROPIL-AMIN  |
|             |                      |                                | 2<br>(E)   |   |  |  | S2<br>S20                                  |                      | 1222    | IZOPROPIL-NITRÁT  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                   | 1223    | KEROZIN   |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                   | 1224    | FOLYÉKONY KETONOK, M.N.N.<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa)  |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                   | 1224    | FOLYÉKONY KETONOK, M.N.N.<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                   | 1224    | FOLYÉKONY KETONOK, M.N.N.   |
| L4BH        | TU15                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                  | 1228    | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ MERKAPTÁNOK, M.N.N.<br>vagy<br>FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ MERKAPTÁN KEVERÉK,<br>M.N.N. |
| L4BH        | TU15                 | FL                             | 3<br>(D/E)   |   |  | CV13<br>CV28   | S2   | 36                   | 1228    | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ MERKAPTÁNOK, M.N.N.<br>vagy<br>FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ MERKAPTÁN KEVERÉK,<br>M.N.N. |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                   | 1229    | MEZITIL-OXID  |
| L4BH        | TU15                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                  | 1230    | METANOL   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                   | 1231    | METIL-ACETÁT  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                   | 1233    | METIL-AMIL-ACETÁT   |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                   | 1234    | METILÁL   |
| L4BH        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                  | 1235    | METIL-AMIN VIZES OLDAT  |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                   | 1237    | METIL-BUTIRÁT   |

| UN<br>szám |  | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák         | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztartá-<br>rkonténer |                    |
|------------|--|---------|---------------------|------------------------|----------------|-----------------------------------|---|---------|--------------------------------|---|---|---|--------------------|
|            |  |         |                     |                        |                |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |   |                    |
|            | 3.1.2  | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2          | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                             | 4.2.5.3            |
| (1)        | (2)  | (3a)    | (3b)                | (4)                    | (5)            | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)  | (11)               |
| 1238       | METIL-KLÓR-FORMIÁT   | 6.1     | TFC                 | I                      | 6.1 + 3<br>+ 8 |                                   | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T22   | TP2<br>TP35        |
| 1239       | METIL-KLÓR-METIL-ÉTER  | 6.1     | TF1                 | I                      | 6.1 + 3        |                                   | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T22   | TP2<br>TP35        |
| 1242       | METIL-DIKLÓR-SZILÁN  | 4.3     | WFC                 | I                      | 4.3 + 3<br>+ 8 |                                   | LQ0                                       | E0      | P401                           | RR7   | MP2                                     | T14   | TP2<br>TP7         |
| 1243       | METIL-FORMIÁT  | 3       | F1                  | I                      | 3              |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11   | TP2                |
| 1244       | METIL-HIDRAZIN   | 6.1     | TFC                 | I                      | 6.1 + 3<br>+ 8 |                                   | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T22   | TP2<br>TP35        |
| 1245       | METIL-IZOBUTIL-KETON   | 3       | F1                  | II                     | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4  | TP1                |
| 1246       | METIL-IZOPROPENIL-KETON,<br>STABILIZÁLT  | 3       | F1                  | II                     | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4  | TP1                |
| 1247       | METIL-METAKRILÁT MONOMER,<br>STABILIZÁLT   | 3       | F1                  | II                     | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4  | TP1                |
| 1248       | METIL-PROPIONÁT  | 3       | F1                  | II                     | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4  | TP1                |
| 1249       | METIL-PROPIL-KETON   | 3       | F1                  | II                     | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4  | TP1                |
| 1250       | METIL-TRIKLÓR-SZILÁN   | 3       | FC                  | II                     | 3 + 8          |                                   | LQ4                                       | E2      | P010                           |   | MP19                                    | T10   | TP2<br>TP7         |
| 1251       | METIL-VINIL-KETON, STABILIZÁLT   | 6.1     | TFC                 | I                      | 6.1 + 3<br>+ 8 |                                   | LQ0                                       | E5      | P601                           | RR7   | MP8<br>MP17                             | T14   | TP2                |
| 1259       | NIKKEL-TETRAKARBONIL   | 6.1     | TF1                 | I                      | 6.1 + 3        |                                   | LQ0                                       | E5      | P601                           |   | MP2                                     |   |                    |
| 1261       | NITRO-METÁN  | 3       | F1                  | II                     | 3              |                                   | LQ4                                       | E2      | P001<br>R001                   | RR2   | MP19                                    |   |                    |
| 1262       | OKTÁNOK  | 3       | F1                  | II                     | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4  | TP1                |
| 1263       | FESTÉK (beleértve a festéket, lakkot,<br>zománcot, sellakot, kencét, polírozót,<br>folyékony töltőanyagot és folyékony<br>lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a<br>festékhígítókat és oldószereket) | 3       | F1                  | I                      | 3              | 163<br>650                        | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11   | TP1<br>TP8<br>TP27 |

| ADR-tartály |   | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|---|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások                        |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                                | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)  | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21                | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1238    | METIL-KLÓR-FORMIÁT   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21                | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1239    | METIL-KLÓR-METIL-ÉTER  |
| L10DH       | TU14<br>TU24<br>TE21<br>TM2<br>TM3          | FL                             | 0<br>(B/E)   | V1  |  | CV23   | S2<br>S20                                  | X338                   | 1242    | METIL-DIKLÓR-SZILÁN  |
| L4BN        |   | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1243    | METIL-FORMIÁT  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21                | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1244    | METIL-HIDRAZIN   |
| LGBF        |   | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1245    | METIL-IZOBUTIL-KETON   |
| LGBF        |   | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 1246    | METIL-IZOPROPENIL-KETON, STABILIZÁLT   |
| LGBF        |   | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 1247    | METIL-METAKRILÁT MONOMER, STABILIZÁLT  |
| LGBF        |   | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1248    | METIL-PROPIONÁT  |
| LGBF        |   | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1249    | METIL-PROPIL-KETON   |
| L4BH        |   | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | X338                   | 1250    | METIL-TRIKLÓR-SZILÁN   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21                | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 639                    | 1251    | METIL-VINIL-KETON, STABILIZÁLT   |
| L15CH       | TU14<br>TU15<br>TU31<br>TE19<br>TE21<br>TM3 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1259    | NIKKEL-TETRAKARBONIL   |
|             |   |                                | 2<br>(E)   |   |  |  | S2<br>S20                                  |                        | 1261    | NITRO-METÁN  |
| LGBF        |   | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1262    | OKTÁNOK  |
| L4BN        |   | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1263    | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket) |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                    |
|------------|--|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|---|--|--------------------|
|            |  |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |                    |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3            |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)               |
| 1263       | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa)  | 3       | F1                       | II                          | 3      | 163<br>640C<br>650                | LQ6  | E2      | P001                           | PP1   | MP19                                    | T4   | TP1<br>TP8<br>TP28 |
| 1263       | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)  | 3       | F1                       | II                          | 3      | 163<br>640D<br>650                | LQ6  | E2      | P001<br>IBC02<br>R001          | PP1   | MP19                                    | T4   | TP1<br>TP8<br>TP28 |
| 1263       | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)   | 3       | F1                       | III                         | 3      | 163<br>640E<br>650                | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  | PP1   | MP19                                    | T2   | TP1<br>TP29        |
| 1263       | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C)  | 3       | F1                       | III                         | 3      | 163<br>640F<br>650                | LQ7  | E1      | P001<br>LP01<br>R001           | PP1   | MP19                                    | T2   | TP1<br>TP29        |
| 1263       | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus)<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C) | 3       | F1                       | III                         | 3      | 163<br>640G<br>650                | LQ7  | E1      | P001<br>LP01<br>R001           | PP1   | MP19                                    | T2   | TP1<br>TP29        |
| 1263       | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus)<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)                                  | 3       | F1                       | III                         | 3      | 163<br>640H<br>650                | LQ7  | E1      | P001<br>IBC02<br>LP01<br>R001  | PP1   | MP19                                    | T2   | TP1<br>TP29        |
| 1264       | PARALDEHID   | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                |
| 1265       | PENTÁNOK, folyékony  | 3       | F1                       | I                           | 3      |                                   | LQ3  | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2                |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1263    | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa)  |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1263    | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1263    | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)   |
| L4BN        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1263    | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C)  |
| L1.5BN      |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1263    | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus)<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C) |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1263    | FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus)<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)                                  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1264    | PARALDEHID   |
| L4BN        |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1265    | PENTÁNOK, folyékony  |

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                    |
|------------|---|---------|--------------------------|-----------------------------|--------|-----------------------------------|---|---------|--------------------------------|---|---|--|--------------------|
|            |   |         |                          |                             |        |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |                    |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3            |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)               |
| 1265       | PENTÁNOK, folyékony   | 3       | F1                       | II                          | 3      |                                   | LQ4                                       | E2      | P001<br>IBC02                  | B8  | MP19                                    | T4   | TP1                |
| 1266       | PARFÜM KÉSZÍTMÉNYEK<br>gyúlékony oldószerekkel  | 3       | F1                       | I                           | 3      |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             |  |                    |
| 1266       | PARFÜM KÉSZÍTMÉNYEK gyúlékony<br>oldószerekkel (gőznyomás 50 °C-on<br>nagyobb mint 110 kPa)   | 3       | F1                       | II                          | 3      | 640C                              | LQ6                                       | E2      | P001                           |   | MP19                                    | T4   | TP1<br>TP8         |
| 1266       | PARFÜM KÉSZÍTMÉNYEK gyúlékony<br>oldószerekkel (gőznyomás 50 °C-on<br>legfeljebb 110 kPa)   | 3       | F1                       | II                          | 3      | 640D                              | LQ6                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1<br>TP8         |
| 1266       | PARFÜM KÉSZÍTMÉNYEK<br>gyúlékony oldószerekkel  | 3       | F1                       | III                         | 3      | 640E                              | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                |
| 1266       | PARFÜM KÉSZÍTMÉNYEK gyúlékony<br>oldószerekkel (lobbanáspont 23 °C alatt<br>és a 2.2.3.1.4 pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C)   | 3       | F1                       | III                         | 3      | 640F                              | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2   | TP1                |
| 1266       | PARFÜM KÉSZÍTMÉNYEK gyúlékony<br>oldószerekkel (lobbanáspont 23 °C alatt<br>és a 2.2.3.1.4 pont szerint viszkózus)<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa, forráspont nagyobb mint 35 °C) | 3       | F1                       | III                         | 3      | 640G                              | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2   | TP1                |
| 1266       | PARFÜM KÉSZÍTMÉNYEK gyúlékony<br>oldószerekkel<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                               | 3       | F1                       | III                         | 3      | 640H                              | LQ7                                       | E1      | P001<br>IBC02<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                |
| 1267       | NYERSOLAJ (PETRÓLEUM)   | 3       | F1                       | I                           | 3      | 649                               | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP1<br>TP8         |
| 1267       | NYERSOLAJ (PETRÓLEUM)<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)   | 3       | F1                       | II                          | 3      | 640C<br>649                       | LQ4                                       | E2      | P001                           |   | MP19                                    | T4   | TP1<br>TP8         |
| 1267       | NYERSOLAJ (PETRÓLEUM)<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)   | 3       | F1                       | II                          | 3      | 640D<br>649                       | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1<br>TP8         |
| 1267       | NYERSOLAJ (PETRÓLEUM)   | 3       | F1                       | III                         | 3      |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                |
| 1268       | NYERSOLAJ (PETRÓLEUM)<br>PÁRLATOK, M.N.N. vagy<br>NYERSOLAJ (PETRÓLEUM)<br>TERMÉKEK, M.N.N.   | 3       | F1                       | I                           | 3      | 649                               | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP1<br>TP8         |
| 1268       | NYERSOLAJ (PETRÓLEUM)<br>PÁRLATOK, M.N.N. vagy<br>NYERSOLAJ (PETRÓLEUM)<br>TERMÉKEK, M.N.N.<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)   | 3       | F1                       | II                          | 3      | 640C<br>649                       | LQ4                                       | E2      | P001                           |   | MP19                                    | T7   | TP1<br>TP8<br>TP28 |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1265    | PENTÁNOK, folyékony   |
| L4BN        |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1266    | PARFÜM KÉSZÍTMÉNYEK<br>gyúlékony oldószerrel  |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1266    | PARFÜM KÉSZÍTMÉNYEK gyúlékony<br>oldószerrel (gőznyomás 50 °C-on<br>nagyobb mint 110 kPa)   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1266    | PARFÜM KÉSZÍTMÉNYEK gyúlékony<br>oldószerrel (gőznyomás 50 °C-on<br>legfeljebb 110 kPa)   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1266    | PARFÜM KÉSZÍTMÉNYEK<br>gyúlékony oldószerrel  |
| L4BN        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1266    | PARFÜM KÉSZÍTMÉNYEK gyúlékony<br>oldószerrel (lobbanáspont 23 °C alatt<br>és a 2.2.3.1.4 pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C)   |
| L1.5BN      |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1266    | PARFÜM KÉSZÍTMÉNYEK gyúlékony<br>oldószerrel (lobbanáspont 23 °C alatt<br>és a 2.2.3.1.4 pont szerint viszkózus)<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa, forráspont nagyobb mint 35 °C) |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1266    | PARFÜM KÉSZÍTMÉNYEK gyúlékony<br>oldószerrel<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                               |
| L4BN        |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1267    | NYERSOLAJ (PETRÓLEUM)   |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1267    | NYERSOLAJ (PETRÓLEUM)<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1267    | NYERSOLAJ (PETRÓLEUM)<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1267    | NYERSOLAJ (PETRÓLEUM)   |
| L4BN        |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1268    | NYERSOLAJ (PETRÓLEUM)<br>PÁRLATOK, M.N.N. vagy<br>NYERSOLAJ (PETRÓLEUM)<br>TERMÉKEK, M.N.N.   |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1268    | NYERSOLAJ (PETRÓLEUM)<br>PÁRLATOK, M.N.N. vagy<br>NYERSOLAJ (PETRÓLEUM)<br>TERMÉKEK, M.N.N.<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztartá-<br>r-konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |        |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1268       | NYERSOLAJ (PETRÓLEUM)<br>PÁRLATOK, M.N.N. vagy<br>NYERSOLAJ (PETRÓLEUM)<br>TERMÉKEK, M.N.N.<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa) | 3       | F1                       | II                          | 3      | 640D<br>649                       | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1<br>TP8<br>TP28      |
| 1268       | NYERSOLAJ (PETRÓLEUM)<br>PÁRLATOK, M.N.N. vagy<br>NYERSOLAJ (PETRÓLEUM)<br>TERMÉKEK, M.N.N.   | 3       | F1                       | III                         | 3      |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1<br>TP29             |
| 1272       | FENYŐOLAJ   | 3       | F1                       | III                         | 3      |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1274       | n-PROPANOL (NORMÁL PROPIL-<br>ALKOHOL)  | 3       | F1                       | II                          | 3      |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1274       | n-PROPANOL (NORMÁL PROPIL-<br>ALKOHOL)  | 3       | F1                       | III                         | 3      |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1275       | PROPIONALDEHID  | 3       | F1                       | II                          | 3      |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1                     |
| 1276       | n-PROPIL-ACETÁT   | 3       | F1                       | II                          | 3      |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1277       | PROPIL-AMIN   | 3       | FC                       | II                          | 3 + 8  |                                   | LQ4                                       | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 1278       | 1-KLÓR-PROPÁN   | 3       | F1                       | II                          | 3      |                                   | LQ4                                       | E2      | P001<br>IBC02                  | B8  | MP19                                    | T7   | TP2                     |
| 1279       | 1,2-DIKLÓR-PROPÁN   | 3       | F1                       | II                          | 3      |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1280       | PROPILÉN-OXID   | 3       | F1                       | I                           | 3      |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2<br>TP7              |
| 1281       | PROPIL-FORMIÁTOK  | 3       | F1                       | II                          | 3      |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1282       | PIRIDIN   | 3       | F1                       | II                          | 3      |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP2                     |
| 1286       | GYANTAOLAJ  | 3       | F1                       | I                           | 3      |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             |  |                         |
| 1286       | GYANTAOLAJ (gőznyomás 50 °C-on<br>nagyobb mint 110 kPa)   | 3       | F1                       | II                          | 3      | 640C                              | LQ6                                       | E2      | P001                           |   | MP19                                    | T4   | TP1                     |
| 1286       | GYANTAOLAJ (gőznyomás 50 °C-on<br>legfeljebb 110 kPa)   | 3       | F1                       | II                          | 3      | 640D                              | LQ6                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1286       | GYANTAOLAJ  | 3       | F1                       | III                         | 3      | 640E                              | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1286       | GYANTAOLAJ (lobbanáspont 23 °C<br>alatt és a 2.2.3.1.4 pont szerint<br>viszkózus) (forráspont legfeljebb<br>35 °C)                        | 3       | F1                       | III                         | 3      | 640F                              | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2   | TP1                     |



| ADR-tartály |                      | Jármű a tartályos szállítás-hoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                  |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|---------------------------------|--|--|--|--|--|------------------------|---------|---|
| Tartánycód  | Különleges előírások |                                 |  | Különleges előírások a küldemény-darabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                         | (8.6)  | 7.2.4                                      | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                            | (15)   | (16)                                       | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| LGBF        |                      | FL                              | 2<br>(D/E)   |  |  |  | S2<br>S20                                  | 33                     | 1268    | NYERSOLAJ (PETRÓLEUM)<br>PÁRLATOK, M.N.N. vagy<br>NYERSOLAJ (PETRÓLEUM)<br>TERMÉKEK, M.N.N.<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa) |
| LGBF        |                      | FL                              | 3<br>(D/E)   |  |  |  | S2   | 30                     | 1268    | NYERSOLAJ (PETRÓLEUM)<br>PÁRLATOK, M.N.N. vagy<br>NYERSOLAJ (PETRÓLEUM)<br>TERMÉKEK, M.N.N.   |
| LGBF        |                      | FL                              | 3<br>(D/E)   |  |  |  | S2   | 30                     | 1272    | FENYŐOLAJ   |
| LGBF        |                      | FL                              | 2<br>(D/E)   |  |  |  | S2<br>S20                                  | 33                     | 1274    | n-PROPANOL (NORMÁL PROPIL-<br>ALKOHOL)  |
| LGBF        |                      | FL                              | 3<br>(D/E)   |  |  |  | S2   | 30                     | 1274    | n-PROPANOL (NORMÁL PROPIL-<br>ALKOHOL)  |
| LGBF        |                      | FL                              | 2<br>(D/E)   |  |  |  | S2<br>S20                                  | 33                     | 1275    | PROPIONALDEHID  |
| LGBF        |                      | FL                              | 2<br>(D/E)   |  |  |  | S2<br>S20                                  | 33                     | 1276    | n-PROPIL-ACETÁT   |
| L4BH        |                      | FL                              | 2<br>(D/E)   |  |  |  | S2<br>S20                                  | 338                    | 1277    | PROPIL-AMIN   |
| L1.5BN      |                      | FL                              | 2<br>(D/E)   |  |  |  | S2<br>S20                                  | 33                     | 1278    | 1-KLÓR-PROPÁN   |
| LGBF        |                      | FL                              | 2<br>(D/E)   |  |  |  | S2<br>S20                                  | 33                     | 1279    | 1,2-DIKLÓR-PROPÁN   |
| L4BN        |                      | FL                              | 1<br>(D/E)   |  |  |  | S2<br>S20                                  | 33                     | 1280    | PROPILÉN-OXID   |
| LGBF        |                      | FL                              | 2<br>(D/E)   |  |  |  | S2<br>S20                                  | 33                     | 1281    | PROPIL-FORMIÁTOK  |
| LGBF        |                      | FL                              | 2<br>(D/E)   |  |  |  | S2<br>S20                                  | 33                     | 1282    | PIRIDIN   |
| L4BN        |                      | FL                              | 1<br>(D/E)   |  |  |  | S2<br>S20                                  | 33                     | 1286    | GYANTAOLAJ  |
| L1.5BN      |                      | FL                              | 2<br>(D/E)   |  |  |  | S2<br>S20                                  | 33                     | 1286    | GYANTAOLAJ (gőznyomás 50 °C-on<br>nagyobb mint 110 kPa)   |
| LGBF        |                      | FL                              | 2<br>(D/E)   |  |  |  | S2<br>S20                                  | 33                     | 1286    | GYANTAOLAJ (gőznyomás 50 °C-on<br>legfeljebb 110 kPa)   |
| LGBF        |                      | FL                              | 3<br>(D/E)   |  |  |  | S2   | 30                     | 1286    | GYANTAOLAJ  |
| L4BN        |                      | FL                              | 3<br>(D/E)   |  |  |  | S2   | 33                     | 1286    | GYANTAOLAJ (lobbanáspont 23 °C<br>alatt és a 2.2.3.1.4 pont szerint<br>viszkózus) (forráspont legfeljebb<br>35 °C)                        |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömllesztőáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|--------|-----------------------------------|---|---------|--------------------------------|---|---|---|-------------------------|
|            |  |         |                          |                             |        |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                               | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                             | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)  | (11)                    |
| 1286       | GYANTAOLAJ (lobbanáspont 23 °C<br>alatt és a 2.2.3.1.4 pont szerint<br>viszkózus) (gőznyomás 50 °C-on<br>nagyobb mint 110 kPa, forráspont<br>nagyobb mint 35 °C) | 3       | F1                       | III                         | 3      | 640G                              | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2  | TP1                     |
| 1286       | GYANTAOLAJ (lobbanáspont 23 °C<br>alatt és a 2.2.3.1.4 pont szerint<br>viszkózus) (gőznyomás 50 °C-on<br>legfeljebb 110 kPa)                                     | 3       | F1                       | III                         | 3      | 640H                              | LQ7                                       | E1      | P001<br>IBC02<br>LP01<br>R001  |   | MP19                                    | T2  | TP1                     |
| 1287       | GUMIOLDAT  | 3       | F1                       | I                           | 3      |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             |   |                         |
| 1287       | GUMIOLDAT (gőznyomás 50 °C-on<br>nagyobb mint 110 kPa)   | 3       | F1                       | II                          | 3      | 640C                              | LQ6                                       | E2      | P001                           |   | MP19                                    | T4  | TP1<br>TP8              |
| 1287       | GUMIOLDAT (gőznyomás 50 °C-on<br>legfeljebb 110 kPa)   | 3       | F1                       | II                          | 3      | 640D                              | LQ6                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4  | TP1<br>TP8              |
| 1287       | GUMIOLDAT  | 3       | F1                       | III                         | 3      | 640E                              | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2  | TP1                     |
| 1287       | GUMIOLDAT (lobbanáspont 23 °C alatt<br>és a 2.2.3.1.4 pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C)   | 3       | F1                       | III                         | 3      | 640F                              | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2  | TP1                     |
| 1287       | GUMIOLDAT<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa, forráspont nagyobb mint 35 °C)  | 3       | F1                       | III                         | 3      | 640G                              | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2  | TP1                     |
| 1287       | GUMIOLDAT<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                                   | 3       | F1                       | III                         | 3      | 640H                              | LQ7                                       | E1      | P001<br>IBC02<br>LP01<br>R001  |   | MP19                                    | T2  | TP1                     |
| 1288       | PALAOLAJ   | 3       | F1                       | II                          | 3      |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4  | TP1<br>TP8              |
| 1288       | PALAOLAJ   | 3       | F1                       | III                         | 3      |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2  | TP1                     |
| 1289       | NÁTRIUM-METILÁT alkoholos<br>OLDAT   | 3       | FC                       | II                          | 3 + 8  |                                   | LQ4                                       | E2      | P001<br>IBC02                  |   | MP19                                    | T7  | TP1<br>TP8              |
| 1289       | NÁTRIUM-METILÁT alkoholos<br>OLDAT   | 3       | FC                       | III                         | 3 + 8  |                                   | LQ7                                       | E1      | P001<br>IBC02<br>R001          |   | MP19                                    | T4  | TP1                     |
| 1292       | TETRAÉTIL-SZILIKÁT   | 3       | F1                       | III                         | 3      |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2  | TP1                     |
| 1293       | GYÓGYÁSZATI TINKTÚRÁK  | 3       | F1                       | II                          | 3      | 601                               | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4  | TP1<br>TP8              |
| 1293       | GYÓGYÁSZATI TINKTÚRÁK  | 3       | F1                       | III                         | 3      | 601                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2  | TP1                     |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L1.5BN      |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1286    | GYANTAOLAJ (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C) |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1286    | GYANTAOLAJ (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)                                  |
| L4BN        |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1287    | GUMIOLDAT  |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1287    | GUMIOLDAT (gőznyomás 50 °C-on nagyobb mint 110 kPa)  |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1287    | GUMIOLDAT (gőznyomás 50 °C-on legfeljebb 110 kPa)  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1287    | GUMIOLDAT  |
| L4BN        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1287    | GUMIOLDAT (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)   |
| L1.5BN      |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1287    | GUMIOLDAT (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1287    | GUMIOLDAT (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)                                   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1288    | PALAOLAJ   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1288    | PALAOLAJ   |
| L4BH        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 1289    | NÁTRIUM-METILÁT alkoholos OLDAT  |
| L4BN        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 38                     | 1289    | NÁTRIUM-METILÁT alkoholos OLDAT  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1292    | TETRAETIL-SZILIKÁT   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1293    | GYÓGYÁSZATI TINKTÚRÁK  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1293    | GYÓGYÁSZATI TINKTÚRÁK  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|----------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |                |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1294       | TOLUOL   | 3       | F1                       | II                          | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1295       | TRIKLÓR-SZILÁN   | 4.3     | WFC                      | I                           | 4.3 + 3<br>+ 8 |                                   | LQ0                                       | E0      | P401                           | RR7   | MP2                                     | T14  | TP2<br>TP7              |
| 1296       | TRIETIL-AMIN   | 3       | FC                       | II                          | 3 + 8          |                                   | LQ4                                       | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 1297       | TRIMETIL-AMIN VIZES OLDAT<br>legfeljebb 50 tömeg% trimetil-amin<br>tartalommal | 3       | FC                       | I                           | 3 + 8          |                                   | LQ3                                       | E0      | P001                           |   | MP7<br>MP17                             | T11  | TP1                     |
| 1297       | TRIMETIL-AMIN VIZES OLDAT<br>legfeljebb 50 tömeg% trimetil-amin<br>tartalommal | 3       | FC                       | II                          | 3 + 8          |                                   | LQ4                                       | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 1297       | TRIMETIL-AMIN VIZES OLDAT<br>legfeljebb 50 tömeg% trimetil-amin<br>tartalommal | 3       | FC                       | III                         | 3 + 8          |                                   | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP1                     |
| 1298       | TRIMETIL-KLÓR-SZILÁN   | 3       | FC                       | II                          | 3 + 8          |                                   | LQ4                                       | E2      | P010                           |   | MP19                                    | T10  | TP2<br>TP7              |
| 1299       | TERPENTIN  | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1300       | TERPENTINPÓTLÓ   | 3       | F1                       | II                          | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1300       | TERPENTINPÓTLÓ   | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1301       | VINIL-ACETÁT, STABILIZÁLT  | 3       | F1                       | II                          | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1302       | ETIL-VINIL-ÉTER, STABILIZÁLT   | 3       | F1                       | I                           | 3              |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2                     |
| 1303       | VINILIDÉN-KLORID, STABILIZÁLT  | 3       | F1                       | I                           | 3              |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T12  | TP2<br>TP7              |
| 1304       | IZOBUTIL-VINIL-ÉTER,<br>STABILIZÁLT  | 3       | F1                       | II                          | 3              |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1305       | VINIL-TRIKLÓR-SZILÁN   | 3       | FC                       | II                          | 3 + 8          |                                   | LQ4                                       | E2      | P010                           |   | MP19                                    | T10  | TP2<br>TP7              |
| 1306       | FOLYÉKONY FAKONZERVÁLÓ<br>ANYAGOK (gőznyomás 50 °C-on<br>nagyobb mint 110 kPa) | 3       | F1                       | II                          | 3              | 640C                              | LQ6                                       | E2      | P001                           |   | MP19                                    | T4   | TP1<br>TP8              |
| 1306       | FOLYÉKONY FAKONZERVÁLÓ<br>ANYAGOK (gőznyomás 50 °C-on<br>legfeljebb 110 kPa)   | 3       | F1                       | II                          | 3              | 640D                              | LQ6                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1<br>TP8              |
| 1306       | FOLYÉKONY FAKONZERVÁLÓ<br>ANYAGOK  | 3       | F1                       | III                         | 3              | 640E                              | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |

| ADR-tartály |                                    | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|------------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások               |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                       | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                               | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| LGBF        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1294    | TOLUOL   |
| L10DH       | TU14<br>TU25<br>TE21<br>TM2<br>TM3 | FL                             | 0<br>(B/E)   | V1  |  | CV23   | S2<br>S20                                  | X338                   | 1295    | TRIKLÓR-SZILÁN   |
| L4BH        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 1296    | TRIETIL-AMIN   |
| L10CH       | TU14<br>TE21                       | FL                             | 1<br>(C/E)   |   |  |  | S2<br>S20                                  | 338                    | 1297    | TRIMETIL-AMIN VIZES OLDAT<br>legfeljebb 50 tömeg% trimetil-amin<br>tartalommal |
| L4BH        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 1297    | TRIMETIL-AMIN VIZES OLDAT<br>legfeljebb 50 tömeg% trimetil-amin<br>tartalommal |
| L4BN        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 38                     | 1297    | TRIMETIL-AMIN VIZES OLDAT<br>legfeljebb 50 tömeg% trimetil-amin<br>tartalommal |
| L4BH        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | X338                   | 1298    | TRIMETIL-KLÓR-SZILÁN   |
| LGBF        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1299    | TERPENTIN  |
| LGBF        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1300    | TERPENTINPÓTLÓ   |
| LGBF        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1300    | TERPENTINPÓTLÓ   |
| LGBF        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 1301    | VINIL-ACETÁT, STABILIZÁLT  |
| L4BN        |                                    | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 1302    | ETIL-VINIL-ÉTER, STABILIZÁLT   |
| L4BN        |                                    | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 1303    | VINILIDÉN-KLORID, STABILIZÁLT  |
| LGBF        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 1304    | IZOBUTIL-VINIL-ÉTER,<br>STABILIZÁLT  |
| L4BH        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | X338                   | 1305    | VINIL-TRIKLÓR-SZILÁN   |
| L1.5BN      |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1306    | FOLYÉKONY FAKONZERVÁLÓ<br>ANYAGOK (gőznyomás 50 °C-on<br>nagyobb mint 110 kPa) |
| LGBF        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1306    | FOLYÉKONY FAKONZERVÁLÓ<br>ANYAGOK (gőznyomás 50 °C-on<br>legfeljebb 110 kPa)   |
| LGBF        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1306    | FOLYÉKONY FAKONZERVÁLÓ<br>ANYAGOK  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1306       | FOLYÉKONY FAKONZERVÁLÓ<br>ANYAGOK<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C)   | 3       | F1                       | III                         | 3      | 640F                              | LQ7  | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2   | TP1                     |
| 1306       | FOLYÉKONY FAKONZERVÁLÓ<br>ANYAGOK<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa, forráspont nagyobb mint 35 °C) | 3       | F1                       | III                         | 3      | 640G                              | LQ7  | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T2   | TP1                     |
| 1306       | FOLYÉKONY FAKONZERVÁLÓ<br>ANYAGOK<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                                  | 3       | F1                       | III                         | 3      | 640H                              | LQ7  | E1      | P001<br>IBC02<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1307       | XILOLOK   | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1307       | XILOLOK   | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1308       | CIRKÓNIUM GYÚLÉKONY<br>FOLYADÉKBAN SZUSZPENDÁLVA  | 3       | F1                       | I                           | 3      |                                   | LQ3  | E3      | P001                           | PP33  | MP7<br>MP17                             |  |                         |
| 1308       | CIRKÓNIUM GYÚLÉKONY<br>FOLYADÉKBAN SZUSZPENDÁLVA<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)  | 3       | F1                       | II                          | 3      | 640C                              | LQ4  | E2      | P001<br>R001                   | PP33  | MP19                                    |  |                         |
| 1308       | CIRKÓNIUM GYÚLÉKONY<br>FOLYADÉKBAN SZUSZPENDÁLVA<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)  | 3       | F1                       | II                          | 3      | 640D                              | LQ4  | E2      | P001<br>R001                   | PP33  | MP19                                    |  |                         |
| 1308       | CIRKÓNIUM GYÚLÉKONY<br>FOLYADÉKBAN SZUSZPENDÁLVA  | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>R001                   |   | MP19                                    |  |                         |
| 1309       | BEVONT ALUMÍNÍUMPOR   | 4.1     | F3                       | II                          | 4.1    |                                   | LQ8  | E2      | P002<br>IBC08                  | PP38<br>B4                                    | MP11                                    | T3   | TP33                    |
| 1309       | BEVONT ALUMÍNÍUMPOR   | 4.1     | F3                       | III                         | 4.1    |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | PP11<br>B3                                    | MP11                                    | T1   | TP33                    |
| 1310       | AMMÓNIUM-PIKRÁT, legalább<br>10 tömeg% vízzel NEDVESÍTETT   | 4.1     | D                        | I                           | 4.1    |                                   | LQ0  | E0      | P406                           | PP26  | MP2                                     |  |                         |
| 1312       | BORNEOL   | 4.1     | F1                       | III                         | 4.1    |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1313       | KÁLCIUM-REZINÁT   | 4.1     | F3                       | III                         | 4.1    |                                   | LQ9  | E1      | P002<br>IBC06<br>R001          |   | MP11                                    | T1   | TP33                    |
| 1314       | OLVASZTOTT KÁLCIUM-REZINÁT  | 4.1     | F3                       | III                         | 4.1    |                                   | LQ9  | E1      | P002<br>IBC04<br>R001          |   | MP11                                    | T1   | TP33                    |
| 1318       | LECSAPATOTT KOBALT-REZINÁT  | 4.1     | F3                       | III                         | 4.1    |                                   | LQ9  | E1      | P002<br>IBC06<br>R001          |   | MP11                                    | T1   | TP33                    |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BN        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1306    | FOLYÉKONY FAKONZERVÁLÓ ANYAGOK<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus)<br>(forráspont legfeljebb 35 °C)  |
| L1.5BN      |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1306    | FOLYÉKONY FAKONZERVÁLÓ ANYAGOK<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus)<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C) |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1306    | FOLYÉKONY FAKONZERVÁLÓ ANYAGOK<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus)<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)                                  |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1307    | XILOLOK  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1307    | XILOLOK  |
| L4BN        |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1308    | CIRKÓNIUM GYÚLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA  |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1308    | CIRKÓNIUM GYÚLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa)   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1308    | CIRKÓNIUM GYÚLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1308    | CIRKÓNIUM GYÚLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA  |
| SGAN        |                      | AT                             | 2<br>(E)   | V11                                       |  |  |  | 40                     | 1309    | BEVONT ALUMÍNIUMPOR  |
| SGAV        |                      | AT                             | 3<br>(E)   |   | VV1  |  |  | 40                     | 1309    | BEVONT ALUMÍNIUMPOR  |
|             |                      |                                | 1<br>(B)   |   |  |  | S14  |                        | 1310    | AMMÓNIUM-PIKRÁT, legalább 10 tömeg% vízzel NEDVESÍTETT   |
| SGAV        |                      | AT                             | 3<br>(E)   |   | VV1  |  |  | 40                     | 1312    | BORNEOL  |
| SGAV        |                      | AT                             | 3<br>(E)   | V12                                       | VV1  |  |  | 40                     | 1313    | KALCIUM-REZINÁT  |
| SGAV        |                      | AT                             | 3<br>(E)   |   | VV1  |  |  | 40                     | 1314    | OLVASZTOTT KALCIUM-REZINÁT   |
| SGAV        |                      | AT                             | 3<br>(E)   | V12                                       | VV1  |  |  | 40                     | 1318    | LECSAPATOTT KOBALT-REZINÁT   |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport     | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|---------------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                                 |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                         | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                             | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1320       | DINITRO-FENOL, legalább 15 tömeg%<br>vízzel NEDVESÍTETT                      | 4.1     | DT                       | I                               | 4.1 +<br>6.1 |                                   | LQ0                                       | E0      | P406                           | PP26  | MP2                                     |  |                         |
| 1321       | DINITRO-FENOLÁTOK, legalább<br>15 tömeg% vízzel NEDVESÍTETT                  | 4.1     | DT                       | I                               | 4.1 +<br>6.1 |                                   | LQ0                                       | E0      | P406                           | PP26  | MP2                                     |  |                         |
| 1322       | DINITRO-REZORCIN, legalább<br>15 tömeg% vízzel NEDVESÍTETT                   | 4.1     | D                        | I                               | 4.1          |                                   | LQ0                                       | E0      | P406                           | PP26  | MP2                                     |  |                         |
| 1323       | FERROCÉRIUM  | 4.1     | F3                       | II                              | 4.1          | 249                               | LQ8                                       | E2      | P002<br>IBC08                  | B4  | MP11                                    | T3   | TP33                    |
| 1324       | NITROCELLULÓZ ALAPÚ FILMEK<br>zselatin bevonattal, a hulladék<br>kivételével | 4.1     | F1                       | III                             | 4.1          |                                   | LQ9                                       | E1      | P002<br>R001                   | PP15  | MP11                                    |  |                         |
| 1325       | GYÜLÉKONY, SZERVES SZILÁRD<br>ANYAG, M.N.N.                                  | 4.1     | F1                       | II                              | 4.1          | 274                               | LQ8                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1325       | GYÜLÉKONY, SZERVES SZILÁRD<br>ANYAG, M.N.N.                                  | 4.1     | F1                       | III                             | 4.1          | 274                               | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1326       | NEDVESÍTETT HAFNIUMPOR<br>legalább 25% vízzel                                | 4.1     | F3                       | II                              | 4.1          | 586                               | LQ8                                       | E2      | P410<br>IBC06                  | PP40  | MP11                                    | T3   | TP33                    |
| 1327       | SZÉNA vagy SZALMA vagy BHUSA   | 4.1     | F1                       | Nem tartozik az ADR hatálya alá |              |                                   |   |         |                                |   |   |  |                         |
| 1328       | HEXAMETILÉN-TETRAMIN   | 4.1     | F1                       | III                             | 4.1          |                                   | LQ9                                       | E1      | P002<br>IBC08<br>R001          | B3  | MP10                                    | T1   | TP33                    |
| 1330       | MANGÁN-REZINÁT   | 4.1     | F3                       | III                             | 4.1          |                                   | LQ9                                       | E1      | P002<br>IBC06<br>R001          |   | MP11                                    | T1   | TP33                    |
| 1331       | MINDENÜTT GYULLADÓ GYUFA   | 4.1     | F1                       | III                             | 4.1          | 293                               | LQ9                                       | E1      | P407                           | PP27  | MP12                                    |  |                         |
| 1332       | METALDEHID   | 4.1     | F1                       | III                             | 4.1          |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1333       | CÉRIUM lemezek, rudak vagy öntecsek  | 4.1     | F3                       | II                              | 4.1          |                                   | LQ8                                       | E2      | P002<br>IBC08                  | B4  | MP11                                    |  |                         |
| 1334       | NYERS NAFTALIN vagy<br>FINOMÍTOTT NAFTALIN                                   | 4.1     | F1                       | III                             | 4.1          | 501                               | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1<br>BK1<br>BK2                               | TP33                    |
| 1336       | NITRO-GUANIDIN (PIKRIT), legalább<br>20 tömeg% vízzel NEDVESÍTETT            | 4.1     | D                        | I                               | 4.1          |                                   | LQ0                                       | E0      | P406                           |   | MP2                                     |  |                         |
| 1337       | NITROKEMÉNYÍTŐ, legalább 20<br>tömeg% vízzel NEDVESÍTETT                     | 4.1     | D                        | I                               | 4.1          |                                   | LQ0                                       | E0      | P406                           |   | MP2                                     |  |                         |
| 1338       | AMORF FOSZFOR  | 4.1     | F3                       | III                             | 4.1          |                                   | LQ9                                       | E1      | P410<br>IBC08<br>R001          | B3  | MP11                                    | T1   | TP33                    |
| 1339       | FOSZFOR-HEPTASZULFID, sárga- és<br>fehérfoszfortól mentes                    | 4.1     | F3                       | II                              | 4.1          | 602                               | LQ8                                       | E2      | P410<br>IBC04                  |   | MP11                                    | T3   | TP33                    |
| 1340       | FOSZFOR-PENTASZULFID, sárga- és<br>fehérfoszfortól mentes                    | 4.3     | WF2                      | II                              | 4.3 +<br>4.1 | 602                               | LQ11                                      | E2      | P410<br>IBC04                  |   | MP14                                    | T3   | TP33                    |
| 1341       | FOSZFOR-SZESZKVISZULFID, sárga-<br>és féhérfoszfortól mentes                 | 4.1     | F3                       | II                              | 4.1          | 602                               | LQ8                                       | E2      | P410<br>IBC04                  |   | MP11                                    | T3   | TP33                    |
| 1343       | FOSZFOR-TRISZULFID, sárga- és<br>fehérfoszfortól mentes                      | 4.1     | F3                       | II                              | 4.1          | 602                               | LQ8                                       | E2      | P410<br>IBC04                  |   | MP11                                    | T3   | TP33                    |
| 1344       | TRINITRO-FENOL (PIKRINSÁV),<br>legalább 30 tömeg% vízzel<br>NEDVESÍTETT      | 4.1     | D                        | I                               | 4.1          |                                   | LQ0                                       | E0      | P406                           | PP26  | MP2                                     |  |                         |



| ADR-tartály                     |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|---------------------------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód                      | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3                             | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)                            | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|                                 |                      |                                | 1 (B)  |   |  | CV28   | S14  |                        | 1320    | DINITRO-FENOL, legalább 15 tömeg% vízzel NEDVESÍTETT                   |
|                                 |                      |                                | 1 (B)  |   |  | CV28   | S14  |                        | 1321    | DINITRO-FENOLÁTOK, legalább 15 tömeg% vízzel NEDVESÍTETT               |
|                                 |                      |                                | 1 (B)  |   |  |  | S14  |                        | 1322    | DINITRO-REZORCIN, legalább 15 tömeg% vízzel NEDVESÍTETT                |
| SGAN                            |                      | AT                             | 2 (E)  | V11                                       |  |  |  | 40                     | 1323    | FERROCÉRIUM  |
|                                 |                      |                                | 3 (E)  |   |  |  |  |                        | 1324    | NITROCELLULÓZ ALAPÚ FILMEK zselatin bevonattal, a hulladék kivételével |
| SGAN                            |                      | AT                             | 2 (E)  | V11                                       |  |  |  | 40                     | 1325    | GYŰLÉKONY, SZERVES SZILÁRD ANYAG, M.N.N.                               |
| SGAV                            |                      | AT                             | 3 (E)  |   | VV1  |  |  | 40                     | 1325    | GYŰLÉKONY, SZERVES SZILÁRD ANYAG, M.N.N.                               |
| SGAN                            |                      | AT                             | 2 (E)  | V11<br>V12                                |  |  |  | 40                     | 1326    | NEDVESÍTETT HAFNIUMPOR legalább 25% vízzel                             |
| Nem tartozik az ADR hatálya alá |                      |                                |  |   |  |  |  |                        | 1327    | SZÉNA vagy SZALMA vagy BHUSA   |
| SGAV                            |                      | AT                             | 3 (E)  |   | VV1  |  |  | 40                     | 1328    | HEXAMETILÉN-TETRAMIN   |
| SGAV                            |                      | AT                             | 3 (E)  | V12                                       | VV1  |  |  | 40                     | 1330    | MANGÁN-REZINÁT   |
|                                 |                      |                                | 4 (E)  |   |  |  |  |                        | 1331    | MINDENÜTT GYULLADÓ GYUFA   |
| SGAV                            |                      | AT                             | 3 (E)  |   | VV1  |  |  | 40                     | 1332    | METALDEHID   |
|                                 |                      |                                | 2 (E)  | V11                                       |  |  |  |                        | 1333    | CÉRIUM lemezek, rudak vagy öntecsek                                    |
| SGAV                            |                      | AT                             | 3 (E)  |   | VV2  |  |  | 40                     | 1334    | NYERS NAFTALIN vagy FINOMÍTOTT NAFTALIN                                |
|                                 |                      |                                | 1 (B)  |   |  |  | S14  |                        | 1336    | NITRO-GUANIDIN (PIKRIT), legalább 20 tömeg% vízzel NEDVESÍTETT         |
|                                 |                      |                                | 1 (B)  |   |  |  | S14  |                        | 1337    | NITROKEMÉNYÍTŐ, legalább 20 tömeg% vízzel NEDVESÍTETT                  |
| SGAV                            |                      | AT                             | 3 (E)  |   | VV1  |  |  | 40                     | 1338    | AMORF FOSZFOR  |
| SGAN                            |                      | AT                             | 2 (E)  |   |  |  |  | 40                     | 1339    | FOSZFOR-HEPTASZULFID, sárga- és fehérfoszfortól mentes                 |
| SGAN                            |                      | AT                             | 0 (D/E)  | V1  |  | CV23   |  | 423                    | 1340    | FOSZFOR-PENTASZULFID, sárga- és fehérfoszfortól mentes                 |
| SGAN                            |                      | AT                             | 2 (E)  |   |  |  |  | 40                     | 1341    | FOSZFOR-SZESZKVISZULFID, sárga- és fehérfoszfortól mentes              |
| SGAN                            |                      | AT                             | 2 (E)  |   |  |  |  | 40                     | 1343    | FOSZFOR-TRISZULFID, sárga- és fehérfoszfortól mentes                   |
|                                 |                      |                                | 1 (B)  |   |  |  | S14  |                        | 1344    | TRINITRO-FENOL (PIKRINSAV), legalább 30 tömeg% vízzel NEDVESÍTETT      |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|--------------------------|-----------------------------|--------------|-----------------------------------|--|---------|--------------------------------|---|---|--|---------|
|            |  |         |                          |                             |              |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 1345       | GUMI HULLADÉK vagy<br>GUMI ÖRLEMÉNY,<br>porított vagy granulált                | 4.1     | F1                       | II                          | 4.1          |                                   | LQ8  | E2      | P002<br>IBC08                  | B4  | MP11                                    | T3   | TP33    |
| 1346       | AMORF SZILÍCIUMPOR   | 4.1     | F3                       | III                         | 4.1          | 32                                | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP11                                    | T1   | TP33    |
| 1347       | EZÜST-PIKRÁT, legalább 30 tömeg%<br>vízzel NEDVESÍTETT                         | 4.1     | D                        | I                           | 4.1          |                                   | LQ0  | E0      | P406                           | PP25<br>PP26                                  | MP2                                     |  |         |
| 1348       | NÁTRIUM-DINITRO-o-KREZOLÁT,<br>legalább 15 tömeg% vízzel<br>NEDVESÍTETT        | 4.1     | DT                       | I                           | 4.1 +<br>6.1 |                                   | LQ0  | E0      | P406                           | PP26  | MP2                                     |  |         |
| 1349       | NÁTRIUM-PIKRAMÁT, legalább<br>20 tömeg% vízzel NEDVESÍTETT                     | 4.1     | D                        | I                           | 4.1          |                                   | LQ0  | E0      | P406                           | PP26  | MP2                                     |  |         |
| 1350       | KÉN  | 4.1     | F3                       | III                         | 4.1          | 242                               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP11                                    | T1<br>BK1<br>BK2                               | TP33    |
| 1352       | NEDVESÍTETT TITÁNPOR legalább<br>25% vízzel                                    | 4.1     | F3                       | II                          | 4.1          | 586                               | LQ8  | E2      | P410<br>IBC06                  | PP40  | MP11                                    | T3   | TP33    |
| 1353       | GYENGÉN NITRÁLT<br>NITROCELLULÓZZAL IMPREGNÁLT<br>SZÁLAk vagy SZÖVETEK, M.N.N. | 4.1     | F1                       | III                         | 4.1          | 274<br>502                        | LQ9  | E1      | P410<br>IBC08<br>R001          | B3  | MP11                                    |  |         |
| 1354       | TRINITRO-BENZOL, legalább<br>30 tömeg% vízzel NEDVESÍTETT                      | 4.1     | D                        | I                           | 4.1          |                                   | LQ0  | E0      | P406                           |   | MP2                                     |  |         |
| 1355       | TRINITRO-BENZOÉSAV,<br>legalább 30 tömeg% vízzel<br>NEDVESÍTETT                | 4.1     | D                        | I                           | 4.1          |                                   | LQ0  | E0      | P406                           |   | MP2                                     |  |         |
| 1356       | TRINITRO-TOLUOL (TROTIL, TNT),<br>legalább 30 tömeg% vízzel<br>NEDVESÍTETT     | 4.1     | D                        | I                           | 4.1          |                                   | LQ0  | E0      | P406                           |   | MP2                                     |  |         |
| 1357       | KARBAMID-NITRÁT,<br>legalább 20 tömeg% vízzel<br>NEDVESÍTETT                   | 4.1     | D                        | I                           | 4.1          | 227                               | LQ0  | E0      | P406                           |   | MP2                                     |  |         |
| 1358       | NEDVESÍTETT CIRKÓNIUMPOR<br>legalább 25% vízzel                                | 4.1     | F3                       | II                          | 4.1          | 586                               | LQ8  | E2      | P410<br>IBC06                  | PP40  | MP11                                    | T3   | TP33    |
| 1360       | KALCIUM-FOSZFID  | 4.3     | WT2                      | I                           | 4.3 +<br>6.1 |                                   | LQ0  | E0      | P403                           |   | MP2                                     |  |         |
| 1361       | SZÉN vagy KOROM<br>(állati vagy növényi eredetű)                               | 4.2     | S2                       | II                          | 4.2          |                                   | LQ0  | E2      | P002<br>IBC06                  | PP12  | MP14                                    | T3   | TP33    |
| 1361       | SZÉN vagy KOROM<br>(állati vagy növényi eredetű)                               | 4.2     | S2                       | III                         | 4.2          |                                   | LQ0  | E1      | P002<br>IBC08<br>LP02<br>R001  | PP12<br>B3                                    | MP14                                    | T1   | TP33    |
| 1362       | AKTÍV SZÉN   | 4.2     | S2                       | III                         | 4.2          | 646                               | LQ0  | E1      | P002<br>IBC08<br>LP02<br>R001  | PP11<br>B3                                    | MP14                                    | T1   | TP33    |
| 1363       | KOPRA  | 4.2     | S2                       | III                         | 4.2          |                                   | LQ0  | E1      | P003<br>IBC08<br>LP02<br>R001  | PP20<br>B3 B6                                 | MP14                                    |  |         |
| 1364       | OLAJOS GYAPOT HULLADÉK   | 4.2     | S2                       | III                         | 4.2          |                                   | LQ0  | E1      | P003<br>IBC08<br>LP02<br>R001  | PP19<br>B3 B6                                 | MP14                                    |  |         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| SGAN        |                      | AT                             | 4<br>(E)   | V11                                       |  |  |  | 40                     | 1345    | GUMI HULLADÉK vagy GUMI ÖRLEMÉNY, porított vagy granulált                |
| SGAV        |                      | AT                             | 3<br>(E)   |   | VV1  |  |  | 40                     | 1346    | AMORF SZILÍCIUMPOR   |
|             |                      |                                | 1<br>(B)   |   |  |  | S14  |                        | 1347    | EZÜST-PIKRÁT, legalább 30 tömeg% vízzel NEDVESÍTETT                      |
|             |                      |                                | 1<br>(B)   |   |  | CV28   | S14  |                        | 1348    | NÁTRIUM-DINITRO-o-KREZOLÁT, legalább 15 tömeg% vízzel NEDVESÍTETT        |
|             |                      |                                | 1<br>(B)   |   |  |  | S14  |                        | 1349    | NÁTRIUM-PIKRAMÁT, legalább 20 tömeg% vízzel NEDVESÍTETT                  |
| SGAV        |                      | AT                             | 3<br>(E)   |   | VV1  |  |  | 40                     | 1350    | KÉN  |
| SGAN        |                      | AT                             | 2<br>(E)   | V11<br>V12                                |  |  |  | 40                     | 1352    | NEDVESÍTETT TITÁNPOR legalább 25% vízzel                                 |
|             |                      |                                | 3<br>(E)   |   |  |  |  |                        | 1353    | GYENGÉN NITRÁLT NITROCELLULÓZZAL IMPREGNÁLT SZÁLAk vagy SZÖVETEK, M.N.N. |
|             |                      |                                | 1<br>(B)   |   |  |  | S14  |                        | 1354    | TRINITRO-BENZOL, legalább 30 tömeg% vízzel NEDVESÍTETT                   |
|             |                      |                                | 1<br>(B)   |   |  |  | S14  |                        | 1355    | TRINITRO-BENZOÉSAV, legalább 30 tömeg% vízzel NEDVESÍTETT                |
|             |                      |                                | 1<br>(B)   |   |  |  | S14  |                        | 1356    | TRINITRO-TOLUOL (TROIL, TNT), legalább 30 tömeg% vízzel NEDVESÍTETT      |
|             |                      |                                | 1<br>(B)   |   |  |  | S14  |                        | 1357    | KARBAMID-NITRÁT, legalább 20 tömeg% vízzel NEDVESÍTETT                   |
| SGAN        |                      | AT                             | 2<br>(E)   | V11<br>V12                                |  |  |  | 40                     | 1358    | NEDVESÍTETT CIRKÓNIUMPOR legalább 25% vízzel                             |
|             |                      |                                | 1<br>(E)   | V1  |  | CV23<br>CV28   | S20  |                        | 1360    | KALCIUM-FOSZFID  |
| SGAN        | TU11                 | AT                             | 2<br>(D/E)   | V1<br>V12<br>V13                          |  |  |  | 40                     | 1361    | SZÉN vagy KOROM (állati vagy növényi eredetű)                            |
| SGAV        |                      | AT                             | 4<br>(E)   | V1<br>V13                                 | VV4  |  |  | 40                     | 1361    | SZÉN vagy KOROM (állati vagy növényi eredetű)                            |
| SGAV        |                      | AT                             | 4<br>(E)   | V1  | VV4  |  |  | 40                     | 1362    | AKTÍV SZÉN   |
|             |                      |                                | 3<br>(E)   | V1  | VV4  |  |  | 40                     | 1363    | KOPRA  |
|             |                      |                                | 3<br>(E)   | V1  | VV4  |  |  | 40                     | 1364    | OLAJOS GYAPOT HULLADÉK   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport     | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|---|---------|--------------------------|---------------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------|
|            |   |         |                          |                                 |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                         | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                             | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 1365       | NEDVES GYAPOT   | 4.2     | S2                       | III                             | 4.2          |                                   | LQ0                                       | E1      | P003<br>IBC08<br>LP02<br>R001  | PP19<br>B3 B6                                 | MP14                                    |  |             |
| 1369       | p-NITROZO-DIMETIL-ANILIN  | 4.2     | S2                       | II                              | 4.2          |                                   | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33        |
| 1372       | ÁLLATI vagy NÖVÉNYI EREDETŰ<br>SZÁLAK, égett, nedves vagy vizes                                       | 4.2     | S2                       | Nem tartozik az ADR hatálya alá |              |                                   |   |         |                                |   |   |  |             |
| 1373       | ÁLLATI vagy NÖVÉNYI vagy<br>SZINTETIKUS EREDETŰ SZÁLAK<br>vagy SZÖVETEK, M.N.N., olajjal              | 4.2     | S2                       | III                             | 4.2          | 274                               | LQ0                                       | E1      | P410<br>IBC08<br>R001          | B3  | MP14                                    | T1   | TP33        |
| 1374       | HALLISZT (HALHULLADÉK), NEM<br>STABILIZÁLT  | 4.2     | S2                       | II                              | 4.2          | 300                               | LQ0                                       | E2      | P410<br>IBC08                  | B4  | MP14                                    | T3   | TP33        |
| 1376       | KIMERÜLT VAS-OXID vagy<br>KIMERÜLT VASSZIVACS a<br>generátorgáz tisztításából                         | 4.2     | S4                       | III                             | 4.2          | 592                               | LQ0                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                    | T1<br>BK2                                      | TP33        |
| 1378       | FÉM KATALIZÁTOR, NEDVESÍTETT,<br>látható folyadékfelesleggel  | 4.2     | S4                       | II                              | 4.2          | 274                               | LQ0                                       | E2      | P410<br>IBC01                  | PP39  | MP14                                    | T3   | TP33        |
| 1379       | TELÍTETLEN OLAJJAL KEZELT<br>PAPÍR, nem teljesen száraz (beleértve a<br>karbonpapírt)                 | 4.2     | S2                       | III                             | 4.2          |                                   | LQ0                                       | E1      | P410<br>IBC08<br>R001          | B3  | MP14                                    |  |             |
| 1380       | PENTABORÁN  | 4.2     | ST3                      | I                               | 4.2 +<br>6.1 |                                   | LQ0                                       | E0      | P601                           |   | MP2                                     |  |             |
| 1381       | FEHÉR- vagy SÁRGAFOSZFOR,<br>VÍZ ALATT vagy OLDATBAN  | 4.2     | ST3                      | I                               | 4.2 +<br>6.1 | 503                               | LQ0                                       | E0      | P405                           |   | MP2                                     | T9   | TP3<br>TP31 |
| 1381       | FEHÉR- vagy SÁRGAFOSZFOR,<br>SZÁRAZ   | 4.2     | ST4                      | I                               | 4.2 +<br>6.1 | 503                               | LQ0                                       | E0      | P405                           |   | MP2                                     | T9   | TP3<br>TP31 |
| 1382       | VÍZMENTES KÁLIUM-SZULFID vagy<br>KÁLIUM-SZULFID 30%-nál kevesebb<br>kristályvíz-tartalommal           | 4.2     | S4                       | II                              | 4.2          | 504                               | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33        |
| 1383       | PIROFOROS FÉM, M.N.N. vagy<br>PIROFOROS ÖTVÖZET, M.N.N.   | 4.2     | S4                       | I                               | 4.2          | 274                               | LQ0                                       | E0      | P404                           |   | MP13                                    | T21  | TP7<br>TP33 |
| 1384       | NÁTRIUM-DITIONIT (NÁTRIUM-<br>HIPODISZULFIT)  | 4.2     | S4                       | II                              | 4.2          |                                   | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33        |
| 1385       | VÍZMENTES NÁTRIUM-SZULFID<br>vagy NÁTRIUM-SZULFID 30%-nál<br>kevesebb kristályvíz-tartalommal         | 4.2     | S4                       | II                              | 4.2          | 504                               | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33        |
| 1386       | OLAJPOGÁCSA 1,5 tömeg%-nál<br>nagyobb olajtartalommal és legfeljebb<br>11 tömeg% nedvességtartalommal | 4.2     | S2                       | III                             | 4.2          |                                   | LQ0                                       | E1      | P003<br>IBC08<br>LP02<br>R001  | PP20<br>B3 B6                                 | MP14                                    |  |             |
| 1387       | NEDVES GYAPJUHULLADÉK   | 4.2     | S2                       | Nem tartozik az ADR hatálya alá |              |                                   |   |         |                                |   |   |  |             |
| 1389       | FOLYÉKONY ALKÁLIFÉM<br>AMALGÁM  | 4.3     | W1                       | I                               | 4.3          | 182<br>274                        | LQ0                                       | E0      | P402                           | RR8   | MP2                                     |  |             |

| ADR-tartály                     |                                     | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|---------------------------------|-------------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód                      | Különleges előírások                |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                             | 4.3.5, 6.8.4                        | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                            | (13)                                | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|                                 |                                     |                                | 3 (E)  | V1  | VV4  |  |  | 40                     | 1365    | NEDVES GYAPOT   |
| SGAN                            |                                     | AT                             | 2 (D/E)  | V1<br>V12                                 |  |  |  | 40                     | 1369    | p-NITROZO-DIMETIL-ANILIN  |
| Nem tartozik az ADR hatálya alá |                                     |                                |  |   |  |  |  |                        | 1372    | ÁLLATI vagy NÖVÉNYI EREDETŰ SZÁLAK, égett, nedves vagy vizes                                    |
|                                 |                                     |                                | 3 (E)  | V1  | VV4  |  |  | 40                     | 1373    | ÁLLATI vagy NÖVÉNYI vagy SZINTETIKUS EREDETŰ SZÁLAK vagy SZÖVETEK, M.N.N., olajjal              |
|                                 |                                     | AT                             | 2 (D/E)  | V1  |  |  |  | 40                     | 1374    | HALLISZT (HALHULLADÉK), NEM STABILIZÁLT   |
| SGAV                            |                                     | AT                             | 3 (E)  | V1  | VV4  |  |  | 40                     | 1376    | KIMERÜLT VAS-OXID vagy KIMERÜLT VASSZIVACS a generátorgáz tisztításából                         |
| SGAN                            |                                     | AT                             | 2 (D/E)  | V1  |  |  |  | 40                     | 1378    | FÉM KATALIZÁTOR, NEDVESÍTETT, látható folyadékfelesleggel                                       |
|                                 |                                     |                                | 3 (E)  | V1  | VV4  |  |  | 40                     | 1379    | TELÍTETLEN OLAJJAL KEZELT PAPÍR, nem teljesen száraz (beleértve a karbonpapírt)                 |
| L21DH                           | TU14<br>TC1<br>TE21<br>TM1          | AT                             | 0 (B/E)  | V1  |  | CV28   | S20  | 333                    | 1380    | PENTABORÁN  |
| L10DH(+)                        | TU14<br>TU16<br>TU21<br>TE3<br>TE21 | AT                             | 0 (B/E)  | V1  |  | CV28   | S20  | 46                     | 1381    | FEHÉR- vagy SÁRGAFOSZFOR, VÍZ ALATT vagy OLDATBAN   |
| L10DH(+)                        | TU14<br>TU16<br>TU21<br>TE3<br>TE21 | AT                             | 0 (B/E)  | V1  |  | CV28   | S20  | 46                     | 1381    | FEHÉR- vagy SÁRGAFOSZFOR, SZÁRAZ  |
| SGAN                            |                                     | AT                             | 2 (D/E)  | V1<br>V12                                 |  |  |  | 40                     | 1382    | VÍZMENTES KÁLIUM-SZULFID vagy KÁLIUM-SZULFID 30%-nál kevesebb kristályvíz-tartalommal           |
|                                 |                                     | AT                             | 0 (B/E)  | V1  |  |  | S20  | 43                     | 1383    | PIROFOROS FÉM, M.N.N. vagy PIROFOROS ÖTVÖZET, M.N.N.  |
| SGAN                            |                                     | AT                             | 2 (D/E)  | V1<br>V12                                 |  |  |  | 40                     | 1384    | NÁTRIUM-DITIONIT (NÁTRIUM-HIPODISZULFIT)  |
| SGAN                            |                                     | AT                             | 2 (D/E)  | V1<br>V12                                 |  |  |  | 40                     | 1385    | VÍZMENTES NÁTRIUM-SZULFID vagy NÁTRIUM-SZULFID 30%-nál kevesebb kristályvíz-tartalommal         |
|                                 |                                     |                                | 3 (E)  | V1  | VV4  |  |  | 40                     | 1386    | OLAJPOGÁCSA 1,5 tömeg%-nál nagyobb olajtartalommal és legfeljebb 11 tömeg% nedvességtartalommal |
| Nem tartozik az ADR hatálya alá |                                     |                                |  |   |  |  |  |                        | 1387    | NEDVES GYAPIÚHULLADÉK   |
| L10BN(+)                        | TU1<br>TE5<br>TT3<br>TM2            | AT                             | 1 (B/E)  | V1  |  | CV23   | S20  | X323                   | 1389    | FOLYÉKONY ALKÁLIFÉM AMALGÁM   |

| UN<br>szám | 3.1.2   | Osztály<br>2.2 | Oszta-<br>lyozási<br>kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Bárcák<br>5.2.2 | Külön-<br>leges<br>előírá-<br>sok<br>3.3 | Korlátozott és<br>engedményes<br>mennyiség<br>3.4.6 3.5.1.2 |      | Csomagolóeszköz                         |  |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                                    |
|------------|---|----------------|---------------------------------|--|-----------------|--|---|------|---|--|---|--|------------------------------------|
|            |   |                |                                 |  |                 |  |   |      | Csoma-<br>golási<br>utasítások<br>4.1.4 | Különle-<br>ges cso-<br>magolási<br>előírások<br>4.1.4 | Egybe-<br>csomago-<br>lási<br>előírások<br>4.1.10 | Utasítá-<br>sok<br>4.2.5.2,<br>7.3.2           | Különleges<br>előírások<br>4.2.5.3 |
| (1)        | (2)   | (3a)           | (3b)                            | (4)                                    | (5)             | (6)                                      | (7a)  | (7b) | (8)                                     | (9a)   | (9b)  | (10)   | (11)                               |
| 1390       | ALKÁLIFÉM AMIDOK  | 4.3            | W2                              | II                                     | 4.3             | 182<br>274<br>505                        | LQ11  | E2   | P410<br>IBC07                           |  | MP14  | T3   | TP33                               |
| 1391       | ALKÁLIFÉM DISZPERZIÓ vagy<br>ALKÁLIFÖLDFÉM DISZPERZIÓ<br>60 °C feletti lobbanásponttal    | 4.3            | W1                              | I                                      | 4.3             | 182<br>183<br>274<br>506                 | LQ0   | E0   | P402                                    | RR8  | MP2   |  |                                    |
| 1391       | ALKÁLIFÉM DISZPERZIÓ vagy<br>ALKÁLIFÖLDFÉM DISZPERZIÓ<br>legfeljebb 60 °C lobbanásponttal | 4.3            | WF1                             | I                                      | 4.3 + 3         | 182<br>183<br>274<br>506                 | LQ0   | E0   | P402                                    | RR8  | MP2   |  |                                    |
| 1392       | FOLYÉKONY ALKÁLIFÖLDFÉM<br>AMALGÁM  | 4.3            | W1                              | I                                      | 4.3             | 183<br>274<br>506                        | LQ0   | E0   | P402                                    |  | MP2   |  |                                    |
| 1393       | ALKÁLIFÖLDFÉM ÖTVÖZET, M.N.N.   | 4.3            | W2                              | II                                     | 4.3             | 183<br>274<br>506                        | LQ11  | E2   | P410<br>IBC07                           |  | MP14  | T3   | TP33                               |
| 1394       | ALUMÍNIUM-KARBID  | 4.3            | W2                              | II                                     | 4.3             |  | LQ11  | E2   | P410<br>IBC07                           |  | MP14  | T3   | TP33                               |
| 1395       | ALUMÍNIUM-FERROSZILÍCIUM POR  | 4.3            | WT2                             | II                                     | 4.3 +<br>6.1    |  | LQ11  | E2   | P410<br>IBC05                           | PP40   | MP14  | T3   | TP33                               |
| 1396       | ALUMÍNIUMPOR BEVONAT<br>NÉLKÜL  | 4.3            | W2                              | II                                     | 4.3             |  | LQ12  | E2   | P410<br>IBC07                           | PP40   | MP14  | T3   | TP33                               |
| 1396       | ALUMÍNIUMPOR BEVONAT<br>NÉLKÜL  | 4.3            | W2                              | III                                    | 4.3             |  | LQ12  | E1   | P410<br>IBC08<br>R001                   | B4   | MP14  | T1   | TP33                               |
| 1397       | ALUMÍNIUM-FOSZFID   | 4.3            | WT2                             | I                                      | 4.3 +<br>6.1    | 507                                      | LQ0   | E0   | P403                                    |  | MP2   |  |                                    |
| 1398       | ALUMÍNIUM-SZILÍCIUM POR<br>BEVONAT NÉLKÜL   | 4.3            | W2                              | III                                    | 4.3             | 37                                       | LQ12  | E1   | P410<br>IBC08<br>R001                   | B4   | MP14  | T1   | TP33                               |
| 1400       | BÁRIUM  | 4.3            | W2                              | II                                     | 4.3             |  | LQ11  | E2   | P410<br>IBC07                           |  | MP14  | T3   | TP33                               |
| 1401       | KALCIUM   | 4.3            | W2                              | II                                     | 4.3             |  | LQ11  | E2   | P410<br>IBC07                           |  | MP14  | T3   | TP33                               |
| 1402       | KALCIUM-KARBID  | 4.3            | W2                              | I                                      | 4.3             |  | LQ0   | E0   | P403<br>IBC04                           |  | MP2   | T9   | TP7<br>TP33                        |
| 1402       | KALCIUM-KARBID  | 4.3            | W2                              | II                                     | 4.3             |  | LQ11  | E2   | P410<br>IBC07                           |  | MP14  | T3   | TP33                               |
| 1403       | KALCIUM-CIÁNAMID 0,1%-nál<br>nagyobb kalcium-karbid tartalommal                           | 4.3            | W2                              | III                                    | 4.3             | 38                                       | LQ12  | E1   | P410<br>IBC08<br>R001                   | B4   | MP14  | T1   | TP33                               |
| 1404       | KALCIUM-HIDRID  | 4.3            | W2                              | I                                      | 4.3             |  | LQ0   | E0   | P403                                    |  | MP2   |  |                                    |
| 1405       | KALCIUM-SZILICID  | 4.3            | W2                              | II                                     | 4.3             |  | LQ11  | E2   | P410<br>IBC07                           |  | MP14  | T3   | TP33                               |
| 1405       | KALCIUM-SZILICID  | 4.3            | W2                              | III                                    | 4.3             |  | LQ12  | E1   | P410<br>IBC08<br>R001                   | B4   | MP14  | T1   | TP33                               |
| 1407       | CÉZIUM  | 4.3            | W2                              | I                                      | 4.3             |  | LQ0   | E0   | P403<br>IBC04                           |  | MP2   |  |                                    |

| ADR-tartály |  | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyjelölő számok | UN szám | Megnevezés és leírás  |
|-------------|--|--------------------------------|--|---|--|--|--|----------------------|---------|---|
| Tartálykód  | Különleges előírások                     |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                      |         |   |
| 4.3         | 4.3.5, 6.8.4                             | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3              |         | 3.1.2   |
| (12)        | (13)                                     | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                 | (1)     | (2)   |
| SGAN        |  | AT                             | 0 (D/E)  | V1<br>V12                                 |  | CV23   |  | 423                  | 1390    | ALKÁLIFÉM AMIDOK  |
| L10BN(+)    | TU1<br>TE5<br>TT3<br>TM2                 | AT                             | 1 (B/E)  | V1  |  | CV23   | S20  | X323                 | 1391    | ALKÁLIFÉM DISZPERZIÓ vagy ALKÁLIFÖLDFÉM DISZPERZIÓ 60 °C feletti lobbanásponttal    |
| L10BN(+)    | TU1<br>TE5<br>TT3<br>TM2                 | FL                             | 1 (B/E)  | V1  |  | CV23   | S2<br>S20                                  | X323                 | 1391    | ALKÁLIFÉM DISZPERZIÓ vagy ALKÁLIFÖLDFÉM DISZPERZIÓ legfeljebb 60 °C lobbanásponttal |
| L10BN(+)    | TU1<br>TE5<br>TT3<br>TM2                 | AT                             | 1 (B/E)  | V1  |  | CV23   | S20  | X323                 | 1392    | FOLYÉKONY ALKÁLIFÖLDFÉM AMALGÁM   |
| SGAN        |  | AT                             | 2 (D/E)  | V1<br>V12                                 |  | CV23   |  | 423                  | 1393    | ALKÁLIFÖLDFÉM ÖTVÖZET, M.N.N.   |
| SGAN        |  | AT                             | 2 (D/E)  | V1<br>V12                                 | VV5  | CV23   |  | 423                  | 1394    | ALUMÍNIUM-KARBID  |
| SGAN        |  | AT                             | 2 (D/E)  | V1  |  | CV23<br>CV28   |  | 462                  | 1395    | ALUMÍNIUM-FERROSZILÍCIUM POR  |
| SGAN        |  | AT                             | 2 (D/E)  | V1<br>V12                                 |  | CV23   |  | 423                  | 1396    | ALUMÍNIUMPOR BEVONAT NÉLKÜL   |
| SGAN        |  | AT                             | 3 (E)  | V1  | VV5  | CV23   |  | 423                  | 1396    | ALUMÍNIUMPOR BEVONAT NÉLKÜL   |
|             |  |                                | 1 (E)  | V1  |  | CV23<br>CV28   | S20  |                      | 1397    | ALUMÍNIUM-FOSZFID   |
| SGAN        |  | AT                             | 3 (E)  | V1  | VV5  | CV23   |  | 423                  | 1398    | ALUMÍNIUM-SZILÍCIUM POR BEVONAT NÉLKÜL  |
| SGAN        |  | AT                             | 2 (D/E)  | V1<br>V12                                 |  | CV23   |  | 423                  | 1400    | BÁRIUM  |
| SGAN        |  | AT                             | 2 (D/E)  | V1<br>V12                                 |  | CV23   |  | 423                  | 1401    | KALCIUM   |
|             |  | AT                             | 1 (B/E)  | V1  |  | CV23   | S20  | X423                 | 1402    | KALCIUM-KARBID  |
| SGAN        |  | AT                             | 2 (D/E)  | V1<br>V12                                 | VV5  | CV23   |  | 423                  | 1402    | KALCIUM-KARBID  |
| SGAN        |  | AT                             | 0 (E)  | V1  |  | CV23   |  | 423                  | 1403    | KALCIUM-CIÁNAMID 0,1%-nál nagyobb kalcium-karbid tartalommal                        |
|             |  |                                | 1 (E)  | V1  |  | CV23   | S20  |                      | 1404    | KALCIUM-HIDRID  |
| SGAN        |  | AT                             | 2 (D/E)  | V1<br>V12                                 | VV7  | CV23   |  | 423                  | 1405    | KALCIUM-SZILICID  |
| SGAN        |  | AT                             | 3 (E)  | V1  | VV5<br>VV7                                     | CV23   |  | 423                  | 1405    | KALCIUM-SZILICID  |
| L10CH(+)    | TU2<br>TU14<br>TE5<br>TE21<br>TT3<br>TM2 | AT                             | 1 (B/E)  | V1  |  | CV23   | S20  | X423                 | 1407    | CÉZIUM  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1408       | FERROSZILÍCIUM 30 tömeg% vagy<br>több, de 90 tömeg%-nál kevesebb<br>szilíciumtartalommal | 4.3     | WT2                      | III                         | 4.3 +<br>6.1 | 39                                | LQ12                                      | E1      | P003<br>IBC08<br>R001          | PP20<br>B4 B6                                 | MP14                                    | T1<br>BK2                                      | TP33                    |
| 1409       | VÍZZEL REAKTÍV FÉMHIIDRIIDK,<br>M.N.N.   | 4.3     | W2                       | I                           | 4.3          | 274<br>508                        | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 1409       | VÍZZEL REAKTÍV FÉMHIIDRIIDK,<br>M.N.N.   | 4.3     | W2                       | II                          | 4.3          | 274<br>508                        | LQ11                                      | E2      | P410<br>IBC04                  |   | MP14                                    | T3   | TP33                    |
| 1410       | LÍTIUM-ALUMÍNIUM-HIDRID  | 4.3     | W2                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 1411       | LÍTIUM-ALUMÍNIUM-HIDRID<br>ÉTERBEN   | 4.3     | WF1                      | I                           | 4.3 + 3      |                                   | LQ0                                       | E0      | P402                           | RR8   | MP2                                     |  |                         |
| 1413       | LÍTIUM-BÓR-HIDRID  | 4.3     | W2                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 1414       | LÍTIUM-HIDRID  | 4.3     | W2                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 1415       | LÍTIUM   | 4.3     | W2                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P403<br>IBC04                  |   | MP2                                     |  |                         |
| 1417       | LÍTIUM-SZILÍCIUM   | 4.3     | W2                       | II                          | 4.3          |                                   | LQ11                                      | E2      | P410<br>IBC07                  |   | MP14                                    | T3   | TP33                    |
| 1418       | MAGNÉZIUMPOR vagy<br>MAGNÉZIUM ÖTVÖZET POR   | 4.3     | WS                       | I                           | 4.3 +<br>4.2 |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 1418       | MAGNÉZIUMPOR vagy<br>MAGNÉZIUM ÖTVÖZET POR   | 4.3     | WS                       | II                          | 4.3 +<br>4.2 |                                   | LQ11                                      | E2      | P410<br>IBC05                  |   | MP14                                    | T3   | TP33                    |
| 1418       | MAGNÉZIUMPOR vagy<br>MAGNÉZIUM ÖTVÖZET POR   | 4.3     | WS                       | III                         | 4.3 +<br>4.2 |                                   | LQ12                                      | E1      | P410<br>IBC08<br>R001          | B4  | MP14                                    | T1   | TP33                    |
| 1419       | MAGNÉZIUM-ALUMÍNIUM-FOSZFID  | 4.3     | WT2                      | I                           | 4.3 +<br>6.1 |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 1420       | FOLYÉKONY KÁLIUMFÉM<br>ÖTVÖZETEK   | 4.3     | W1                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P402                           |   | MP2                                     |  |                         |
| 1421       | FOLYÉKONY ALKÁLIFÉM<br>ÖTVÖZETEK, M.N.N.   | 4.3     | W1                       | I                           | 4.3          | 182<br>274                        | LQ0                                       | E0      | P402                           | RR8   | MP2                                     |  |                         |
| 1422       | FOLYÉKONY KÁLIUM-NÁTRIUM<br>ÖTVÖZETEK  | 4.3     | W1                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P402                           |   | MP2                                     | T9   | TP3<br>TP7<br>TP31      |
| 1423       | RUBÍDIUM   | 4.3     | W2                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P403<br>IBC04                  |   | MP2                                     |  |                         |
| 1426       | NÁTRIUM-BÓR-HIDRID   | 4.3     | W2                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 1427       | NÁTRIUM-HIDRID   | 4.3     | W2                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 1428       | NÁTRIUM  | 4.3     | W2                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P403<br>IBC04                  |   | MP2                                     | T9   | TP7<br>TP33             |
| 1431       | NÁTRIUM-METILÁT  | 4.2     | SC4                      | II                          | 4.2 + 8      |                                   | LQ0                                       | E2      | P410<br>IBC05                  |   | MP14                                    | T3   | TP33                    |



| ADR-tartály |  | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|--|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások                     |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                             | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                                     | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| SGAN        |  | AT                             | 3<br>(E)   | V1  | VV1  | CV23<br>CV28   |  | 462                    | 1408    | FERROSZILÍCIUM 30 tömeg% vagy több, de 90 tömeg%-nál kevesebb szilíciumtartalommal |
|             |  |                                | 1<br>(E)   | V1  |  | CV23   | S20  |                        | 1409    | VÍZZEL REAKTÍV FÉMHIIDRIK, M.N.N.  |
| SGAN        |  | AT                             | 2<br>(D/E)   | V1  |  | CV23   |  | 423                    | 1409    | VÍZZEL REAKTÍV FÉMHIIDRIK, M.N.N.  |
|             |  |                                | 1<br>(E)   | V1  |  | CV23   | S20  |                        | 1410    | LÍTIUM-ALUMÍNIUM-HIDRID  |
|             |  |                                | 1<br>(E)   | V1  |  | CV23   | S2<br>S20                                  |                        | 1411    | LÍTIUM-ALUMÍNIUM-HIDRID ÉTERBEN  |
|             |  |                                | 1<br>(E)   | V1  |  | CV23   | S20  |                        | 1413    | LÍTIUM-BÓR-HIDRID  |
|             |  |                                | 1<br>(E)   | V1  |  | CV23   | S20  |                        | 1414    | LÍTIUM-HIDRID  |
| L10BN(+)    | TU1<br>TE5<br>TT3<br>TM2                 | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X423                   | 1415    | LÍTIUM   |
| SGAN        |  | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  | CV23   |  | 423                    | 1417    | LÍTIUM-SZILÍCIUM   |
|             |  |                                | 1<br>(E)   | V1  |  | CV23   | S20  |                        | 1418    | MAGNÉZIUMPOR vagy MAGNÉZIUM ÖTVÖZET POR  |
| SGAN        |  | AT                             | 2<br>(D/E)   | V1  |  | CV23   |  | 423                    | 1418    | MAGNÉZIUMPOR vagy MAGNÉZIUM ÖTVÖZET POR  |
| SGAN        |  | AT                             | 3<br>(E)   | V1  | VV5  | CV23   |  | 423                    | 1418    | MAGNÉZIUMPOR vagy MAGNÉZIUM ÖTVÖZET POR  |
|             |  |                                | 1<br>(E)   | V1  |  | CV23<br>CV28   | S20  |                        | 1419    | MAGNÉZIUM-ALUMÍNIUM-FOSZFID  |
| L10BN(+)    | TU1<br>TE5<br>TT3<br>TM2                 | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X323                   | 1420    | FOLYÉKONY KÁLIUMFÉM ÖTVÖZETEK  |
| L10BN(+)    | TU1<br>TE5<br>TT3<br>TM2                 | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X323                   | 1421    | FOLYÉKONY ALKÁLIFÉM ÖTVÖZETEK, M.N.N.  |
| L10BN(+)    | TU1<br>TE5<br>TT3<br>TM2                 | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X323                   | 1422    | FOLYÉKONY KÁLIUM-NÁTRIUM ÖTVÖZETEK   |
| L10CH(+)    | TU2<br>TU14<br>TE5<br>TE21<br>TT3<br>TM2 | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X423                   | 1423    | RUBÍDIUM   |
|             |  |                                | 1<br>(E)   | V1  |  | CV23   | S20  |                        | 1426    | NÁTRIUM-BÓR-HIDRID   |
|             |  |                                | 1<br>(E)   | V1  |  | CV23   | S20  |                        | 1427    | NÁTRIUM-HIDRID   |
| L10BN(+)    | TU1<br>TE5<br>TT3<br>TM2                 | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X423                   | 1428    | NÁTRIUM  |
| SGAN        |  | AT                             | 2<br>(D/E)   | V1  |  |  |  | 48                     | 1431    | NÁTRIUM-METILÁT  |

| UN<br>szám | 3.1.2                       | Osztály<br>2.2 | Oszta-<br>lyozási<br>kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Bárcák<br>5.2.2 | Külön-<br>leges<br>előírá-<br>sok<br>3.3 | Korlátozott és<br>engedményes<br>mennyiség<br>3.4.6 3.5.1.2 |      | Csomagolóeszköz                         |  |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                                    |
|------------|-----------------------------|----------------|---------------------------------|--|-----------------|--|---|------|---|--|---|--|------------------------------------|
|            |                             |                |                                 |  |                 |  |   |      | Csoma-<br>golási<br>utasítások<br>4.1.4 | Különle-<br>ges cso-<br>magolási<br>előírások<br>4.1.4 | Egybe-<br>csomago-<br>lási<br>előírások<br>4.1.10 | Utasítá-<br>sok<br>4.2.5.2,<br>7.3.2           | Különleges<br>előírások<br>4.2.5.3 |
| (1)        | (2)                         | (3a)           | (3b)                            | (4)                                    | (5)             | (6)                                      | (7a)  | (7b) | (8)                                     | (9a)   | (9b)  | (10)   | (11)                               |
| 1432       | NÁTRIUM-FOSZFID             | 4.3            | WT2                             | I                                      | 4.3 +<br>6.1    |  | LQ0   | E0   | P403                                    |  | MP2   |  |                                    |
| 1433       | ÓN-FOSZFIDEK                | 4.3            | WT2                             | I                                      | 4.3 +<br>6.1    |  | LQ0   | E0   | P403                                    |  | MP2   |  |                                    |
| 1435       | CINKHAMUK                   | 4.3            | W2                              | III                                    | 4.3             |  | LQ12  | E1   | P002<br>IBC08<br>R001                   | B4   | MP14  | T1   | TP33                               |
| 1436       | CINKPOR vagy CINKPÜDER      | 4.3            | WS                              | I                                      | 4.3 +<br>4.2    |  | LQ0   | E0   | P403                                    |  | MP2   |  |                                    |
| 1436       | CINKPOR vagy CINKPÜDER      | 4.3            | WS                              | II                                     | 4.3 +<br>4.2    |  | LQ11  | E2   | P410<br>IBC07                           | PP40   | MP14  | T3   | TP33                               |
| 1436       | CINKPOR vagy CINKPÜDER      | 4.3            | WS                              | III                                    | 4.3 +<br>4.2    |  | LQ12  | E1   | P410<br>IBC08<br>R001                   | B4   | MP14  | T1   | TP33                               |
| 1437       | CIRKÓNIUM-HIDRID            | 4.1            | F3                              | II                                     | 4.1             |  | LQ8   | E2   | P410<br>IBC04                           | PP40   | MP11  | T3   | TP33                               |
| 1438       | ALUMÍNIUM-NITRÁT            | 5.1            | O2                              | III                                    | 5.1             |  | LQ12  | E1   | P002<br>IBC08<br>LP02<br>R001           | B3   | MP10  | T1<br>BK1<br>BK2                               | TP33                               |
| 1439       | AMMÓNIUM-DIKROMÁT           | 5.1            | O2                              | II                                     | 5.1             |  | LQ11  | E2   | P002<br>IBC08                           | B4   | MP2   | T3   | TP33                               |
| 1442       | AMMÓNIUM-PERKLORÁT          | 5.1            | O2                              | II                                     | 5.1             | 152                                      | LQ11  | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1444       | AMMÓNIUM-PERSZULFÁT         | 5.1            | O2                              | III                                    | 5.1             |  | LQ12  | E1   | P002<br>IBC08<br>LP02<br>R001           | B3   | MP10  | T1   | TP33                               |
| 1445       | SZILÁRD BÁRIUM-KLORÁT       | 5.1            | OT2                             | II                                     | 5.1 +<br>6.1    |  | LQ11  | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1446       | BÁRIUM-NITRÁT               | 5.1            | OT2                             | II                                     | 5.1 +<br>6.1    |  | LQ11  | E2   | P002<br>IBC08                           | B4   | MP2   | T3   | TP33                               |
| 1447       | SZILÁRD BÁRIUM-PERKLORÁT    | 5.1            | OT2                             | II                                     | 5.1 +<br>6.1    |  | LQ11  | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1448       | BÁRIUM-PERMANGANÁT          | 5.1            | OT2                             | II                                     | 5.1 +<br>6.1    |  | LQ11  | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1449       | BÁRIUM-PEROXID              | 5.1            | OT2                             | II                                     | 5.1 +<br>6.1    |  | LQ11  | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1450       | SZERVETLEN BROMÁTOK, M.N.N. | 5.1            | O2                              | II                                     | 5.1             | 274<br>604                               | LQ11  | E2   | P002<br>IBC08                           | B4   | MP2   | T3   | TP33                               |
| 1451       | CÉZIUM-NITRÁT               | 5.1            | O2                              | III                                    | 5.1             |  | LQ12  | E1   | P002<br>IBC08<br>LP02<br>R001           | B3   | MP10  | T1   | TP33                               |
| 1452       | KALCIUM-KLORÁT              | 5.1            | O2                              | II                                     | 5.1             |  | LQ11  | E2   | P002<br>IBC08                           | B4   | MP2   | T3   | TP33                               |
| 1453       | KALCIUM-KLORIT              | 5.1            | O2                              | II                                     | 5.1             |  | LQ11  | E2   | P002<br>IBC08                           | B4   | MP2   | T3   | TP33                               |
| 1454       | KALCIUM-NITRÁT              | 5.1            | O2                              | III                                    | 5.1             | 208                                      | LQ12  | E1   | P002<br>IBC08<br>LP02<br>R001           | B3   | MP10  | T1<br>BK1<br>BK2                               | TP33                               |
| 1455       | KALCIUM-PERKLORÁT           | 5.1            | O2                              | II                                     | 5.1             |  | LQ11  | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1456       | KALCIUM-PERMANGANÁT         | 5.1            | O2                              | II                                     | 5.1             |  | LQ11  | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1457       | KALCIUM-PEROXID             | 5.1            | O2                              | II                                     | 5.1             |  | LQ11  | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás        |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|-----------------------------|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |                             |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                       |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                         |
|             |                      |                                | 1 (E)  | V1  |  | CV23<br>CV28   | S20  |                        | 1432    | NÁTRIUM-FOSZFID             |
|             |                      |                                | 1 (E)  | V1  |  | CV23<br>CV28   | S20  |                        | 1433    | ÓN-FOSZFIDEK                |
| SGAN        |                      | AT                             | 3 (E)  | V1  | VV5  | CV23   |  | 423                    | 1435    | CINKHAMUK                   |
|             |                      |                                | 1 (E)  | V1  |  | CV23   | S20  |                        | 1436    | CINKPOR vagy CINKPÚDER      |
| SGAN        |                      | AT                             | 2 (D/E)  | V1<br>V12                                 |  | CV23   |  | 423                    | 1436    | CINKPOR vagy CINKPÚDER      |
| SGAN        |                      | AT                             | 3 (E)  | V1  | VV5  | CV23   |  | 423                    | 1436    | CINKPOR vagy CINKPÚDER      |
| SGAN        |                      | AT                             | 2 (E)  |   |  |  |  | 40                     | 1437    | CIRKÓNIUM-HIDRID            |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1438    | ALUMÍNIUM-NITRÁT            |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11                                       |  | CV24   |  | 50                     | 1439    | AMMÓNIUM-DIKROMÁT           |
|             |                      |                                | 2 (E)  | V11<br>V12                                | VV8  | CV24   | S23  | 50                     | 1442    | AMMÓNIUM-PERKLORÁT          |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1444    | AMMÓNIUM-PERSZULFÁT         |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24<br>CV28   |  | 56                     | 1445    | SZILÁRD BÁRIUM-KLORÁT       |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11                                       |  | CV24<br>CV28   |  | 56                     | 1446    | BÁRIUM-NITRÁT               |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24<br>CV28   | S23  | 56                     | 1447    | SZILÁRD BÁRIUM-PERKLORÁT    |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24<br>CV28   |  | 56                     | 1448    | BÁRIUM-PERMANGANÁT          |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24<br>CV28   |  | 56                     | 1449    | BÁRIUM-PEROXID              |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1450    | SZERVETLEN BROMÁTOK, M.N.N. |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1451    | CÉZIUM-NITRÁT               |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1452    | KALCIUM-KLORÁT              |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11                                       |  | CV24   |  | 50                     | 1453    | KALCIUM-KLORIT              |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1454    | KALCIUM-NITRÁT              |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                | VV8  | CV24   | S23  | 50                     | 1455    | KALCIUM-PERKLORÁT           |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24   |  | 50                     | 1456    | KALCIUM-PERMANGANÁT         |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24   |  | 50                     | 1457    | KALCIUM-PEROXID             |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák              | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |                     |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2               | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)                 | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1458       | KLORÁT ÉS BORÁT KEVERÉK                                     | 5.1     | O2                       | II                          | 5.1                 |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 1458       | KLORÁT ÉS BORÁT KEVERÉK                                     | 5.1     | O2                       | III                         | 5.1                 |                                   | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP2                                     | T1   | TP33                    |
| 1459       | KLORÁT ÉS MAGNÉZIUM-KLORID<br>SZILÁRD KEVERÉK               | 5.1     | O2                       | II                          | 5.1                 |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 1459       | KLORÁT ÉS MAGNÉZIUM-KLORID<br>SZILÁRD KEVERÉK               | 5.1     | O2                       | III                         | 5.1                 |                                   | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP2                                     | T1   | TP33                    |
| 1461       | SZERVETLEN KLORÁTOK, M.N.N.                                 | 5.1     | O2                       | II                          | 5.1                 | 274<br>605                        | LQ11                                      | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33                    |
| 1462       | SZERVETLEN KLORITOK, M.N.N.                                 | 5.1     | O2                       | II                          | 5.1                 | 274<br>509<br>606                 | LQ11                                      | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33                    |
| 1463       | VÍZMENTES KRÓM-TRIOXID                                      | 5.1     | OTC                      | II                          | 5.1 +<br>6.1 +<br>8 | 510                               | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 1465       | DIDÍMIUM-NITRÁT   | 5.1     | O2                       | III                         | 5.1                 |                                   | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1466       | VAS(III)-NITRÁT   | 5.1     | O2                       | III                         | 5.1                 |                                   | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1467       | GUANIDIN-NITRÁT   | 5.1     | O2                       | III                         | 5.1                 |                                   | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1469       | ÓLOM-NITRÁT   | 5.1     | OT2                      | II                          | 5.1 +<br>6.1        |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 1470       | SZILÁRD ÓLOM-PERKLORÁT                                      | 5.1     | OT2                      | II                          | 5.1 +<br>6.1        |                                   | LQ11                                      | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33                    |
| 1471       | LÍTIUM-HIPOKLORIT, SZÁRAZ vagy<br>LÍTIUM-HIPOKLORIT KEVERÉK | 5.1     | O2                       | II                          | 5.1                 |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    |  |                         |
| 1472       | LÍTIUM-PEROXID  | 5.1     | O2                       | II                          | 5.1                 |                                   | LQ11                                      | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33                    |
| 1473       | MAGNÉZIUM-BROMÁT  | 5.1     | O2                       | II                          | 5.1                 |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 1474       | MAGNÉZIUM-NITRÁT  | 5.1     | O2                       | III                         | 5.1                 | 332                               | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1<br>BK1<br>BK2                               | TP33                    |
| 1475       | MAGNÉZIUM-PERKLORÁT   | 5.1     | O2                       | II                          | 5.1                 |                                   | LQ11                                      | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33                    |
| 1476       | MAGNÉZIUM-PEROXID   | 5.1     | O2                       | II                          | 5.1                 |                                   | LQ11                                      | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33                    |
| 1477       | SZERVETLEN NITRÁTOK, M.N.N.                                 | 5.1     | O2                       | II                          | 5.1                 | 274<br>511                        | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1477       | SZERVETLEN NITRÁTOK, M.N.N.                                 | 5.1     | O2                       | III                         | 5.1                 | 274<br>511                        | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                     |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1458    | KLORÁT ÉS BORÁT KEVERÉK                                  |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1458    | KLORÁT ÉS BORÁT KEVERÉK                                  |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1459    | KLORÁT ÉS MAGNÉZIUM-KLORID SZILÁRD KEVERÉK               |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1459    | KLORÁT ÉS MAGNÉZIUM-KLORID SZILÁRD KEVERÉK               |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                | VV8  | CV24   |  | 50                     | 1461    | SZERVETLEN KLORÁTOK, M.N.N.                              |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24   |  | 50                     | 1462    | SZERVETLEN KLORITOK, M.N.N.                              |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24<br>CV28   |  | 568                    | 1463    | VÍZMENTES KRÓM-TRIOXID                                   |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1465    | DIDÍMIUM-NITRÁT  |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1466    | VAS(III)-NITRÁT  |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1467    | GUANIDIN-NITRÁT  |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11                                       |  | CV24<br>CV28   |  | 56                     | 1469    | ÓLOM-NITRÁT  |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24<br>CV28   | S23  | 56                     | 1470    | SZILÁRD ÓLOM-PERKLORÁT                                   |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11                                       |  | CV24   |  | 50                     | 1471    | LÍTIUM-HIPOKLORIT, SZÁRAZ vagy LÍTIUM-HIPOKLORIT KEVERÉK |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24   |  | 50                     | 1472    | LÍTIUM-PEROXID   |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1473    | MAGNÉZIUM-BROMÁT   |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1474    | MAGNÉZIUM-NITRÁT   |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                | VV8  | CV24   | S23  | 50                     | 1475    | MAGNÉZIUM-PERKLORÁT                                      |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24   |  | 50                     | 1476    | MAGNÉZIUM-PEROXID  |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11                                       |  | CV24   |  | 50                     | 1477    | SZERVETLEN NITRÁTOK, M.N.N.                              |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1477    | SZERVETLEN NITRÁTOK, M.N.N.                              |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |        |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2                                       | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1479       | SZILÁRD, GYÚJTÓ HATÁSÚ<br>ANYAG, M.N.N.     | 5.1     | O2                       | I                           | 5.1    | 274                               | LQ0                                       | E0      | P503<br>IBC05                  |   | MP2                                     |  |                         |
| 1479       | SZILÁRD, GYÚJTÓ HATÁSÚ<br>ANYAG, M.N.N.     | 5.1     | O2                       | II                          | 5.1    | 274                               | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 1479       | SZILÁRD, GYÚJTÓ HATÁSÚ<br>ANYAG, M.N.N.     | 5.1     | O2                       | III                         | 5.1    | 274                               | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP2                                     | T1   | TP33                    |
| 1481       | SZERVETLEN PERKLORÁTOK,<br>M.N.N.           | 5.1     | O2                       | II                          | 5.1    | 274                               | LQ11                                      | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33                    |
| 1481       | SZERVETLEN PERKLORÁTOK,<br>M.N.N.           | 5.1     | O2                       | III                         | 5.1    | 274                               | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP2                                     | T1   | TP33                    |
| 1482       | SZERVETLEN PERMANGANÁTOK,<br>M.N.N.         | 5.1     | O2                       | II                          | 5.1    | 274<br>608                        | LQ11                                      | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33                    |
| 1482       | SZERVETLEN PERMANGANÁTOK,<br>M.N.N.         | 5.1     | O2                       | III                         | 5.1    | 274<br>608                        | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP2                                     | T1   | TP33                    |
| 1483       | SZERVETLEN PEROXIDOK, M.N.N.                | 5.1     | O2                       | II                          | 5.1    | 274                               | LQ11                                      | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33                    |
| 1483       | SZERVETLEN PEROXIDOK, M.N.N.                | 5.1     | O2                       | III                         | 5.1    | 274                               | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP2                                     | T1   | TP33                    |
| 1484       | KÁLIUM-BROMÁT                               | 5.1     | O2                       | II                          | 5.1    |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 1485       | KÁLIUM-KLORÁT                               | 5.1     | O2                       | II                          | 5.1    |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 1486       | KÁLIUM-NITRÁT                               | 5.1     | O2                       | III                         | 5.1    |                                   | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1<br>BK1<br>BK2                               | TP33                    |
| 1487       | KÁLIUM-NITRÁT ÉS NÁTRIUM-<br>NITRIT KEVERÉK | 5.1     | O2                       | II                          | 5.1    | 607                               | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1488       | KÁLIUM-NITRIT                               | 5.1     | O2                       | II                          | 5.1    |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1489       | KÁLIUM-PERKLORÁT                            | 5.1     | O2                       | II                          | 5.1    |                                   | LQ11                                      | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33                    |
| 1490       | KÁLIUM-PERMANGANÁT                          | 5.1     | O2                       | II                          | 5.1    |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 1491       | KÁLIUM-PEROXID                              | 5.1     | O2                       | I                           | 5.1    |                                   | LQ0                                       | E0      | P503<br>IBC06                  |   | MP2                                     |  |                         |
| 1492       | KÁLIUM-PERSZULFÁT                           | 5.1     | O2                       | III                         | 5.1    |                                   | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1493       | EZÜST-NITRÁT                                | 5.1     | O2                       | II                          | 5.1    |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1494       | NÁTRIUM-BROMÁT                              | 5.1     | O2                       | II                          | 5.1    |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 1495       | NÁTRIUM-KLORÁT                              | 5.1     | O2                       | II                          | 5.1    |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3<br>BK1<br>BK2                               | TP33                    |
| 1496       | NÁTRIUM-KLORIT                              | 5.1     | O2                       | II                          | 5.1    |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                    |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                                   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                                     |
|             |                      |                                | 1 (E)  | V10                                       |  | CV24   | S20  |                        | 1479    | SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.    |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11                                       |  | CV24   |  | 50                     | 1479    | SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.    |
| SGAN        | TU3                  | AT                             | 3 (E)  |   |  | CV24   |  | 50                     | 1479    | SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.    |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                | VV8  | CV24   | S23  | 50                     | 1481    | SZERVETLEN PERKLORÁTOK, M.N.N.          |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   | S23  | 50                     | 1481    | SZERVETLEN PERKLORÁTOK, M.N.N.          |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24   |  | 50                     | 1482    | SZERVETLEN PERMANGANÁTOK, M.N.N.        |
| SGAN        | TU3                  | AT                             | 3 (E)  |   |  | CV24   |  | 50                     | 1482    | SZERVETLEN PERMANGANÁTOK, M.N.N.        |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                |  | CV24   |  | 50                     | 1483    | SZERVETLEN PEROXIDOK, M.N.N.            |
| SGAN        | TU3                  | AT                             | 3 (E)  |   |  | CV24   |  | 50                     | 1483    | SZERVETLEN PEROXIDOK, M.N.N.            |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1484    | KÁLIUM-BROMÁT                           |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1485    | KÁLIUM-KLORÁT                           |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1486    | KÁLIUM-NITRÁT                           |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1487    | KÁLIUM-NITRÁT ÉS NÁTRIUM-NITRIT KEVERÉK |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1488    | KÁLIUM-NITRIT                           |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11<br>V12                                | VV8  | CV24   | S23  | 50                     | 1489    | KÁLIUM-PERKLORÁT                        |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11                                       |  | CV24   |  | 50                     | 1490    | KÁLIUM-PERMANGANÁT                      |
|             |                      |                                | 1 (E)  | V10<br>V12                                |  | CV24   | S20  |                        | 1491    | KÁLIUM-PEROXID                          |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1492    | KÁLIUM-PERSZULFÁT                       |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1493    | EZÜST-NITRÁT                            |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1494    | NÁTRIUM-BROMÁT                          |
| SGAV        | TU3                  | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1495    | NÁTRIUM-KLORÁT                          |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11                                       |  | CV24   |  | 50                     | 1496    | NÁTRIUM-KLORIT                          |

| UN<br>szám | 3.1.2  | Osztály<br>2.2 | Oszta-<br>lyozási<br>kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Bárcák<br>5.2.2 | Külön-<br>leges<br>előírá-<br>sok<br>3.3 | Korlátozott és<br>engedélyes<br>mennyiség<br>3.4.6 3.5.1.2 |      | Csomagolóeszköz                         |  |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                                    |
|------------|--|----------------|---------------------------------|--|-----------------|--|--|------|---|--|---|--|------------------------------------|
|            |  |                |                                 |  |                 |  |  |      | Csoma-<br>golási<br>utasítások<br>4.1.4 | Különle-<br>ges cso-<br>magolási<br>előírások<br>4.1.4 | Egybe-<br>csomago-<br>lási<br>előírások<br>4.1.10 | Utasítá-<br>sok<br>4.2.5.2,<br>7.3.2           | Különleges<br>előírások<br>4.2.5.3 |
| (1)        | (2)  | (3a)           | (3b)                            | (4)                                    | (5)             | (6)                                      | (7a)   | (7b) | (8)                                     | (9a)   | (9b)  | (10)   | (11)                               |
| 1498       | NÁTRIUM-NITRÁT   | 5.1            | O2                              | III                                    | 5.1             |  | LQ12   | E1   | P002<br>IBC08<br>LP02<br>R001           | B3   | MP10  | T1<br>BK1<br>BK2                               | TP33                               |
| 1499       | NÁTRIUM-NITRÁT ÉS KÁLIUM-<br>NITRÁT KEVERÉK                      | 5.1            | O2                              | III                                    | 5.1             |  | LQ12   | E1   | P002<br>IBC08<br>LP02<br>R001           | B3   | MP10  | T1<br>BK1<br>BK2                               | TP33                               |
| 1500       | NÁTRIUM-NITRIT   | 5.1            | OT2                             | III                                    | 5.1 +<br>6.1    |  | LQ12   | E1   | P002<br>IBC08<br>R001                   | B3   | MP10  | T1   | TP33                               |
| 1502       | NÁTRIUM-PERKLORÁT  | 5.1            | O2                              | II                                     | 5.1             |  | LQ11   | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1503       | NÁTRIUM-PERMANGANÁT  | 5.1            | O2                              | II                                     | 5.1             |  | LQ11   | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1504       | NÁTRIUM-PEROXID  | 5.1            | O2                              | I                                      | 5.1             |  | LQ0  | E0   | P503<br>IBC05                           |  | MP2   |  |                                    |
| 1505       | NÁTRIUM-PERSZULFÁT   | 5.1            | O2                              | III                                    | 5.1             |  | LQ12   | E1   | P002<br>IBC08<br>LP02<br>R001           | B3   | MP10  | T1   | TP33                               |
| 1506       | STRONCIUM-KLORÁT   | 5.1            | O2                              | II                                     | 5.1             |  | LQ11   | E2   | P002<br>IBC08                           | B4   | MP2   | T3   | TP33                               |
| 1507       | STRONCIUM-NITRÁT   | 5.1            | O2                              | III                                    | 5.1             |  | LQ12   | E1   | P002<br>IBC08<br>LP02<br>R001           | B3   | MP10  | T1   | TP33                               |
| 1508       | STRONCIUM-PERKLORÁT  | 5.1            | O2                              | II                                     | 5.1             |  | LQ11   | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1509       | STRONCIUM-PEROXID  | 5.1            | O2                              | II                                     | 5.1             |  | LQ11   | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1510       | TETRANITRO-METÁN   | 5.1            | OT1                             | I                                      | 5.1 +<br>6.1    | 609                                      | LQ0  | E0   | P602                                    |  | MP2   |  |                                    |
| 1511       | KARBAMID-HIDROGÉN-PEROXID  | 5.1            | OC2                             | III                                    | 5.1 + 8         |  | LQ12   | E1   | P002<br>IBC08<br>R001                   | B3   | MP2   | T1   | TP33                               |
| 1512       | CINK-AMMÓNIUM-NITRIT   | 5.1            | O2                              | II                                     | 5.1             |  | LQ11   | E2   | P002<br>IBC08                           | B4   | MP10  | T3   | TP33                               |
| 1513       | CINK-KLORÁT  | 5.1            | O2                              | II                                     | 5.1             |  | LQ11   | E2   | P002<br>IBC08                           | B4   | MP2   | T3   | TP33                               |
| 1514       | CINK-NITRÁT  | 5.1            | O2                              | II                                     | 5.1             |  | LQ11   | E2   | P002<br>IBC08                           | B4   | MP10  | T3   | TP33                               |
| 1515       | CINK-PERMANGANÁT   | 5.1            | O2                              | II                                     | 5.1             |  | LQ11   | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1516       | CINK-PEROXID   | 5.1            | O2                              | II                                     | 5.1             |  | LQ11   | E2   | P002<br>IBC06                           |  | MP2   | T3   | TP33                               |
| 1517       | CIRKÓNIUM-PIKRAMÁT, legalább<br>20 tömeg% vízzel NEDVESÍTETT     | 4.1            | D                               | I                                      | 4.1             |  | LQ0  | E0   | P406                                    | PP26   | MP2   |  |                                    |
| 1541       | ACETON-CIÁNHIDRIN,<br>STABILIZÁLT                                | 6.1            | T1                              | I                                      | 6.1             |  | LQ0  | E5   | P602                                    |  | MP8<br>MP17                                       | T14  | TP2                                |
| 1544       | SZILÁRD ALKALOIDOK, M.N.N. vagy<br>SZILÁRD ALKALOIDA SÓK, M.N.N. | 6.1            | T2                              | I                                      | 6.1             | 43<br>274                                | LQ0  | E5   | P002<br>IBC07                           |  | MP18  | T6   | TP33                               |



| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| SGAV        | TU3                          | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1498    | NÁTRIUM-NITRÁT  |
| SGAV        | TU3                          | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1499    | NÁTRIUM-NITRÁT ÉS KÁLIUM-NITRÁT KEVERÉK                       |
| SGAN        | TU3                          | AT                             | 3 (E)  |   |  | CV24<br>CV28   |  | 56                     | 1500    | NÁTRIUM-NITRIT  |
| SGAV        | TU3                          | AT                             | 2 (E)  | V11<br>V12                                | VV8  | CV24   | S23  | 50                     | 1502    | NÁTRIUM-PERKLORÁT   |
| SGAN        | TU3                          | AT                             | 2 (E)  | V11<br>V12                                |  | CV24   |  | 50                     | 1503    | NÁTRIUM-PERMANGANÁT   |
|             |                              |                                | 1 (E)  | V10                                       |  | CV24   | S20  |                        | 1504    | NÁTRIUM-PEROXID   |
| SGAV        | TU3                          | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1505    | NÁTRIUM-PERSZULFÁT  |
| SGAV        | TU3                          | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1506    | STRONCIUM-KLORÁT  |
| SGAV        | TU3                          | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 1507    | STRONCIUM-NITRÁT  |
| SGAV        | TU3                          | AT                             | 2 (E)  | V11<br>V12                                | VV8  | CV24   | S23  | 50                     | 1508    | STRONCIUM-PERKLORÁT   |
| SGAN        | TU3                          | AT                             | 2 (E)  | V11<br>V12                                |  | CV24   |  | 50                     | 1509    | STRONCIUM-PEROXID   |
| L4BN        | TU3<br>TU28                  | AT                             | 1 (B/E)  | V5  |  | CV24<br>CV28   | S20  | 559                    | 1510    | TETRANITRO-METÁN  |
| SGAN        | TU3                          | AT                             | 3 (E)  |   |  | CV24   |  | 58                     | 1511    | KARBAMID-HIDROGÉN-PEROXID                                     |
| SGAN        | TU3                          | AT                             | 2 (E)  | V11                                       |  | CV24   |  | 50                     | 1512    | CINK-AMMÓNIUM-NITRIT  |
| SGAV        | TU3                          | AT                             | 2 (E)  | V11                                       | VV8  | CV24   |  | 50                     | 1513    | CINK-KLORÁT   |
| SGAN        | TU3                          | AT                             | 2 (E)  | V11                                       |  | CV24   |  | 50                     | 1514    | CINK-NITRÁT   |
| SGAN        | TU3                          | AT                             | 2 (E)  | V11<br>V12                                |  | CV24   |  | 50                     | 1515    | CINK-PERMANGANÁT  |
| SGAN        | TU3                          | AT                             | 2 (E)  | V11<br>V12                                |  | CV24   |  | 50                     | 1516    | CINK-PEROXID  |
|             |                              |                                | 1 (B)  |   |  |  | S14  |                        | 1517    | CIRKÓNIUM-PIKRAMÁT, legalább 20 tömeg% vízzel NEDVESÍTETT     |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1 (C/E)  |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 669                    | 1541    | ACETON-CIÁNHIDRIN, STABILIZÁLT                                |
| S10AH       | TU15<br>TE19                 | AT                             | 1 (C/E)  | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1544    | SZILÁRD ALKALOIDOK, M.N.N. vagy SZILÁRD ALKALOIDA SÓK, M.N.N. |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------|
|            |  |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 1544       | SZILÁRD ALKALOIDOK, M.N.N. vagy<br>SZILÁRD ALKALOIDA SÓK, M.N.N.   | 6.1     | T2                       | II                          | 6.1     | 43<br>274                         | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 1544       | SZILÁRD ALKALOIDOK, M.N.N. vagy<br>SZILÁRD ALKALOIDA SÓK, M.N.N.   | 6.1     | T2                       | III                         | 6.1     | 43<br>274                         | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 1545       | ALLIL-IZOTIOCIANÁT,<br>STABILIZÁLT   | 6.1     | TF1                      | II                          | 6.1 + 3 |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 1546       | AMMÓNIUM-ARZENÁT   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 1547       | ANILIN   | 6.1     | T1                       | II                          | 6.1     | 279                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 1548       | ANILIN-HIDROKLORID   | 6.1     | T2                       | III                         | 6.1     |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 1549       | SZERVETLEN, SZILÁRD<br>ANTIMONVEGYÜLET, M.N.N.   | 6.1     | T5                       | III                         | 6.1     | 45<br>274<br>512                  | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 1550       | ANTIMON-LAKTÁT   | 6.1     | T5                       | III                         | 6.1     |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 1551       | ANTIMON-KÁLIUM-TARTARÁT  | 6.1     | T5                       | III                         | 6.1     |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 1553       | FOLYÉKONY ARZÉNSAV   | 6.1     | T4                       | I                           | 6.1     |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T20  | TP2<br>TP7  |
| 1554       | SZILÁRD ARZÉNSAV   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 1555       | ARZÉN-BROMID   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 1556       | FOLYÉKONY ARZÉNVEGYÜLET,<br>M.N.N., szerves, pl.:<br>arzenátok, m.n.n.,<br>arzenitek, m.n.n.,<br>arzen-szulfidok, m.n.n. | 6.1     | T4                       | I                           | 6.1     | 43<br>274                         | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27 |
| 1556       | FOLYÉKONY ARZÉNVEGYÜLET,<br>M.N.N., szerves, pl.:<br>arzenátok, m.n.n.,<br>arzenitek, m.n.n.,<br>arzen-szulfidok, m.n.n. | 6.1     | T4                       | II                          | 6.1     | 43<br>274                         | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27 |
| 1556       | FOLYÉKONY ARZÉNVEGYÜLET,<br>M.N.N., szerves, pl.:<br>arzenátok, m.n.n.,<br>arzenitek, m.n.n.,<br>arzen-szulfidok, m.n.n. | 6.1     | T4                       | III                         | 6.1     | 43<br>274                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2<br>TP28 |
| 1557       | SZILÁRD ARZÉNVEGYÜLET,<br>M.N.N., szerves, pl.:<br>arzenátok, m.n.n.,<br>arzenitek, m.n.n.,<br>arzen-szulfidok, m.n.n.   | 6.1     | T5                       | I                           | 6.1     | 43<br>274                         | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33        |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1544    | SZILÁRD ALKALOIDOK, M.N.N. vagy<br>SZILÁRD ALKALOIDA SÓK, M.N.N.   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1544    | SZILÁRD ALKALOIDOK, M.N.N. vagy<br>SZILÁRD ALKALOIDA SÓK, M.N.N.   |
| L4BH           | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 639                    | 1545    | ALLIL-IZOTIOCIANÁT,<br>STABILIZÁLT   |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1546    | AMMÓNIUM-ARZENÁT   |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1547    | ANILIN   |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1548    | ANILIN-HIDROKLORID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1549    | SZERVETLEN, SZILÁRD<br>ANTIMONVEGYÜLET, M.N.N.   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1550    | ANTIMON-LAKTÁT   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1551    | ANTIMON-KÁLIUM-TARTARÁT  |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1553    | FOLYÉKONY ARZÉNSAV   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1554    | SZILÁRD ARZÉNSAV   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1555    | ARZÉN-BROMID   |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1556    | FOLYÉKONY ARZÉNVEGYÜLET,<br>M.N.N., szerves, pl.:<br>arzenátok, m.n.n.,<br>arzenitek, m.n.n.,<br>arzen-szulfidok, m.n.n. |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1556    | FOLYÉKONY ARZÉNVEGYÜLET,<br>M.N.N., szerves, pl.:<br>arzenátok, m.n.n.,<br>arzenitek, m.n.n.,<br>arzen-szulfidok, m.n.n. |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 1556    | FOLYÉKONY ARZÉNVEGYÜLET,<br>M.N.N., szerves, pl.:<br>arzenátok, m.n.n.,<br>arzenitek, m.n.n.,<br>arzen-szulfidok, m.n.n. |
| L10CH<br>S10AH | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1557    | SZILÁRD ARZÉNVEGYÜLET,<br>M.N.N., szerves, pl.:<br>arzenátok, m.n.n.,<br>arzenitek, m.n.n.,<br>arzen-szulfidok, m.n.n.   |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztartá-<br>r-konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1557       | SZILÁRD ARZÉNVEGYÜLET,<br>M.N.N., szerves, pl.:<br>arzenátok, m.n.n.,<br>arzenitek, m.n.n.,<br>arzen-szulfidok, m.n.n. | 6.1     | T5                       | II                          | 6.1          | 43<br>274                         | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1557       | SZILÁRD ARZÉNVEGYÜLET,<br>M.N.N., szerves, pl.:<br>arzenátok, m.n.n.,<br>arzenitek, m.n.n.,<br>arzen-szulfidok, m.n.n. | 6.1     | T5                       | III                         | 6.1          | 43<br>274                         | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1558       | ARZÉN  | 6.1     | T5                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1559       | ARZÉN-PENTOXID   | 6.1     | T5                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1560       | ARZÉN-TRIKLORID  | 6.1     | T4                       | I                           | 6.1          |                                   | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 1561       | ARZÉN-TRIOXID  | 6.1     | T5                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1562       | ARZÉNPOR   | 6.1     | T5                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1564       | BÁRIUMVEGYÜLET, M.N.N.   | 6.1     | T5                       | II                          | 6.1          | 177<br>274<br>513<br>587          | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1564       | BÁRIUMVEGYÜLET, M.N.N.   | 6.1     | T5                       | III                         | 6.1          | 177<br>274<br>513<br>587          | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1565       | BÁRIUM-CIANID  | 6.1     | T5                       | I                           | 6.1          |                                   | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 1566       | BERILLIUMVEGYÜLET, M.N.N.  | 6.1     | T5                       | II                          | 6.1          | 274<br>514                        | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1566       | BERILLIUMVEGYÜLET, M.N.N.  | 6.1     | T5                       | III                         | 6.1          | 274<br>514                        | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1567       | BERILLIUMPOR   | 6.1     | TF3                      | II                          | 6.1 +<br>4.1 |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1569       | BRÓM-ACETON  | 6.1     | TF1                      | II                          | 6.1 + 3      |                                   | LQ17                                      | E4      | P602                           |   | MP15                                    | T20  | TP2                     |
| 1570       | BRUCIN   | 6.1     | T2                       | I                           | 6.1          | 43                                | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 1571       | BÁRIUM-AZID, legalább 50 tömeg%<br>vízzel NEDVESÍTETT  | 4.1     | DT                       | I                           | 4.1 +<br>6.1 | 568                               | LQ0                                       | E0      | P406                           |   | MP2                                     |  |                         |
| 1572       | KAKODILSAV   | 6.1     | T5                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1573       | KALCIUM-ARZENÁT  | 6.1     | T5                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1574       | KALCIUM-ARZENÁT ÉS<br>KALCIUM-ARZENIT<br>SZILÁRD KEVERÉK   | 6.1     | T5                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1557    | SZILÁRD ARZÉNEGYÜLET,<br>M.N.N., szerves, pl.:<br>arzenátok, m.n.n.,<br>arzenitek, m.n.n.,<br>arzen-szulfidok, m.n.n. |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1557    | SZILÁRD ARZÉNEGYÜLET,<br>M.N.N., szerves, pl.:<br>arzenátok, m.n.n.,<br>arzenitek, m.n.n.,<br>arzen-szulfidok, m.n.n. |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1558    | ARZÉN   |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1559    | ARZÉN-PENTOXID  |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1560    | ARZÉN-TRIKLORID   |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1561    | ARZÉN-TRIOXID   |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1562    | ARZÉNPOR  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1564    | BÁRIUMVEGYÜLET, M.N.N.  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1564    | BÁRIUMVEGYÜLET, M.N.N.  |
| S10AH          | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1565    | BÁRIUM-CIANID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1566    | BERILLIUMVEGYÜLET, M.N.N.   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1566    | BERILLIUMVEGYÜLET, M.N.N.   |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 64                     | 1567    | BERILLIUMPOR  |
| L4BH           | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 1569    | BRÓM-ACETON   |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1570    | BRUCIN  |
|                |                              |                                | 1<br>(B)   |   |  | CV28   | S14  |                        | 1571    | BÁRIUM-AZID, legalább 50 tömeg%<br>vízzel NEDVESÍTETT   |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1572    | KAKODILSAV  |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1573    | KALCIUM-ARZENÁT   |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1574    | KALCIUM-ARZENÁT ÉS<br>KALCIUM-ARZENIT<br>SZILÁRD KEVERÉK  |

| UN<br>szám |  | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák  | Különleges<br>előírások | Korlátozott és<br>engedélyezett<br>mennyiség |         | Csomagolóeszköz               |  |                                    | Mobil tartály és<br>ömlesztartály-<br>konténer |                         |
|------------|--|---------|---------------------|------------------------|---------|-------------------------|--|---------|-------------------------------|--|------------------------------------|--|-------------------------|
|            |  |         |                     |                        |         |                         |  |         | Csomagolási<br>utasítások     | Különleges<br>csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2   | 3.3                     | 3.4.6  | 3.5.1.2 | 4.1.4                         | 4.1.4                                  | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                | (4)                    | (5)     | (6)                     | (7a)   | (7b)    | (8)                           | (9a)                                   | (9b)                               | (10)   | (11)                    |
| 1575       | KALCIUM-CIANID   | 6.1     | T5                  | I                      | 6.1     |                         | LQ0  | E5      | P002<br>IBC07                 |  | MP18                               | T6   | TP33                    |
| 1577       | FOLYÉKONY KLÓR-DINITRO-BENZOLOK  | 6.1     | T1                  | II                     | 6.1     | 279                     | LQ17   | E4      | P001<br>IBC02                 |  | MP15                               | T7   | TP2                     |
| 1578       | SZILÁRD KLÓR-NITRO-BENZOLOK  | 6.1     | T2                  | II                     | 6.1     | 279                     | LQ18   | E4      | P002<br>IBC08                 | B4                                     | MP10                               | T3   | TP33                    |
| 1579       | SZILÁRD 4-KLÓR-o-TOLUIDIN-HIDROKLORID                                    | 6.1     | T2                  | III                    | 6.1     |                         | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                     | MP10                               | T1   | TP33                    |
| 1580       | KLÓRPIKRIN   | 6.1     | T1                  | I                      | 6.1     |                         | LQ0  | E5      | P602                          |  | MP8<br>MP17                        | T14  | TP2                     |
| 1581       | KLÓRPIKRIN ÉS METIL-BROMID KEVERÉK 2%-nál nagyobb klórpikrin tartalommal | 2       | 2T                  |                        | 2.3     |                         | LQ0  | E0      | P200                          |  | MP9                                | T50<br>(M)                                     |                         |
| 1582       | KLÓRPIKRIN ÉS METIL-KLORID KEVERÉK                                       | 2       | 2T                  |                        | 2.3     |                         | LQ0  | E0      | P200                          |  | MP9                                | T50<br>(M)                                     |                         |
| 1583       | KLÓRPIKRIN KEVERÉK, M.N.N.   | 6.1     | T1                  | I                      | 6.1     | 274<br>315<br>515       | LQ0  | E5      | P602                          |  | MP8<br>MP17                        |  |                         |
| 1583       | KLÓRPIKRIN KEVERÉK, M.N.N.   | 6.1     | T1                  | II                     | 6.1     | 274<br>515              | LQ17   | E4      | P001<br>IBC02                 |  | MP15                               |  |                         |
| 1583       | KLÓRPIKRIN KEVERÉK, M.N.N.   | 6.1     | T1                  | III                    | 6.1     | 274<br>515              | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               |  |                         |
| 1585       | RÉZ-ACETO-ARZENIT  | 6.1     | T5                  | II                     | 6.1     |                         | LQ18   | E4      | P002<br>IBC08                 | B4                                     | MP10                               | T3   | TP33                    |
| 1586       | RÉZ-ARZENIT  | 6.1     | T5                  | II                     | 6.1     |                         | LQ18   | E4      | P002<br>IBC08                 | B4                                     | MP10                               | T3   | TP33                    |
| 1587       | RÉZ-CIANID   | 6.1     | T5                  | II                     | 6.1     |                         | LQ18   | E4      | P002<br>IBC08                 | B4                                     | MP10                               | T3   | TP33                    |
| 1588       | SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.                                     | 6.1     | T5                  | I                      | 6.1     | 47<br>274               | LQ0  | E5      | P002<br>IBC07                 |  | MP18                               | T6   | TP33                    |
| 1588       | SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.                                     | 6.1     | T5                  | II                     | 6.1     | 47<br>274               | LQ18   | E4      | P002<br>IBC08                 | B4                                     | MP10                               | T3   | TP33                    |
| 1588       | SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.                                     | 6.1     | T5                  | III                    | 6.1     | 47<br>274               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                     | MP10                               | T1   | TP33                    |
| 1589       | KLÓR-CIÁN, STABILIZÁLT   | 2       | 2TC                 |                        | 2.3 + 8 |                         | LQ0  | E0      | P200                          |  | MP9                                |  |                         |
| 1590       | FOLYÉKONY DIKLÓR-ANILINEK  | 6.1     | T1                  | II                     | 6.1     | 279                     | LQ17   | E4      | P001<br>IBC02                 |  | MP15                               | T7   | TP2                     |
| 1591       | o-DIKLÓR-BENZOL  | 6.1     | T1                  | III                    | 6.1     | 279                     | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T4   | TP1                     |

| ADR-tartály  |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|--------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód   | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)         | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| S10AH        | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1575    | KALCIUM-CIANID   |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1577    | FOLYÉKONY KLÓR-DINITRO-BENZOLOK  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1578    | SZILÁRD KLÓR-NITRO-BENZOLOK  |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1579    | SZILÁRD 4-KLÓR-o-TOLUIDIN-HIDROKLORID                                    |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1580    | KLÓRPIKRIN   |
| P*BH(M)      | TA4<br>TT9                   | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 26                     | 1581    | KLÓRPIKRIN ÉS METIL-BROMID KEVERÉK 2%-nál nagyobb klórpikrin tartalommal |
| P*BH(M)      | TA4<br>TT9                   | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 26                     | 1582    | KLÓRPIKRIN ÉS METIL-KLORID KEVERÉK                                       |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1583    | KLÓRPIKRIN KEVERÉK, M.N.N.   |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1583    | KLÓRPIKRIN KEVERÉK, M.N.N.   |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 1583    | KLÓRPIKRIN KEVERÉK, M.N.N.   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1585    | RÉZ-ACETO-ARZENIT  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1586    | RÉZ-ARZENIT  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1587    | RÉZ-CIANID   |
| S10AH        | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1588    | SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.                                     |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1588    | SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.                                     |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1588    | SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.                                     |
|              |                              |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  |                        | 1589    | KLÓR-CIÁN, STABILIZÁLT   |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1590    | FOLYÉKONY DIKLÓR-ANILINEK  |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 1591    | o-DIKLÓR-BENZOL  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1593       | DIKLÓR-METÁN (metilén-klorid)   | 6.1     | T1                       | III                         | 6.1     | 516                               | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  | B8  | MP19                                    | T7   | TP2                     |
| 1594       | DIETIL-SZULFÁT  | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1595       | DIMETIL-SZULFÁT   | 6.1     | TC1                      | I                           | 6.1 + 8 |                                   | LQ0  | E5      | P602                           |   | MP8<br>MP17                             | T20  | TP2<br>TP35             |
| 1596       | DINITRO-ANILINEK  | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1597       | FOLYÉKONY DINITRO-BENZOLOK  | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1597       | FOLYÉKONY DINITRO-BENZOLOK  | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2                     |
| 1598       | DINITRO-o-KREZOL  | 6.1     | T2                       | II                          | 6.1     | 43                                | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1599       | DINITRO-FENOL OLDAT   | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1599       | DINITRO-FENOL OLDAT   | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 1600       | OLVASZTOTT DINITRO-TOLUOLOK   | 6.1     | T1                       | II                          | 6.1     |                                   | LQ0  | E0      |                                |   |   | T7   | TP3                     |
| 1601       | SZILÁRD, MÉRGEZŐ<br>FERTŐTLENÍTŐSZER, M.N.N.  | 6.1     | T2                       | I                           | 6.1     | 274                               | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 1601       | SZILÁRD, MÉRGEZŐ<br>FERTŐTLENÍTŐSZER, M.N.N.  | 6.1     | T2                       | II                          | 6.1     | 274                               | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1601       | SZILÁRD, MÉRGEZŐ<br>FERTŐTLENÍTŐSZER, M.N.N.  | 6.1     | T2                       | III                         | 6.1     | 274                               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1602       | FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK,<br>M.N.N. vagy FOLYÉKONY,<br>MÉRGEZŐ SZÍNEZÉK<br>INTERMEDIER, M.N.N. | 6.1     | T1                       | I                           | 6.1     | 274                               | LQ0  | E5      | P001                           |   | MP8<br>MP17                             |  |                         |
| 1602       | FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK,<br>M.N.N. vagy FOLYÉKONY,<br>MÉRGEZŐ SZÍNEZÉK<br>INTERMEDIER, M.N.N. | 6.1     | T1                       | II                          | 6.1     | 274                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    |  |                         |
| 1602       | FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK,<br>M.N.N. vagy FOLYÉKONY,<br>MÉRGEZŐ SZÍNEZÉK<br>INTERMEDIER, M.N.N. | 6.1     | T1                       | III                         | 6.1     | 274                               | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    |  |                         |
| 1603       | ETIL-BRÓM-ACETÁT  | 6.1     | TF1                      | II                          | 6.1 + 3 |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1604       | ETILÉN-DIAMIN   | 8       | CF1                      | II                          | 8 + 3   |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1605       | ETILÉN-DIBROMID (1,2-dibrom-étán)   | 6.1     | T1                       | I                           | 6.1     |                                   | LQ0  | E5      | P602                           |   | MP8<br>MP17                             | T14  | TP2                     |



| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyjelölő számok | UN szám | Megnevezés és leírás  |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|----------------------|---------|---|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                      |         |   |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3              |         | 3.1.2   |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                 | (1)     | (2)   |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                   | 1593    | DIKLÓR-METÁN (metilén-klorid)   |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 1594    | DIETIL-SZULFÁT  |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 668                  | 1595    | DIMETIL-SZULFÁT   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 1596    | DINITRO-ANILINEK  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 1597    | FOLYÉKONY DINITRO-BENZOLOK  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                   | 1597    | FOLYÉKONY DINITRO-BENZOLOK  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 1598    | DINITRO-o-KREZOL  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 1599    | DINITRO-FENOL OLDAT   |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                   | 1599    | DINITRO-FENOL OLDAT   |
| L4BH           | TU15<br>TE19                 | AT                             | 0<br>(D/E)   |   |  | CV13   | S9<br>S19                                  | 60                   | 1600    | OLVASZTOTT DINITRO-TOLUOLOK   |
| L10CH<br>S10AH | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                   | 1601    | SZILÁRD, MÉRGEZŐ<br>FERTŐTLENÍTŐSZER, M.N.N.  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 1601    | SZILÁRD, MÉRGEZŐ<br>FERTŐTLENÍTŐSZER, M.N.N.  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                   | 1601    | SZILÁRD, MÉRGEZŐ<br>FERTŐTLENÍTŐSZER, M.N.N.  |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                   | 1602    | FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK,<br>M.N.N. vagy FOLYÉKONY,<br>MÉRGEZŐ SZÍNEZÉK<br>INTERMEDIER, M.N.N. |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 1602    | FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK,<br>M.N.N. vagy FOLYÉKONY,<br>MÉRGEZŐ SZÍNEZÉK<br>INTERMEDIER, M.N.N. |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                   | 1602    | FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK,<br>M.N.N. vagy FOLYÉKONY,<br>MÉRGEZŐ SZÍNEZÉK<br>INTERMEDIER, M.N.N. |
| L4BH           | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                   | 1603    | ETIL-BRÓM-ACETÁT  |
| L4BN           |                              | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                   | 1604    | ETILÉN-DIAMIN   |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                   | 1605    | ETILÉN-DIBROMID (1,2-dibrom-étán)   |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|---------|
|            |  |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 1606       | VAS(III)-ARZENÁT   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1607       | VAS(III)-ARZENIT   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1608       | VAS(II)-ARZENÁT  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1611       | HEXAETIL-TETRAFOSZFÁT  | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 1612       | HEXAETIL-TETRAFOSZFÁT ÉS<br>SŰRÍTETT GÁZ KEVERÉK   | 2       | 1T                       |                             | 2.3     |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |         |
| 1613       | HIDROGÉN-CIANID VIZES OLDAT<br>(CIÁN-HIDROGÉNSAV VIZES<br>OLDAT) legfeljebb 20% hidrogén-cianid<br>tartalommal | 6.1     | TF1                      | I                           | 6.1 + 3 | 48                                | LQ0  | E5      | P601                           |   | MP8<br>MP17                             | T14  | TP2     |
| 1614       | HIDROGÉN-CIANID, STABILIZÁLT,<br>3%-nál kevesebb víztartalommal és inert<br>porózus anyagban abszorbeálva      | 6.1     | TF1                      | I                           | 6.1 + 3 | 603                               | LQ0  | E5      | P099<br>P601                   | RR10  | MP2                                     |  |         |
| 1616       | ÓLOM-ACETÁT  | 6.1     | T5                       | III                         | 6.1     |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 1617       | ÓLOM-ARZENÁTOK   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1618       | ÓLOM-ARZENITEK   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1620       | ÓLOM-CIANID  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1621       | LONDON VÖRÖS   | 6.1     | T5                       | II                          | 6.1     | 43                                | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1622       | MAGNÉZIUM-ARZENÁT  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1623       | HIGANY(II)-ARZENÁT   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1624       | HIGANY(II)-KLORID  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1625       | HIGANY(II)-NITRÁT  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1626       | KÁLIUM-HIGANY-CIANID   | 6.1     | T5                       | I                           | 6.1     |                                   | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33    |
| 1627       | HIGANY(I)-NITRÁT   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1629       | HIGANY-ACETÁT  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1630       | HIGANY(II)-AMMÓNIUM-KLORID   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1631       | HIGANY(II)-BENZOÁT   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1634       | HIGANY-BROMIDOK  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1636       | HIGANY-CIANID  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1637       | HIGANY-GLUKONÁT  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1638       | HIGANY-JODID   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |

| ADR-tartály  |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód   | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1606    | VAS(III)-ARZENÁT  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1607    | VAS(III)-ARZENIT  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1608    | VAS(II)-ARZENÁT   |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1611    | HEXAETIL-TETRAFOSZFÁT   |
| C*BH(M)      | TA4<br>TT9                   | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 26                     | 1612    | HEXAETIL-TETRAFOSZFÁT ÉS SŰRÍTETT GÁZ KEVERÉK   |
| L15DH(+)     | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 0<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1613    | HIDROGÉN-CIANID VIZES OLDAT (CIÁN-HIDROGÉNSAV VIZES OLDAT) legfeljebb 20% hidrogén-cianid tartalommal |
|              |                              |                                | 0<br>(D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S10<br>S14                     |                        | 1614    | HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal és inert porózus anyagban abszorbeálva   |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1616    | ÓLOM-ACETÁT   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1617    | ÓLOM-ARZENÁTOK  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1618    | ÓLOM-ARZENITEK  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1620    | ÓLOM-CIANID   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1621    | LONDON VÖRÖS  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1622    | MAGNÉZIUM-ARZENÁT   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1623    | HIGANY(II)-ARZENÁT  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1624    | HIGANY(II)-KLORID   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1625    | HIGANY(II)-NITRÁT   |
| S10AH        | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1626    | KÁLIUM-HIGANY-CIANID  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1627    | HIGANY(I)-NITRÁT  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1629    | HIGANY-ACETÁT   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1630    | HIGANY(II)-AMMÓNIUM-KLORID  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1631    | HIGANY(II)-BENZOÁT  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1634    | HIGANY-BROMIDOK   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1636    | HIGANY-CIANID   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1637    | HIGANY-GLUKONÁT   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1638    | HIGANY-JODID  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|---------|
|            |  |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 1639       | HIGANY-NUKLEÁT   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1640       | HIGANY-OLEÁT   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1641       | HIGANY-OXID  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1642       | HIGANY-OXICIANID,<br>ÉRZÉKETLENÍTETT   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1643       | KÁLIUM-HIGANY-JODID  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1644       | HIGANY-SZALICILÁT  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1645       | HIGANY-SZULFÁT   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1646       | HIGANY-TIOCIANÁT   | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1647       | METIL-BROMID ÉS ETILÉN-<br>DIBROMID FOLYÉKONY KEVERÉK                        | 6.1     | T1                       | I                           | 6.1     |                                   | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T20  | TP2     |
| 1648       | ACETONITRIL  | 3       | F1                       | II                          | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP2     |
| 1649       | KOPOGÁSGÁTLÓ KEVERÉK<br>TÜZELŐANYAGOKHOZ 60 °C feletti<br>lobbanásponttal    | 6.1     | T3                       | I                           | 6.1     |                                   | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T14  | TP2     |
| 1649       | KOPOGÁSGÁTLÓ KEVERÉK<br>TÜZELŐANYAGOKHOZ legfeljebb<br>60 °C lobbanásponttal | 6.1     | TF1                      | I                           | 6.1 + 3 |                                   | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T14  | TP2     |
| 1650       | SZILÁRD béta-NAFTIL-AMIN   | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1651       | NAFTIL-TIOKARBAMID   | 6.1     | T2                       | II                          | 6.1     | 43                                | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1652       | NAFTIL-KARBAMID  | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1653       | NIKKEL-CIANID  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1654       | NIKOTIN  | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    |  |         |
| 1655       | SZILÁRD NIKOTINVEGYÜLET,<br>M.N.N. vagy SZILÁRD<br>NIKOTINKÉSZÍTMÉNY, M.N.N. | 6.1     | T2                       | I                           | 6.1     | 43<br>274                         | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33    |
| 1655       | SZILÁRD NIKOTINVEGYÜLET,<br>M.N.N. vagy SZILÁRD<br>NIKOTINKÉSZÍTMÉNY, M.N.N. | 6.1     | T2                       | II                          | 6.1     | 43<br>274                         | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 1655       | SZILÁRD NIKOTINVEGYÜLET,<br>M.N.N. vagy SZILÁRD<br>NIKOTINKÉSZÍTMÉNY, M.N.N. | 6.1     | T2                       | III                         | 6.1     | 43<br>274                         | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 1656       | FOLYÉKONY NIKOTIN-<br>HIDROKLORID vagy NIKOTIN-<br>HIDROKLORID OLDAT         | 6.1     | T1                       | II                          | 6.1     | 43                                | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    |  |         |

| ADR-tartály    |                                     | Jármű a<br>tartályos<br>szállítás-<br>hoz | Szállítási<br>kategória<br>1.1.3.6<br>(Alagútkorlá-<br>tozási kód) | Szállítás  |   |   |   | Veszélyt<br>jelölő<br>számok | UN szám | Megnevezés és leírás   |
|----------------|-------------------------------------|---|--|--|---|---|---|------------------------------|---------|--|
| Tartálykód     | Külön-<br>leges<br>előírások        |   |  | Különleges<br>előírások a<br>küldemény-<br>darabokra | Különleges<br>előírások az<br>ömlesztett<br>szállításra | Különleges<br>előírások az<br>árukezelésre,<br>be- és kirakásra | Különleges<br>előírások a<br>jármű üze-<br>meltetésre |                              |         |  |
| 4.3            | 4.3.5, 6.8.4                        | 9.1.1.2                                   | (8.6)  | 7.2.4  | 7.3.3   | 7.5.11  | 8.5   | 5.3.2.3                      |         | 3.1.2  |
| (12)           | (13)                                | (14)                                      | (15)   | (16)   | (17)  | (18)  | (19)  | (20)                         | (1)     | (2)  |
| SGAH           | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1639    | HIGANY-NUKLEÁT   |
| SGAH           | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1640    | HIGANY-OLEÁT   |
| SGAH           | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1641    | HIGANY-OXID  |
| SGAH           | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1642    | HIGANY-OXICIANID,<br>ÉRZÉKETLENÍTETT   |
| SGAH           | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1643    | KÁLIUM-HIGANY-JODID  |
| SGAH           | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1644    | HIGANY-SZALICILÁT  |
| SGAH           | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1645    | HIGANY-SZULFÁT   |
| SGAH           | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1646    | HIGANY-TIOCIANÁT   |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21        | AT  | 1<br>(C/E)   |  |   | CV1<br>CV13<br>CV28   | S9<br>S14   | 66                           | 1647    | METIL-BROMID ÉS ETILÉN-<br>DIBROMID FOLYÉKONY KEVERÉK                        |
| LGBF           |                                     | FL  | 2<br>(D/E)   |  |   |   | S2<br>S20   | 33                           | 1648    | ACETONITRIL  |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21<br>TT6 | AT  | 1<br>(C/E)   |  |   | CV1<br>CV13<br>CV28   | S9<br>S14   | 66                           | 1649    | KOPOGÁSGÁTÓ KEVERÉK<br>TÜZELŐANYAGOKHOZ 60 °C feletti<br>lobbanásponttal     |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21<br>TT6 | FL  | 1<br>(C/D)   |  |   | CV1<br>CV13<br>CV28   | S2<br>S9<br>S14                                       | 663                          | 1649    | KOPOGÁSGÁTÓ KEVERÉK<br>TÜZELŐANYAGOKHOZ legfeljebb<br>60 °C lobbanásponttal  |
| L4BH<br>SGAH   | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1650    | SZILÁRD béta-NAFTIL-AMIN   |
| SGAH           | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1651    | NAFTIL-TIOKARBAMID   |
| SGAH           | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1652    | NAFTIL-KARBAMID  |
| L4BH<br>SGAH   | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1653    | NIKKEL-CIANID  |
| L4BH           | TU15<br>TE19                        | AT  | 2<br>(D/E)   |  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1654    | NIKOTIN  |
| L10CH<br>S10AH | TU15<br>TE19                        | AT  | 1<br>(C/E)   | V10<br>V12   |   | CV1<br>CV13<br>CV28   | S9<br>S14   | 66                           | 1655    | SZILÁRD NIKOTINVEGYÜLET,<br>M.N.N. vagy SZILÁRD<br>NIKOTINKÉSZÍTMÉNY, M.N.N. |
| L4BH<br>SGAH   | TU15<br>TE19                        | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1655    | SZILÁRD NIKOTINVEGYÜLET,<br>M.N.N. vagy SZILÁRD<br>NIKOTINKÉSZÍTMÉNY, M.N.N. |
| L4BH<br>SGAH   | TU15<br>TE19                        | AT  | 2<br>(E)   |  | VV9   | CV13<br>CV28  | S9  | 60                           | 1655    | SZILÁRD NIKOTINVEGYÜLET,<br>M.N.N. vagy SZILÁRD<br>NIKOTINKÉSZÍTMÉNY, M.N.N. |
| L4BH           | TU15<br>TE19                        | AT  | 2<br>(D/E)   |  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1656    | FOLYÉKONY NIKOTIN-<br>HIDROKLORID vagy NIKOTIN-<br>HIDROKLORID OLDAT         |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák           | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|------------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |                  |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2            | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)              | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1656       | FOLYÉKONY NIKOTIN-<br>HIDROKLORID vagy NIKOTIN-<br>HIDROKLORID OLDAT | 6.1     | T1                       | III                         | 6.1              | 43                                | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    |  |                         |
| 1657       | NIKOTIN-SZALICILÁT   | 6.1     | T2                       | II                          | 6.1              |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1658       | NIKOTIN-SZULFÁT OLDAT  | 6.1     | T1                       | II                          | 6.1              |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1658       | NIKOTIN-SZULFÁT OLDAT  | 6.1     | T1                       | III                         | 6.1              |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2                     |
| 1659       | NIKOTIN-TARTARÁT   | 6.1     | T2                       | II                          | 6.1              |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1660       | NITROGÉN-MONOXID, SŰRÍTETT   | 2       | ITOC                     |                             | 2.3 +<br>5.1 + 8 |                                   | LQ0  | E0      | P200                           |   | MP9                                     |  |                         |
| 1661       | NITRO-ANILINEK (o-, m-, p-)  | 6.1     | T2                       | II                          | 6.1              | 279                               | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1662       | NITRO-BENZOL   | 6.1     | T1                       | II                          | 6.1              | 279                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1663       | NITRO-FENOLOK (o-, m-, p-)   | 6.1     | T2                       | III                         | 6.1              | 279                               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1664       | FOLYÉKONY NITRO-TOLUOLOK   | 6.1     | T1                       | II                          | 6.1              |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1665       | FOLYÉKONY NITRO-XILOLOK  | 6.1     | T1                       | II                          | 6.1              |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1669       | PENTAKLÓR-ETÁN   | 6.1     | T1                       | II                          | 6.1              |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1670       | PERKLÓR-METIL-MERKAPTÁN  | 6.1     | T1                       | I                           | 6.1              |                                   | LQ0  | E5      | P602                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 1671       | SZILÁRD FENOL  | 6.1     | T2                       | II                          | 6.1              | 279                               | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1672       | FENIL-KARBIL-AMIN-KLORID   | 6.1     | T1                       | I                           | 6.1              |                                   | LQ0  | E5      | P602                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 1673       | FENILÉN-DIAMINOK (o-, m-, p-)  | 6.1     | T2                       | III                         | 6.1              | 279                               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1674       | FENIL-HIGANY(II)- -ACETÁT  | 6.1     | T3                       | II                          | 6.1              | 43                                | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1677       | KÁLIUM-ARZENÁT   | 6.1     | T5                       | II                          | 6.1              |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1678       | KÁLIUM-ARZENIT   | 6.1     | T5                       | II                          | 6.1              |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1679       | KÁLIUM-RÉZ(I)- -CIANID   | 6.1     | T5                       | II                          | 6.1              |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1680       | SZILÁRD KÁLIUM-CIANID  | 6.1     | T5                       | I                           | 6.1              |                                   | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 1683       | EZÜST-ARZENIT  | 6.1     | T5                       | II                          | 6.1              |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |

| ADR-tartály  |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|--------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód   | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)         | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 1656    | FOLYÉKONY NIKOTIN-HIDROKLORID vagy NIKOTIN-HIDROKLORID OLDAT |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1657    | NIKOTIN-SZALICILÁT   |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1658    | NIKOTIN-SZULFÁT OLDAT  |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 1658    | NIKOTIN-SZULFÁT OLDAT  |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1659    | NIKOTIN-TARTARÁT   |
|              |                              |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  |                        | 1660    | NITROGÉN-MONOXID, SŰRÍTETT                                   |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1661    | NITRO-ANILINEK (o-, m-, p-)                                  |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1662    | NITRO-BENZOL   |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1663    | NITRO-FENOLOK (o-, m-, p-)                                   |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1664    | FOLYÉKONY NITRO-TOLUOLOK                                     |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1665    | FOLYÉKONY NITRO-XILOLOK                                      |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1669    | PENTAKLÓR-ETÁN   |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1670    | PERKLÓR-METIL-MERKAPTÁN                                      |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1671    | SZILÁRD FENOL  |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1672    | FENIL-KARBIL-AMIN-KLORID                                     |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1673    | FENILÉN-DIAMINOK (o-, m-, p-)                                |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1674    | FENIL-HIGANY(II)- -ACETÁT                                    |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1677    | KÁLIUM-ARZENÁT   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1678    | KÁLIUM-ARZENIT   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1679    | KÁLIUM-RÉZ(I)- -CIANID                                       |
| S10AH        | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1680    | SZILÁRD KÁLIUM-CIANID  |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1683    | EZÜST-ARZENIT  |

| UN<br>szám |                                     | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztartá-<br>r-konténer |                         |
|------------|-------------------------------------|---------|--------------------------|-----------------------------|----------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |                                     |         |                          |                             |                |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2                               | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)                                 | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1684       | EZÜST-CIANID                        | 6.1     | T5                       | II                          | 6.1            |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1685       | NÁTRIUM-ARZENÁT                     | 6.1     | T5                       | II                          | 6.1            |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1686       | NÁTRIUM-ARZENIT VIZES OLDAT         | 6.1     | T4                       | II                          | 6.1            | 43                                | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1686       | NÁTRIUM-ARZENIT VIZES OLDAT         | 6.1     | T4                       | III                         | 6.1            | 43                                | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP2                     |
| 1687       | NÁTRIUM-AZID                        | 6.1     | T5                       | II                          | 6.1            |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    |  |                         |
| 1688       | NÁTRIUM-KAKODILÁT                   | 6.1     | T5                       | II                          | 6.1            |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1689       | SZILÁRD NÁTRIUM-CIANID              | 6.1     | T5                       | I                           | 6.1            |                                   | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 1690       | SZILÁRD NÁTRIUM-FLUORID             | 6.1     | T5                       | III                         | 6.1            |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1691       | STRONCIUM-ARZENIT                   | 6.1     | T5                       | II                          | 6.1            |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1692       | SZTRICHNIN vagy SZTRICHNIN SÓK      | 6.1     | T2                       | I                           | 6.1            |                                   | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 1693       | FOLYÉKONY KÖNNYGÁZ ANYAG,<br>M.N.N. | 6.1     | T1                       | I                           | 6.1            | 274                               | LQ0  | E5      | P001                           |   | MP8<br>MP17                             |  |                         |
| 1693       | FOLYÉKONY KÖNNYGÁZ ANYAG,<br>M.N.N. | 6.1     | T1                       | II                          | 6.1            | 274                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    |  |                         |
| 1694       | FOLYÉKONY BRÓM-BENZIL-<br>CIANIDOK  | 6.1     | T1                       | I                           | 6.1            | 138                               | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 1695       | KLÓR-ACETON, STABILIZÁLT            | 6.1     | TFC                      | I                           | 6.1 + 3<br>+ 8 |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T20  | TP2<br>TP35             |
| 1697       | SZILÁRD KLÓR-ACETOFENON             | 6.1     | T2                       | II                          | 6.1            |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1698       | DIFENIL-AMIN-KLÓR-ARZIN             | 6.1     | T3                       | I                           | 6.1            |                                   | LQ0  | E5      | P002                           |   | MP18                                    | T6   | TP33                    |
| 1699       | FOLYÉKONY DIFENIL-KLÓR-ARZIN        | 6.1     | T3                       | I                           | 6.1            |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             |  |                         |
| 1700       | KÖNNYGÁZGYERTYÁK                    | 6.1     | TF3                      | II                          | 6.1 +<br>4.1   |                                   | LQ18                                       | E0      | P600                           |   |   |  |                         |
| 1701       | FOLYÉKONY XILIL-BROMID              | 6.1     | T1                       | II                          | 6.1            |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1702       | 1,1,2,2-TETRAKLÓR-ETÁN              | 6.1     | T1                       | II                          | 6.1            |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1704       | TETRAETIL-DITIO-PIROFOSZFÁT         | 6.1     | T2                       | II                          | 6.1            | 43                                | LQ18                                       | E4      | P001<br>IBC02                  |   | MP10                                    | T7   | TP2                     |



| ADR-tartály  |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás             |
|--------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|----------------------------------|
| Tartálykód   | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |                                  |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                            |
| (12)         | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                              |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1684    | EZÜST-CIANID                     |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1685    | NÁTRIUM-ARZENÁT                  |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1686    | NÁTRIUM-ARZENIT VIZES OLDAT      |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 1686    | NÁTRIUM-ARZENIT VIZES OLDAT      |
|              |                              |                                | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  |                        | 1687    | NÁTRIUM-AZID                     |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1688    | NÁTRIUM-KAKODILÁT                |
| S10AH        | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1689    | SZILÁRD NÁTRIUM-CIANID           |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1690    | SZILÁRD NÁTRIUM-FLUORID          |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1691    | STRONCIUM-ARZENIT                |
| S10AH        | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1692    | SZTRICHNIN vagy SZTRICHNIN SÓK   |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1693    | FOLYÉKONY KÖNNYGÁZ ANYAG, M.N.N. |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1693    | FOLYÉKONY KÖNNYGÁZ ANYAG, M.N.N. |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1694    | FOLYÉKONY BRÓM-BENZIL-CIANIDOK   |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1695    | KLÓR-ACETON, STABILIZÁLT         |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1697    | SZILÁRD KLÓR-ACETOFENON          |
| S10AH        | TU15<br>TE19                 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1698    | DIFENIL-AMIN-KLÓR-ARZIN          |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1699    | FOLYÉKONY DIFENIL-KLÓR-ARZIN     |
|              |                              |                                | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  |                        | 1700    | KÖNNYGÁZGYERTYÁK                 |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1701    | FOLYÉKONY XILIL-BROMID           |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1702    | 1,1,2,2-TETRAKLÓR-ETÁN           |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1704    | TETRAETIL-DITIO-PIROFOSZFÁT      |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|----------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |                |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1707       | TALLIUMVEGYÜLET, M.N.N.   | 6.1     | T5                       | II                          | 6.1            | 43<br>274                         | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1708       | FOLYÉKONY TOLUIDINEK  | 6.1     | T1                       | II                          | 6.1            | 279                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1709       | SZILÁRD 2,4-TOLUILÉN-DIAMIN   | 6.1     | T2                       | III                         | 6.1            |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1710       | TRIKLÓR-ETILÉN  | 6.1     | T1                       | III                         | 6.1            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 1711       | FOLYÉKONY XILIDINEK   | 6.1     | T1                       | II                          | 6.1            |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1712       | CINK-ARZENÁT,<br>CINK-ARZENIT vagy<br>CINK-ARZENÁT ÉS CINK-ARZENIT<br>KEVERÉK | 6.1     | T5                       | II                          | 6.1            |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1713       | CINK-CIANID   | 6.1     | T5                       | I                           | 6.1            |                                   | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 1714       | CINK-FOSZFID  | 4.3     | WT2                      | I                           | 4.3 +<br>6.1   |                                   | LQ0  | E0      | P403                           |   | MP2                                     |  |                         |
| 1715       | ECETSAVANHIDRID   | 8       | CF1                      | II                          | 8 + 3          |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1716       | ACETIL-BROMID   | 8       | C3                       | II                          | 8              |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1717       | ACETIL-KLORID   | 3       | FC                       | II                          | 3 + 8          |                                   | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                    | T8   | TP2                     |
| 1718       | FOSZFORSÁV-MONOBUTIL-ÉSZTER   | 8       | C3                       | III                         | 8              |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 1719       | MARÓ, LÚGOS FOLYÉKONY<br>ANYAG, M.N.N.  | 8       | C5                       | II                          | 8              | 274                               | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 1719       | MARÓ, LÚGOS FOLYÉKONY<br>ANYAG, M.N.N.  | 8       | C5                       | III                         | 8              | 274                               | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP1<br>TP28             |
| 1722       | ALLIL-KLÓR-FORMIÁT  | 6.1     | TFC                      | I                           | 6.1 + 3<br>+ 8 |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 1723       | ALLIL-JODID   | 3       | FC                       | II                          | 3 + 8          |                                   | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP2                     |
| 1724       | ALLIL-TRIKLÓR-SZILÁN,<br>STABILIZÁLT  | 8       | CF1                      | II                          | 8 + 3          |                                   | LQ22                                       | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 1725       | VÍZMENTES ALUMÍNÍUM-BROMID  | 8       | C2                       | II                          | 8              | 588                               | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1726       | VÍZMENTES ALUMÍNÍUM-KLORID  | 8       | C2                       | II                          | 8              | 588                               | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1727       | SZILÁRD AMMÓNIUM-HIDROGÉN-<br>DIFLUORID                                       | 8       | C2                       | II                          | 8              |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1728       | AMIL-TRIKLÓR-SZILÁN   | 8       | C3                       | II                          | 8              |                                   | LQ22                                       | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 1729       | ANIZOIL-KLORID  | 8       | C4                       | II                          | 8              |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1730       | FOLYÉKONY ANTIMON-<br>PENTAKLORID   | 8       | C1                       | II                          | 8              |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |

| ADR-tartály  |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód   | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1707    | TALLIUMVEGYÜLET, M.N.N.   |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1708    | FOLYÉKONY TOLUIDINEK  |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1709    | SZILÁRD 2,4-TOLUILÉN-DIAMIN   |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 1710    | TRIKLÓR-ETILÉN  |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1711    | FOLYÉKONY XILIDINEK   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1712    | CINK-ARZENÁT,<br>CINK-ARZENIT vagy<br>CINK-ARZENÁT ÉS CINK-ARZENIT<br>KEVERÉK |
| S10AH        | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1713    | CINK-CIANID   |
|              |                              |                                | 1<br>(E)   | V1  |  | CV23<br>CV28   | S14  |                        | 1714    | CINK-FOSZFID  |
| L4BN         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 1715    | ECETSAVANHIDRID   |
| L4BN         |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 1716    | ACETIL-BROMID   |
| L4BH         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | X338                   | 1717    | ACETIL-KLORID   |
| L4BN         |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 1718    | FOSZFORSAV-MONOBUTIL-ÉSZTER   |
| L4BN         |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 1719    | MARÓ, LÚGOS FOLYÉKONY<br>ANYAG, M.N.N.  |
| L4BN         |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 1719    | MARÓ, LÚGOS FOLYÉKONY<br>ANYAG, M.N.N.  |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 668                    | 1722    | ALLIL-KLÓR-FORMIÁT  |
| L4BH         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 1723    | ALLIL-JODID   |
| L4BN         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2   | X839                   | 1724    | ALLIL-TRIKLÓR-SZILÁN,<br>STABILIZÁLT  |
| SGAN         |                              | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 1725    | VÍZMENTES ALUMÍNIUM-BROMID  |
| SGAN         |                              | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 1726    | VÍZMENTES ALUMÍNIUM-KLORID  |
| SGAN         |                              | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 1727    | SZILÁRD AMMÓNIUM-HIDROGÉN-<br>DIFLUORID                                       |
| L4BN         |                              | AT                             | 2<br>(E)   |   |  |  |  | X80                    | 1728    | AMIL-TRIKLÓR-SZILÁN   |
| L4BN<br>SGAN |                              | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 1729    | ANIZOIL-KLORID  |
| L4BN         |                              | AT                             | 2<br>(E)   |   |  |  |  | X80                    | 1730    | FOLYÉKONY ANTIMON-<br>PENTAKLORID   |

| UN<br>szám |   | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák              | Külön-<br>leges<br>előírások | Korlátozott és<br>engedélyezett<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|---------------------|------------------------|---------------------|------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                     |                        |                     |                              |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2               | 3.3                          | 3.4.6  | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                | (4)                    | (5)                 | (6)                          | (7a)   | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1731       | ANTIMON-PENTAKLORID OLDAT   | 8       | C1                  | II                     | 8                   |                              | LQ22   | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1731       | ANTIMON-PENTAKLORID OLDAT   | 8       | C1                  | III                    | 8                   |                              | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 1732       | ANTIMON-PENTAFLUORID  | 8       | CT1                 | II                     | 8 + 6.1             |                              | LQ22   | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1733       | ANTIMON-TRIKLORID   | 8       | C2                  | II                     | 8                   |                              | LQ23   | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1736       | BENZOIL-KLORID  | 8       | C3                  | II                     | 8                   |                              | LQ22   | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1737       | BENZIL-BROMID   | 6.1     | TC1                 | II                     | 6.1 + 8             |                              | LQ17   | E4      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1738       | BENZIL-KLORID   | 6.1     | TC1                 | II                     | 6.1 + 8             |                              | LQ17   | E4      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1739       | BENZIL-KLÓR-FORMIÁT   | 8       | C9                  | I                      | 8                   |                              | LQ0  | E0      | P001                           |   | MP8<br>MP17                             | T10  | TP2                     |
| 1740       | SZILÁRD HIDROGÉN-<br>DIFLUORIDOK, M.N.N.  | 8       | C2                  | II                     | 8                   | 274<br>517                   | LQ23   | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1740       | SZILÁRD HIDROGÉN-<br>DIFLUORIDOK, M.N.N.  | 8       | C2                  | III                    | 8                   | 274<br>517                   | LQ24   | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1741       | BÓR-TRIKLORID   | 2       | 2TC                 |                        | 2.3 + 8             |                              | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1742       | FOLYÉKONY BÓR-TRIFLUORID-<br>ECETSAV KOMPLEX  | 8       | C3                  | II                     | 8                   |                              | LQ22   | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1743       | FOLYÉKONY BÓR-TRIFLUORID-<br>PROPIONSÁV KOMPLEX   | 8       | C3                  | II                     | 8                   |                              | LQ22   | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1744       | BRÓM vagy BRÓM OLDAT  | 8       | CT1                 | I                      | 8 + 6.1             |                              | LQ0  | E0      | P804                           |   | MP2                                     | T22  | TP2 TP10                |
| 1745       | BRÓM-PENTAFLUORID   | 5.1     | OTC                 | I                      | 5.1 +<br>6.1 +<br>8 |                              | LQ0  | E0      | P200                           |   | MP2                                     | T22  | TP2                     |
| 1746       | BRÓM-TRIFLUORID   | 5.1     | OTC                 | I                      | 5.1 +<br>6.1 +<br>8 |                              | LQ0  | E0      | P200                           |   | MP2                                     | T22  | TP2                     |
| 1747       | BUTIL-TRIKLÓR-SZILÁN  | 8       | CF1                 | II                     | 8 + 3               |                              | LQ22   | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 1748       | SZÁRAZ KALCIUM-HIPOKLORIT<br>vagy<br>SZÁRAZ KALCIUM-HIPOKLORIT<br>KEVERÉK<br>39%-nál több szabad klórtartalommal<br>(8,8% szabad oxigénnel) | 5.1     | O2                  | II                     | 5.1                 | 313<br>314<br>589            | LQ11   | E2      | P002<br>IBC08                  | B4<br>B13                                     | MP10                                    |  |                         |
| 1748       | SZÁRAZ KALCIUM-HIPOKLORIT<br>vagy<br>SZÁRAZ KALCIUM-HIPOKLORIT<br>KEVERÉK<br>39%-nál több szabad klórtartalommal<br>(8,8% szabad oxigénnel) | 5.1     | O2                  | III                    | 5.1                 | 316<br>589                   | LQ12   | E1      | P002<br>IBC08<br>R001          | B4  | MP10                                    |  |                         |

| ADR-tartály  |  | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|--------------|--|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód   | Különleges előírások                             |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3          | 4.3.5, 6.8.4                                     | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)         | (13)   | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BN         |  | AT                             | 2 (E)  |   |  |  |  | 80                     | 1731    | ANTIMON-PENTAKLORID OLDAT  |
| L4BN         |  | AT                             | 3 (E)  |   |  |  |  | 80                     | 1731    | ANTIMON-PENTAKLORID OLDAT  |
| L4BN         |  | AT                             | 2 (E)  |   |  | CV13<br>CV28   |  | 86                     | 1732    | ANTIMON-PENTAFLUORID   |
| L4BN<br>SGAN |  | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 1733    | ANTIMON-TRIKLORID  |
| L4BN         |  | AT                             | 2 (E)  |   |  |  |  | 80                     | 1736    | BENZOIL-KLORID   |
| L4BH         | TU15<br>TE19                                     | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 1737    | BENZIL-BROMID  |
| L4BH         | TU15<br>TE19                                     | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 1738    | BENZIL-KLORID  |
| L10BH        |  | AT                             | 1 (E)  |   |  |  | S20  | 88                     | 1739    | BENZIL-KLÓR-FORMIÁT  |
| SGAN         |  | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 1740    | SZILÁRD HIDROGÉN-DIFLUORIDOK, M.N.N.   |
| SGAV         |  | AT                             | 3 (E)  |   | VV9  |  |  | 80                     | 1740    | SZILÁRD HIDROGÉN-DIFLUORIDOK, M.N.N.   |
|              |  | AT                             | 1 (C/D)  |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                    | 1741    | BÓR-TRIKLORID  |
| L4BN         |  | AT                             | 2 (E)  |   |  |  |  | 80                     | 1742    | FOLYÉKONY BÓR-TRIFLUORID-ECETSAV KOMPLEX   |
| L4BN         |  | AT                             | 2 (E)  |   |  |  |  | 80                     | 1743    | FOLYÉKONY BÓR-TRIFLUORID-PROPIONSÁV KOMPLEX  |
| L21DH(+)     | TU14<br>TU33<br>TC5<br>TE21<br>TT2<br>TM3<br>TM5 | AT                             | 1 (C/D)  |   |  | CV13<br>CV28   | S14  | 886                    | 1744    | BRÓM vagy BRÓM OLDAT   |
| L10DH        | TU3  | AT                             | 1 (B/E)  |   |  | CV24<br>CV28   | S14  | 568                    | 1745    | BRÓM-PENTAFLUORID  |
| L10DH        | TU3  | AT                             | 1 (B/E)  |   |  | CV24<br>CV28   | S14  | 568                    | 1746    | BRÓM-TRIFLUORID  |
| L4BN         |  | FL                             | 2 (D/E)  |   |  |  | S2   | X83                    | 1747    | BUTIL-TRIKLÓR-SZILÁN   |
| SGAN         | TU3  | AT                             | 2 (E)  | V11                                       |  | CV24<br>CV35   |  | 50                     | 1748    | SZÁRAZ KALCIUM-HIPOKLORIT vagy SZÁRAZ KALCIUM-HIPOKLORIT KEVERÉK 39%-nál több szabad klórtartalommal (8,8% szabad oxigénnel) |
| SGAV         | TU3  | AT                             | 3 (E)  |   |  | CV24<br>CV35   |  | 50                     | 1748    | SZÁRAZ KALCIUM-HIPOKLORIT vagy SZÁRAZ KALCIUM-HIPOKLORIT KEVERÉK 39%-nál több szabad klórtartalommal (8,8% szabad oxigénnel) |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák              | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |                     |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2               | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)                 | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1749       | KLÓR-TRIFLUORID                                  | 2       | 2TOC                     |                             | 2.3 +<br>5.1 +<br>8 |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1750       | KLÓR-ECETSAV OLDAT                               | 6.1     | TC1                      | II                          | 6.1 + 8             |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1751       | SZILÁRD KLÓR-ECETSAV                             | 6.1     | TC2                      | II                          | 6.1 + 8             |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1752       | KLÓR-ACETIL-KLORID                               | 6.1     | TC1                      | I                           | 6.1 + 8             |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T20  | TP2<br>TP35             |
| 1753       | KLÓR-FENIL-TRIKLÓR-SZILÁN                        | 8       | C3                       | II                          | 8                   |                                   | LQ22                                       | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 1754       | KLÓR-SZULFONSAV<br>(kén-trioxiddal vagy anélkül) | 8       | C1                       | I                           | 8                   |                                   | LQ0  | E0      | P001                           |   | MP8<br>MP17                             | T20  | TP2                     |
| 1755       | KRÓMSAV OLDAT                                    | 8       | C1                       | II                          | 8                   | 518                               | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1755       | KRÓMSAV OLDAT                                    | 8       | C1                       | III                         | 8                   | 518                               | LQ7  | E1      | P001<br>IBC02<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 1756       | SZILÁRD KRÓM-FLUORID                             | 8       | C2                       | II                          | 8                   |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1757       | KRÓM-FLUORID OLDAT                               | 8       | C1                       | II                          | 8                   |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1757       | KRÓM-FLUORID OLDAT                               | 8       | C1                       | III                         | 8                   |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 1758       | KRÓM-OXIKLORID                                   | 8       | C1                       | I                           | 8                   |                                   | LQ0  | E0      | P001                           |   | MP8<br>MP17                             | T10  | TP2                     |
| 1759       | MARÓ SZILÁRD ANYAG, M.N.N.                       | 8       | C10                      | I                           | 8                   | 274                               | LQ0  | E0      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 1759       | MARÓ SZILÁRD ANYAG, M.N.N.                       | 8       | C10                      | II                          | 8                   | 274                               | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1759       | MARÓ SZILÁRD ANYAG, M.N.N.                       | 8       | C10                      | III                         | 8                   | 274                               | LQ24                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1760       | MARÓ FOLYADÉK, M.N.N.                            | 8       | C9                       | I                           | 8                   | 274                               | LQ0  | E0      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 1760       | MARÓ FOLYADÉK, M.N.N.                            | 8       | C9                       | II                          | 8                   | 274                               | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 1760       | MARÓ FOLYADÉK, M.N.N.                            | 8       | C9                       | III                         | 8                   | 274                               | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |
| 1761       | ETILÉN-DIAMIN-RÉZ OLDAT                          | 8       | CT1                      | II                          | 8 + 6.1             |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1761       | ETILÉN-DIAMIN-RÉZ OLDAT                          | 8       | CT1                      | III                         | 8 + 6.1             |                                   | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP1<br>TP28             |
| 1762       | CIKLOHEXENIL-TRIKLÓR-SZILÁN                      | 8       | C3                       | II                          | 8                   |                                   | LQ22                                       | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 1763       | CIKLOHEXIL-TRIKLÓR-SZILÁN                        | 8       | C3                       | II                          | 8                   |                                   | LQ22                                       | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 1764       | DIKLÓR-ECETSAV                                   | 8       | C3                       | II                          | 8                   |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                             |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| P*BH(M)        | TA4<br>TT9                   | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 265                    | 1749    | KLÓR-TRIFLUORID                                  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 1750    | KLÓR-ECETSAV OLDAT                               |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 1751    | SZILÁRD KLÓR-ECETSAV                             |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 668                    | 1752    | KLÓR-ACETIL-KLORID                               |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  |  |  | X80                    | 1753    | KLÓR-FENIL-TRIKLÓR-SZILÁN                        |
| L10BH          |                              | AT                             | 1<br>(E)   |   |  |  | S20  | X88                    | 1754    | KLÓR-SZULFONSAV<br>(kén-trioxiddal vagy anélkül) |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 1755    | KRÓMSAV OLDAT                                    |
| L4BN           |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 1755    | KRÓMSAV OLDAT                                    |
| SGAN           |                              | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 1756    | SZILÁRD KRÓM-FLUORID                             |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 1757    | KRÓM-FLUORID OLDAT                               |
| L4BN           |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 1757    | KRÓM-FLUORID OLDAT                               |
| L10BH          |                              | AT                             | 1<br>(E)   |   |  |  | S20  | X88                    | 1758    | KRÓM-OXIKLORID                                   |
| L10BH<br>S10AN |                              | AT                             | 1<br>(E)   | V10<br>V12                                |  |  | S20  | 88                     | 1759    | MARÓ SZILÁRD ANYAG, M.N.N.                       |
| L4BN<br>SGAN   |                              | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 1759    | MARÓ SZILÁRD ANYAG, M.N.N.                       |
| L4BN<br>SGAV   |                              | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 1759    | MARÓ SZILÁRD ANYAG, M.N.N.                       |
| L10BH          |                              | AT                             | 1<br>(E)   |   |  |  | S20  | 88                     | 1760    | MARÓ FOLYADÉK, M.N.N.                            |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 1760    | MARÓ FOLYADÉK, M.N.N.                            |
| L4BN           |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 1760    | MARÓ FOLYADÉK, M.N.N.                            |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   |  | 86                     | 1761    | ETILÉN-DIAMIN-RÉZ OLDAT                          |
| L4BN           |                              | AT                             | 3<br>(E)   |   |  | CV13<br>CV28   |  | 86                     | 1761    | ETILÉN-DIAMIN-RÉZ OLDAT                          |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  |  |  | X80                    | 1762    | CIKLOHEXENIL-TRIKLÓR-SZILÁN                      |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  |  |  | X80                    | 1763    | CIKLOHEXIL-TRIKLÓR-SZILÁN                        |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 1764    | DIKLÓR-ECETSAV                                   |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1765       | DIKLÓR-ACETIL-KLORID   | 8       | C3                       | II                          | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1766       | DIKLÓR-FENIL-TRIKLÓR-SZILÁN                                  | 8       | C3                       | II                          | 8       |                                   | LQ22                                      | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 1767       | DIETIL-DIKLÓR-SZILÁN   | 8       | CF1                      | II                          | 8 + 3   |                                   | LQ22                                      | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 1768       | VÍZMENTES DIFLUORO-<br>FOSZFORSÁV                            | 8       | C1                       | II                          | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1769       | DIFENIL-DIKLÓR-SZILÁN  | 8       | C3                       | II                          | 8       |                                   | LQ22                                      | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 1770       | DIFENIL-BRÓM-METÁN   | 8       | C10                      | II                          | 8       |                                   | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1771       | DODECIL-TRIKLÓR-SZILÁN                                       | 8       | C3                       | II                          | 8       |                                   | LQ22                                      | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 1773       | VÍZMENTES VAS(III)-KLORID                                    | 8       | C2                       | III                         | 8       | 590                               | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1774       | TÚZOLTÓKÉSZÜLÉK TÖLTETEK<br>maró folyékony anyag tartalommal | 8       | C11                      | II                          | 8       |                                   | LQ22                                      | E0      | P001                           | PP4   |   |  |                         |
| 1775       | FLUORO-BÓRSÁV  | 8       | C1                       | II                          | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1776       | VÍZMENTES FLUORO-FOSZFORSÁV                                  | 8       | C1                       | II                          | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1777       | FLUOR-KÉNSÁV   | 8       | C1                       | I                           | 8       |                                   | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             | T10  | TP2                     |
| 1778       | FLUORO-KOVASÁV   | 8       | C1                       | II                          | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1779       | HANGYASÁV 85 tömeg%-nál több<br>savtartalommal               | 8       | CF1                      | II                          | 8 + 3   |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1780       | FUMARIL-KLORID   | 8       | C3                       | II                          | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1781       | HEXADECIL-TRIKLÓR-SZILÁN                                     | 8       | C3                       | II                          | 8       |                                   | LQ22                                      | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 1782       | HEXAFLUORO-FOSZFORSÁV  | 8       | C1                       | II                          | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1783       | HEXAMETILÉN-DIAMIN OLDAT                                     | 8       | C7                       | II                          | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1783       | HEXAMETILÉN-DIAMIN OLDAT                                     | 8       | C7                       | III                         | 8       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 1784       | HEXIL-TRIKLÓR-SZILÁN   | 8       | C3                       | II                          | 8       |                                   | LQ22                                      | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 1786       | FLUOR-HIDROGÉNSÁV ÉS<br>KÉNSÁV KEVERÉK                       | 8       | CT1                      | I                           | 8 + 6.1 |                                   | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             | T10  | TP2                     |
| 1787       | JÓD-HIDROGÉNSÁV  | 8       | C1                       | II                          | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1787       | JÓD-HIDROGÉNSÁV  | 8       | C1                       | III                         | 8       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 1788       | BRÓM-HIDROGÉNSÁV   | 8       | C1                       | II                          | 8       | 519                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |



| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                      |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | X80                    | 1765    | DIKLÓR-ACETIL-KLORID                                      |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | X80                    | 1766    | DIKLÓR-FENIL-TRIKLÓR-SZILÁN                               |
| L4BN        |                      | FL                             | 2 (D/E)  |   |  |  | S2   | X83                    | 1767    | DIETIL-DIKLÓR-SZILÁN                                      |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | 80                     | 1768    | VÍZMENTES DIFLUORO-FOSZFORSAV                             |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | X80                    | 1769    | DIFENIL-DIKLÓR-SZILÁN                                     |
| L4BN SGAN   |                      | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 1770    | DIFENIL-BRÓM-METÁN  |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | X80                    | 1771    | DODECIL-TRIKLÓR-SZILÁN                                    |
| SGAV        |                      | AT                             | 3 (E)  |   | VV9  |  |  | 80                     | 1773    | VÍZMENTES VAS(III)-KLORID                                 |
|             |                      |                                | 2 (E)  |   |  |  |  |                        | 1774    | TÚZOLTÓKÉSZÜLÉK TÖLTETEK maró folyékony anyag tartalommal |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | 80                     | 1775    | FLUORO-BÓRSAV   |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | 80                     | 1776    | VÍZMENTES FLUORO-FOSZFORSAV                               |
| L10BH       |                      | AT                             | 1 (E)  |   |  |  | S20  | 88                     | 1777    | FLUOR-KÉNSAV  |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | 80                     | 1778    | FLUORO-KOVASAV  |
| L4BN        |                      | FL                             | 2 (D/E)  |   |  |  | S2   | 83                     | 1779    | HANGYASAV 85 tömeg%-nál több savtartalommal               |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | 80                     | 1780    | FUMARIL-KLORID  |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | X80                    | 1781    | HEXADECIL-TRIKLÓR-SZILÁN                                  |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | 80                     | 1782    | HEXAFLUORO-FOSZFORSAV                                     |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | 80                     | 1783    | HEXAMETILÉN-DIAMIN OLDAT                                  |
| L4BN        |                      | AT                             | 3 (E)  |   |  |  |  | 80                     | 1783    | HEXAMETILÉN-DIAMIN OLDAT                                  |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | X80                    | 1784    | HEXIL-TRIKLÓR-SZILÁN                                      |
| L10DH       | TU14<br>TE21<br>TT4  | AT                             | 1 (C/D)  |   |  | CV13<br>CV28   | S14  | 886                    | 1786    | FLUOR-HIDROGÉNSAV ÉS KÉNSAV KEVERÉK                       |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | 80                     | 1787    | JÓD-HIDROGÉNSAV   |
| L4BN        |                      | AT                             | 3 (E)  |   |  |  |  | 80                     | 1787    | JÓD-HIDROGÉNSAV   |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | 80                     | 1788    | BRÓM-HIDROGÉNSAV  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------|
|            |  |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 1788       | BRÓM-HIDROGÉNSAV   | 8       | C1                       | III                         | 8       | 519                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 1789       | KLÓR-HIDROGÉNSAV (SÓSAV)   | 8       | C1                       | II                          | 8       | 520                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2         |
| 1789       | KLÓR-HIDROGÉNSAV (SÓSAV)   | 8       | C1                       | III                         | 8       | 520                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 1790       | FLUOR-HIDROGÉNSAV<br>85%-nál több hidrogén-fluorid<br>tartalommal                    | 8       | CT1                      | I                           | 8 + 6.1 | 640I                              | LQ0                                       | E0      | P802                           |   | MP2                                     | T10  | TP2         |
| 1790       | FLUOR-HIDROGÉNSAV<br>60%-nál több, de legfeljebb 85%<br>hidrogén-fluorid tartalommal | 8       | CT1                      | I                           | 8 + 6.1 | 640J                              | LQ0                                       | E0      | P001                           | PP81  | MP8<br>MP17                             | T10  | TP2         |
| 1790       | FLUOR-HIDROGÉNSAV<br>legfeljebb 60% hidrogén-fluorid<br>tartalommal                  | 8       | CT1                      | II                          | 8 + 6.1 |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2         |
| 1791       | HIPOKLORIT OLDAT   | 8       | C9                       | II                          | 8       | 521                               | LQ22                                      | E2      | P001<br>IBC02                  | PP10<br>B5                                    | MP15                                    | T7   | TP2<br>TP24 |
| 1791       | HIPOKLORIT OLDAT   | 8       | C9                       | III                         | 8       | 521                               | LQ7                                       | E1      | P001<br>IBC02<br>LP01<br>R001  | B5  | MP19                                    | T4   | TP2<br>TP24 |
| 1792       | JÓD-MONOKLORID   | 8       | C1                       | II                          | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 1793       | FOSZFORSAV-MONOIZOPROPIL-<br>ÉSZTER  | 8       | C3                       | III                         | 8       |                                   | LQ7                                       | E1      | P001<br>IBC02<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 1794       | ÓLOM-SZULFÁT<br>3%-nál több savtartalommal   | 8       | C2                       | II                          | 8       | 591                               | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 1796       | NITRÁLÓSAV KEVERÉK<br>50%-nál több salétromsav-tartalommal                           | 8       | CO1                      | I                           | 8 + 5.1 |                                   | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             | T10  | TP2         |
| 1796       | NITRÁLÓSAV KEVERÉK<br>legfeljebb 50% salétromsav-tartalommal                         | 8       | C1                       | II                          | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2         |
| 1798       | KIRÁLYVÍZ<br>(salétromsav és sósav keveréke)   | 8       | COT                      | A szállításból ki van zárva |         |                                   |   |         |                                |   |   |  |             |
| 1799       | NONIL-TRIKLÓR-SZILÁN   | 8       | C3                       | II                          | 8       |                                   | LQ22                                      | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7  |
| 1800       | OKTADECIL-TRIKLÓR-SZILÁN   | 8       | C3                       | II                          | 8       |                                   | LQ22                                      | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7  |
| 1801       | OKTIL-TRIKLÓR-SZILÁN   | 8       | C3                       | II                          | 8       |                                   | LQ22                                      | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7  |
| 1802       | PERKLÓRSAV legfeljebb 50 tömeg%<br>savtartalommal                                    | 8       | CO1                      | II                          | 8 + 5.1 | 522                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP3                                     | T7   | TP2         |
| 1803       | FOLYÉKONY FENOLSZULFONSAV  | 8       | C3                       | II                          | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 1804       | FENIL-TRIKLÓR-SZILÁN   | 8       | C3                       | II                          | 8       |                                   | LQ22                                      | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7  |

| ADR-tartály                 |   | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-----------------------------|---|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód                  | Különleges előírások                                    |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                         | 4.3.5, 6.8.4  | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                        | (13)  | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BN                        |   | AT                             | 3 (E)  |   |  |  |  | 80                     | 1788    | BRÓM-HIDROGÉNSAV  |
| L4BN                        |   | AT                             | 2 (E)  |   |  |  |  | 80                     | 1789    | KLÓR-HIDROGÉNSAV (SÓSAV)  |
| L4BN                        |   | AT                             | 3 (E)  |   |  |  |  | 80                     | 1789    | KLÓR-HIDROGÉNSAV (SÓSAV)  |
| L21DH(+)                    | TU14<br>TU34<br>TC1<br>TE21<br>TA4<br>TT4<br>TT9<br>TM3 | AT                             | 1 (C/D)  |   |  | CV13<br>CV28   | S14  | 886                    | 1790    | FLUOR-HIDROGÉNSAV<br>85%-nál több hidrogén-fluorid tartalommal                    |
| L10DH                       | TU14<br>TE21<br>TT4                                     | AT                             | 1 (C/D)  |   |  | CV13<br>CV28   | S14  | 886                    | 1790    | FLUOR-HIDROGÉNSAV<br>60%-nál több, de legfeljebb 85% hidrogén-fluorid tartalommal |
| L4DH                        | TU14<br>TE21<br>TT4                                     | AT                             | 2 (E)  |   |  | CV13<br>CV28   |  | 86                     | 1790    | FLUOR-HIDROGÉNSAV<br>legfeljebb 60% hidrogén-fluorid tartalommal                  |
| L4BV(+)                     | TE11  | AT                             | 2 (E)  |   |  |  |  | 80                     | 1791    | HIPOKLORIT OLDAT  |
| L4BV(+)                     | TE11  | AT                             | 3 (E)  |   |  |  |  | 80                     | 1791    | HIPOKLORIT OLDAT  |
| L4BN                        |   | AT                             | 2 (E)  |   |  |  |  | 80                     | 1792    | JÓD-MONOKLORID  |
| L4BN                        |   | AT                             | 3 (E)  |   |  |  |  | 80                     | 1793    | FOSZFORSAV-MONOIZOPROPIL-ÉSZTER   |
| SGAN                        |   | AT                             | 2 (E)  | V11                                       | VV9  |  |  | 80                     | 1794    | ÓLOM-SZULFÁT<br>3%-nál több szabad savtartalommal                                 |
| L10BH                       | TC6<br>TT1  | AT                             | 1 (E)  |   |  | CV24   | S14  | 885                    | 1796    | NITRÁLÓSAV KEVERÉK<br>50%-nál több salétromsav-tartalommal                        |
| L4BN                        |   | AT                             | 2 (E)  |   |  |  |  | 80                     | 1796    | NITRÁLÓSAV KEVERÉK<br>legfeljebb 50% salétromsav-tartalommal                      |
| A szállításból ki van zárva |   |                                |  |   |  |  |  |                        | 1798    | KIRÁLYVÍZ<br>(salétromsav és sósav keveréke)                                      |
| L4BN                        |   | AT                             | 2 (E)  |   |  |  |  | X80                    | 1799    | NONIL-TRIKLÓR-SZILÁN  |
| L4BN                        |   | AT                             | 2 (E)  |   |  |  |  | X80                    | 1800    | OKTADECIL-TRIKLÓR-SZILÁN  |
| L4BN                        |   | AT                             | 2 (E)  |   |  |  |  | X80                    | 1801    | OKTIL-TRIKLÓR-SZILÁN  |
| L4BN                        |   | AT                             | 2 (E)  |   |  | CV24   |  | 85                     | 1802    | PERKLÓRSAV legfeljebb 50 tömeg% savtartalommal                                    |
| L4BN                        |   | AT                             | 2 (E)  |   |  |  |  | 80                     | 1803    | FOLYÉKONY FENOLSZULFONSAV   |
| L4BN                        |   | AT                             | 2 (E)  |   |  |  |  | X80                    | 1804    | FENIL-TRIKLÓR-SZILÁN  |

| UN<br>szám | 3.1.2   | Osztály<br>2.2 | Oszta-<br>lyozási<br>kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Bárcák<br>5.2.2 | Külön-<br>leges<br>előírá-<br>sok<br>3.3 | Korlátozott és<br>engedményes<br>mennyiség<br>3.4.6 3.5.1.2 |      | Csomagolóeszköz                         |  |   | Mobil tartány és<br>ömlesztettáru-<br>konténer<br>4.2.5.2,<br>7.3.2 |             | Különleges<br>előírások<br>4.2.5.3 |
|------------|---|----------------|---------------------------------|--|-----------------|--|---|------|---|--|---|---|-------------|------------------------------------|
|            |   |                |                                 |  |                 |  |   |      | Csoma-<br>golási<br>utasítások<br>4.1.4 | Különle-<br>ges cso-<br>magolási<br>előírások<br>4.1.4 | Egybe-<br>csomago-<br>lási<br>előírások<br>4.1.10 |   |             |                                    |
| (1)        | (2)   | (3a)           | (3b)                            | (4)                                    | (5)             | (6)                                      | (7a)  | (7b) | (8)                                     | (9a)   | (9b)  | (10)  | (11)        |                                    |
| 1805       | FOSZFORSAV OLDAT  | 8              | C1                              | III                                    | 8               |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T4  | TP1         |                                    |
| 1806       | FOSZFOR-PENTAKLORID   | 8              | C2                              | II                                     | 8               |  | LQ23  | E2   | P002<br>IBC08                           | B4   | MP10  | T3  | TP33        |                                    |
| 1807       | FOSZFOR-PENTOXID<br>(foszforsavanhidrid)                                  | 8              | C2                              | II                                     | 8               |  | LQ23  | E2   | P002<br>IBC08                           | B4   | MP10  | T3  | TP33        |                                    |
| 1808       | FOSZFOR-TRIBROMID   | 8              | C1                              | II                                     | 8               |  | LQ22  | E2   | P001<br>IBC02                           |  | MP15  | T7  | TP2         |                                    |
| 1809       | FOSZFOR-TRIKLORID   | 6.1            | TC3                             | I                                      | 6.1 + 8         |  | LQ0   | E5   | P001                                    |  | MP8<br>MP17                                       | T20   | TP2<br>TP35 |                                    |
| 1810       | FOSZFOR-OXIKLORID   | 8              | C1                              | II                                     | 8               |  | LQ22  | E2   | P001                                    |  | MP15  | T7  | TP2         |                                    |
| 1811       | SZILÁRD KÁLIUM-HIDROGÉN-<br>DIFLUORID (kálium-bifluorid)                  | 8              | CT2                             | II                                     | 8 + 6.1         |  | LQ23  | E2   | P002<br>IBC08                           | B4   | MP10  | T3  | TP33        |                                    |
| 1812       | SZILÁRD KÁLIUM-FLUORID  | 6.1            | T5                              | III                                    | 6.1             |  | LQ9   | E1   | P002<br>IBC08<br>LP02<br>R001           | B3   | MP10  | T1  | TP33        |                                    |
| 1813       | SZILÁRD KÁLIUM-HIDROXID<br>(marókáli)                                     | 8              | C6                              | II                                     | 8               |  | LQ23  | E2   | P002<br>IBC08                           | B4   | MP10  | T3  | TP33        |                                    |
| 1814       | KÁLIUM-HIDROXID OLDAT (káliólúg)  | 8              | C5                              | II                                     | 8               |  | LQ22  | E2   | P001<br>IBC02                           |  | MP15  | T7  | TP2         |                                    |
| 1814       | KÁLIUM-HIDROXID OLDAT (káliólúg)  | 8              | C5                              | III                                    | 8               |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T4  | TP1         |                                    |
| 1815       | PROPIONIL-KLORID  | 3              | FC                              | II                                     | 3 + 8           |  | LQ4   | E2   | P001<br>IBC02                           |  | MP19  | T7  | TP1         |                                    |
| 1816       | PROPIL-TRIKLÓR-SZILÁN   | 8              | CF1                             | II                                     | 8 + 3           |  | LQ22  | E2   | P010                                    |  | MP15  | T10   | TP2<br>TP7  |                                    |
| 1817       | PIROSZULFURIL-KLORID  | 8              | C1                              | II                                     | 8               |  | LQ22  | E2   | P001<br>IBC02                           |  | MP15  | T8  | TP2         |                                    |
| 1818       | SZILÍCIUM-TETRAKLORID   | 8              | C1                              | II                                     | 8               |  | LQ0   | E2   | P010                                    |  | MP15  | T10   | TP2<br>TP7  |                                    |
| 1819       | NÁTRIUM-ALUMINÁT OLDAT  | 8              | C5                              | II                                     | 8               |  | LQ22  | E2   | P001<br>IBC02                           |  | MP15  | T7  | TP2         |                                    |
| 1819       | NÁTRIUM-ALUMINÁT OLDAT  | 8              | C5                              | III                                    | 8               |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T4  | TP1         |                                    |
| 1823       | SZILÁRD NÁTRIUM-HIDROXID<br>(marónártron)                                 | 8              | C6                              | II                                     | 8               |  | LQ23  | E2   | P002<br>IBC08                           | B4   | MP10  | T3  | TP33        |                                    |
| 1824       | NÁTRIUM-HIDROXID OLDAT<br>(nátronlúg)                                     | 8              | C5                              | II                                     | 8               |  | LQ22  | E2   | P001<br>IBC02                           |  | MP15  | T7  | TP2         |                                    |
| 1824       | NÁTRIUM-HIDROXID OLDAT<br>(nátronlúg)                                     | 8              | C5                              | III                                    | 8               |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T4  | TP1         |                                    |
| 1825       | NÁTRIUM-MONOXID   | 8              | C6                              | II                                     | 8               |  | LQ23  | E2   | P002<br>IBC08                           | B4   | MP10  | T3  | TP33        |                                    |
| 1826       | ELHASZNÁLT NITRÁLÓSAV<br>KEVERÉK 50%-nál több salétromsav-<br>tartalommal | 8              | CO1                             | I                                      | 8 + 5.1         | 113                                      | LQ0   | E0   | P001                                    |  | MP8<br>MP17                                       | T10   | TP2         |                                    |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BN        |                              | AT                             | 3 (E)  |   |  |  |  | 80                     | 1805    | FOSZFORSAV OLDAT   |
| SGAN        |                              | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 1806    | FOSZFOR-PENTAKLORID  |
| SGAN        |                              | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 1807    | FOSZFOR-PENTOXID (foszforsavanhidrid)                              |
| L4BN        |                              | AT                             | 2 (E)  |   |  |  |  | X80                    | 1808    | FOSZFOR-TRIBROMID  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1 (C/E)  |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 668                    | 1809    | FOSZFOR-TRIKLORID  |
| L4BN        |                              | AT                             | 2 (E)  |   |  |  |  | X80                    | 1810    | FOSZFOR-OXIKLORID  |
| SGAN        |                              | AT                             | 2 (E)  | V11                                       |  | CV13<br>CV28   |  | 86                     | 1811    | SZILÁRD KÁLIUM-HIDROGÉN-DIFLUORID (kálium-bifluorid)               |
| SGAH        | TU15<br>TE19                 | AT                             | 2 (E)  |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1812    | SZILÁRD KÁLIUM-FLUORID   |
| SGAN        |                              | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 1813    | SZILÁRD KÁLIUM-HIDROXID (marókáli)                                 |
| L4BN        |                              | AT                             | 2 (E)  |   |  |  |  | 80                     | 1814    | KÁLIUM-HIDROXID OLDAT (káhlíg)                                     |
| L4BN        |                              | AT                             | 3 (E)  |   |  |  |  | 80                     | 1814    | KÁLIUM-HIDROXID OLDAT (káhlíg)                                     |
| L4BH        |                              | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 338                    | 1815    | PROPIONIL-KLORID   |
| L4BN        |                              | FL                             | 2 (D/E)  |   |  |  | S2   | X83                    | 1816    | PROPIL-TRIKLÓR-SZILÁN  |
| L4BN        |                              | AT                             | 2 (E)  |   |  |  |  | X80                    | 1817    | PIROSZULFURIL-KLORID   |
| L4BN        |                              | AT                             | 2 (E)  |   |  |  |  | X80                    | 1818    | SZILÍCIUM-TETRAKLORID  |
| L4BN        |                              | AT                             | 2 (E)  |   |  |  |  | 80                     | 1819    | NÁTRIUM-ALUMINÁT OLDAT   |
| L4BN        |                              | AT                             | 3 (E)  |   |  |  |  | 80                     | 1819    | NÁTRIUM-ALUMINÁT OLDAT   |
| SGAN        |                              | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 1823    | SZILÁRD NÁTRIUM-HIDROXID (marónártron)                             |
| L4BN        |                              | AT                             | 2 (E)  |   |  |  |  | 80                     | 1824    | NÁTRIUM-HIDROXID OLDAT (nátronlíg)                                 |
| L4BN        |                              | AT                             | 3 (E)  |   |  |  |  | 80                     | 1824    | NÁTRIUM-HIDROXID OLDAT (nátronlíg)                                 |
| SGAN        |                              | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 1825    | NÁTRIUM-MONOXID  |
| L10BH       |                              | AT                             | 1 (E)  |   |  | CV24   | S14  | 885                    | 1826    | ELHASZNÁLT NITRÁLÓSAV KEVERÉK 50%-nál több salétromsav-tartalommal |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport     | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|---------------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                                 |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                         | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                             | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1826       | ELHASZNÁLT NITRÁLÓSAV<br>KEVERÉK legfeljebb 50% salétromsav-<br>tartalommal | 8       | C1                       | II                              | 8       | 113                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1827       | VÍZMENTES ÓN-TETRAKLORID  | 8       | C1                       | II                              | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1828       | KÉN-KLORIDOK  | 8       | C1                       | I                               | 8       |                                   | LQ0                                       | E0      | P602                           |   | MP8<br>MP17                             | T20  | TP2                     |
| 1829       | KÉN-TRIOXID, STABILIZÁLT  | 8       | C1                       | I                               | 8       | 623                               | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             | T20  | TP4<br>TP25<br>TP26     |
| 1830       | KÉNSAV 51%-nál több savtartalommal  | 8       | C1                       | II                              | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1831       | FÜSTÖLGŐ KÉNSAV (óleum)   | 8       | CT1                      | I                               | 8 + 6.1 |                                   | LQ0                                       | E0      | P602                           |   | MP8<br>MP17                             | T20  | TP2                     |
| 1832       | KIMERÜLT KÉNSAV   | 8       | C1                       | II                              | 8       | 113                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 1833       | KÉNESSAV  | 8       | C1                       | II                              | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1834       | SZULFURIL-KLORID  | 8       | C1                       | I                               | 8       |                                   | LQ0                                       | E0      | P602                           |   | MP8<br>MP17                             | T20  | TP2                     |
| 1835       | TETRAMETIL-AMMÓNIUM-<br>HIDROXID OLDAT                                      | 8       | C7                       | II                              | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1835       | TETRAMETIL-AMMÓNIUM-<br>HIDROXID OLDAT                                      | 8       | C7                       | III                             | 8       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2                     |
| 1836       | TIONIL-KLORID   | 8       | C1                       | I                               | 8       |                                   | LQ0                                       | E0      | P802                           |   | MP8<br>MP17                             | T10  | TP2                     |
| 1837       | TIOFOSZFORIL-KLORID   | 8       | C1                       | II                              | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1838       | TITÁN-TETRAKLORID   | 8       | C1                       | II                              | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T10  | TP2                     |
| 1839       | TRIKLÓR-ECETSAV   | 8       | C4                       | II                              | 8       |                                   | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1840       | CINK-KLORID OLDAT   | 8       | C1                       | III                             | 8       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 1841       | ACETALDEHID-AMMÓNIA   | 9       | M11                      | III                             | 9       |                                   | LQ27                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3 B6   | MP10                                    | T1   | TP33                    |
| 1843       | SZILÁRD AMMÓNIUM-DINITRO-o-<br>KREZOLÁT                                     | 6.1     | T2                       | II                              | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1845       | SZÉN-DIOXID, SZILÁRD<br>(SZÁRAZJÉG)   | 9       | M11                      | Nem tartozik az ADR hatálya alá |         |                                   |   |         |                                |   |   |  |                         |
| 1846       | SZÉN-TETRAKLORID  | 6.1     | T1                       | II                              | 6.1     |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1847       | HIDRATÁLT KÁLIUM-SZULFID<br>legalább 30% kristályvíz-tartalommal            | 8       | C6                       | II                              | 8       | 523                               | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1848       | PROPIONSÁV legalább 10 tömeg%, de<br>90 tömeg%-nál kevesebb savtartalommal  | 8       | C3                       | III                             | 8       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |

| ADR-tartály                     |                            | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyjelölő számok | UN szám | Megnevezés és leírás  |
|---------------------------------|----------------------------|--------------------------------|--|---|--|--|--|----------------------|---------|---|
| Tartánycód                      | Különleges előírások       |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                      |         |   |
| 4.3                             | 4.3.5, 6.8.4               | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3              |         | 3.1.2   |
| (12)                            | (13)                       | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                 | (1)     | (2)   |
| L4BN                            |                            | AT                             | 2 (E)  |   |  |  |  | 80                   | 1826    | ELHASZNÁLT NITRÁLÓSAV KEVERÉK legfeljebb 50% salétromsav-tartalommal    |
| L4BN                            |                            | AT                             | 2 (E)  |   |  |  |  | X80                  | 1827    | VÍZMENTES ÖN-TETRAKLORID  |
| L10BH                           |                            | AT                             | 1 (E)  |   |  |  | S20  | X88                  | 1828    | KÉN-KLORIDOK  |
| L10BH                           | TU32<br>TE13<br>TT5<br>TM3 | AT                             | 1 (E)  |   |  |  | S20  | X88                  | 1829    | KÉN-TRIOXID, STABILIZÁLT  |
| L4BN                            |                            | AT                             | 2 (E)  |   |  |  |  | 80                   | 1830    | KÉNSAV 51%-nál több savtartalommal                                      |
| L10BH                           |                            | AT                             | 1 (C/D)  |   |  | CV13<br>CV28   | S14  | X886                 | 1831    | FÜSTÖLGŐ KÉNSAV (óleum)   |
| L4BN                            |                            | AT                             | 2 (E)  |   |  |  |  | 80                   | 1832    | KIMERÜLT KÉNSAV   |
| L4BN                            |                            | AT                             | 2 (E)  |   |  |  |  | 80                   | 1833    | KÉNESSAV  |
| L10BH                           |                            | AT                             | 1 (E)  |   |  |  | S20  | X88                  | 1834    | SZULFURIL-KLORID  |
| L4BN                            |                            | AT                             | 2 (E)  |   |  |  |  | 80                   | 1835    | TETRAMETIL-AMMÓNIUM-HIDROXID OLDAT                                      |
| L4BN                            |                            | AT                             | 3 (E)  |   |  |  |  | 80                   | 1835    | TETRAMETIL-AMMÓNIUM-HIDROXID OLDAT                                      |
| L10BH                           |                            | AT                             | 1 (E)  |   |  |  | S20  | X88                  | 1836    | TIONIL-KLORID   |
| L4BN                            |                            | AT                             | 2 (E)  |   |  |  |  | X80                  | 1837    | TIOFOSZFORIL-KLORID   |
| L4BN                            |                            | AT                             | 2 (E)  |   |  |  |  | X80                  | 1838    | TITÁN-TETRAKLORID   |
| L4BN<br>SGAN                    |                            | AT                             | 2 (E)  | V11                                       |  |  |  | 80                   | 1839    | TRIKLÓR-ECETSAV   |
| L4BN                            |                            | AT                             | 3 (E)  |   |  |  |  | 80                   | 1840    | CINK-KLORID OLDAT   |
| SGAV                            |                            | AT                             | 3 (E)  |   | VV3  |  |  | 90                   | 1841    | ACETALDEHID-AMMÓNIA   |
| SGAH                            | TU15<br>TE19               | AT                             | 2 (D/E)  | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 1843    | SZILÁRD AMMÓNIUM-DINITRO-o-KREZOLÁT                                     |
| Nem tartozik az ADR hatálya alá |                            |                                |  |   |  |  |  |                      | 1845    | SZÉN-DIOXID, SZILÁRD (SZÁRAZJÉG)  |
| L4BH                            | TU15<br>TE19               | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 1846    | SZÉN-TETRAKLORID  |
| L4BN<br>SGAN                    |                            | AT                             | 2 (E)  | V11                                       |  |  |  | 80                   | 1847    | HIDRATÁLT KÁLIUM-SZULFID legalább 30% kristályvíz-tartalommal           |
| L4BN                            |                            | AT                             | 3 (E)  |   |  |  |  | 80                   | 1848    | PROPIONSAV legalább 10 tömeg%, de 90 tömeg%-nál kevesebb savtartalommal |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport     | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|---------------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                                 |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                         | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                             | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1849       | HIDRATÁLT NÁTRIUM-SZULFID<br>legalább 30% kristályvíz-tartalommal                         | 8       | C6                       | II                              | 8       | 523                               | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1851       | FOLYÉKONY, MÉRGEZŐ<br>GYÓGYSZER, M.N.N.   | 6.1     | T1                       | II                              | 6.1     | 221<br>274<br>601                 | LQ17                                      | E4      | P001                           |   | MP15                                    |  |                         |
| 1851       | FOLYÉKONY, MÉRGEZŐ<br>GYÓGYSZER, M.N.N.   | 6.1     | T1                       | III                             | 6.1     | 221<br>274<br>601                 | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    |  |                         |
| 1854       | PIROFOROS BÁRIUM ÖTVÖZETEK  | 4.2     | S4                       | I                               | 4.2     |                                   | LQ0                                       | E0      | P404                           |   | MP13                                    | T21  | TP7<br>TP33             |
| 1855       | PIROFOROS KALCIUM vagy<br>PIROFOROS KALCIUM ÖTVÖZETEK                                     | 4.2     | S4                       | I                               | 4.2     |                                   | LQ0                                       | E0      | P404                           |   | MP13                                    |  |                         |
| 1856       | OLAJOS RONGY  | 4.2     | S2                       | Nem tartozik az ADR hatálya alá |         |                                   |   |         |                                |   |   |  |                         |
| 1857       | NEDVES TEXTILHULLADÉK   | 4.2     | S2                       | Nem tartozik az ADR hatálya alá |         |                                   |   |         |                                |   |   |  |                         |
| 1858       | HEXAFLUOR-PROPILEN<br>(R 1216 HŰTŐGÁZ)  | 2       | 2A                       |                                 | 2.2     |                                   | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1859       | SZILÍCIUM-TETRAFLUORID  | 2       | 2TC                      |                                 | 2.3 + 8 |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1860       | VINIL-FLUORID, STABILIZÁLT  | 2       | 2F                       |                                 | 2.1     |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1862       | ETIL-KROTONÁT   | 3       | F1                       | II                              | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP2                     |
| 1863       | TÜZELŐANYAG REPÜLŐGÉP<br>TURBINAMOTORHOZ  | 3       | F1                       | I                               | 3       |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP1<br>TP8<br>TP28      |
| 1863       | TÜZELŐANYAG REPÜLŐGÉP<br>TURBINAMOTORHOZ<br>(gőznyomás 50 °C-on nagyobb, mint<br>110 kPa) | 3       | F1                       | II                              | 3       | 640C                              | LQ4                                       | E2      | P001                           |   | MP19                                    | T4   | TP1<br>TP8              |
| 1863       | TÜZELŐANYAG REPÜLŐGÉP<br>TURBINAMOTORHOZ<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)    | 3       | F1                       | II                              | 3       | 640D                              | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1<br>TP8              |
| 1863       | TÜZELŐANYAG REPÜLŐGÉP<br>TURBINAMOTORHOZ  | 3       | F1                       | III                             | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1865       | n-PROPIL-NITRÁT   | 3       | F1                       | II                              | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          | B7  | MP19                                    |  |                         |
| 1866       | GYANTA OLDAT, gyúlékony   | 3       | F1                       | I                               | 3       |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP1<br>TP8<br>TP28      |
| 1866       | GYANTA OLDAT, gyúlékony<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)                   | 3       | F1                       | II                              | 3       | 640C                              | LQ6                                       | E2      | P001                           | PP1   | MP19                                    | T4   | TP1<br>TP8              |
| 1866       | GYANTA OLDAT, gyúlékony<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                     | 3       | F1                       | II                              | 3       | 640D                              | LQ6                                       | E2      | P001<br>IBC02<br>R001          | PP1   | MP19                                    | T4   | TP1<br>TP8              |



| ADR-tartály                     |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|---------------------------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód                      | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                             | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                            | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BN<br>SGAN                    |                      | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 1849    | HIDRATÁLT NÁTRIUM-SZULFID<br>legalább 30% kristályvíz-tartalommal                         |
| L4BH                            | TU15<br>TE19         | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1851    | FOLYÉKONY, MÉRGEZŐ<br>GYÓGYSZER, M.N.N.   |
| L4BH                            | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 1851    | FOLYÉKONY, MÉRGEZŐ<br>GYÓGYSZER, M.N.N.   |
|                                 |                      | AT                             | 0<br>(B/E)   | V1  |  |  | S20  | 43                     | 1854    | PIROFOROS BÁRIUM ÖTVÖZETEK  |
|                                 |                      |                                | 0<br>(E)   | V1  |  |  | S20  |                        | 1855    | PIROFOROS KALCIUM vagy<br>PIROFOROS KALCIUM ÖTVÖZETEK                                     |
| Nem tartozik az ADR hatálya alá |                      |                                |  |   |  |  |  |                        | 1856    | OLAJOS RONGY  |
| Nem tartozik az ADR hatálya alá |                      |                                |  |   |  |  |  |                        | 1857    | NEDVES TEXTILHULLADÉK   |
| P*BN(M)                         | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1858    | HEXAFLUOR-PROPILEN<br>(R 1216 HÜTŐGÁZ)  |
| P*BH(M)                         | TA4<br>TT9           | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                    | 1859    | SZILÍCIUM-TETRAFLUORID  |
| P*BN(M)                         | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 239                    | 1860    | VINIL-FLUORID, STABILIZÁLT  |
| LGBF                            |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1862    | ETIL-KROTONÁT   |
| L4BN                            |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1863    | TÜZELŐANYAG REPÜLŐGÉP<br>TURBINAMOTORHOZ  |
| L1.5BN                          |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1863    | TÜZELŐANYAG REPÜLŐGÉP<br>TURBINAMOTORHOZ<br>(gőznyomás 50 °C-on nagyobb, mint<br>110 kPa) |
| LGBF                            |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1863    | TÜZELŐANYAG REPÜLŐGÉP<br>TURBINAMOTORHOZ<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)    |
| LGBF                            |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1863    | TÜZELŐANYAG REPÜLŐGÉP<br>TURBINAMOTORHOZ  |
|                                 |                      |                                | 2<br>(E)   |   |  |  | S2<br>S20                                  |                        | 1865    | n-PROPIl-NITRÁT   |
| L4BN                            |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1866    | GYANTA OLDAT, gyúlékony   |
| L1.5BN                          |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1866    | GYANTA OLDAT, gyúlékony<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)                   |
| LGBF                            |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1866    | GYANTA OLDAT, gyúlékony<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                     |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1866       | GYANTA OLDAT, gyúlékony   | 3       | F1                       | III                         | 3            | 640E                              | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  | PP1   | MP19                                    | T2   | TP1                     |
| 1866       | GYANTA OLDAT, gyúlékony<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C)   | 3       | F1                       | III                         | 3            | 640F                              | LQ7                                       | E1      | P001<br>LP01<br>R001           | PP1   | MP19                                    | T2   | TP1                     |
| 1866       | GYANTA OLDAT, gyúlékony<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus) (gőznyomás<br>50 °C-on nagyobb mint 110 kPa,<br>forráspont nagyobb mint 35 °C) | 3       | F1                       | III                         | 3            | 640G                              | LQ7                                       | E1      | P001<br>LP01<br>R001           | PP1   | MP19                                    | T2   | TP1                     |
| 1866       | GYANTA OLDAT, gyúlékony<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus) (gőznyomás<br>50 °C-on legfeljebb 110 kPa)                                     | 3       | F1                       | III                         | 3            | 640H                              | LQ7                                       | E1      | P001<br>IBC02<br>LP01<br>R001  | PP1   | MP19                                    | T2   | TP1                     |
| 1868       | DEKABORÁN   | 4.1     | FT2                      | II                          | 4.1 +<br>6.1 |                                   | LQ0                                       | E2      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33                    |
| 1869       | MAGNÉZIUM vagy<br>MAGNÉZIUM ÖTVÖZET<br>50%-nál több magnézium-tartalommal<br>pellet, forgács vagy szalag formában   | 4.1     | F3                       | III                         | 4.1          | 59                                | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP11                                    | T1   | TP33                    |
| 1870       | KÁLIUM-BÓR-HIDRID   | 4.3     | W2                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 1871       | TITÁN-HIDRID  | 4.1     | F3                       | II                          | 4.1          |                                   | LQ8                                       | E2      | P410<br>IBC04                  | PP40  | MP11                                    | T3   | TP33                    |
| 1872       | ÓLOM-DIOXID   | 5.1     | OT2                      | III                         | 5.1 +<br>6.1 |                                   | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP2                                     | T1   | TP33                    |
| 1873       | PERKLÓRSAV 50 tömeg%-nál több, de<br>legfeljebb 72 tömeg% savtartalommal  | 5.1     | OC1                      | I                           | 5.1 + 8      | 60                                | LQ0                                       | E0      | P502                           | PP28  | MP3                                     | T10  | TP1                     |
| 1884       | BARIUM-OXID   | 6.1     | T5                       | III                         | 6.1          |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1885       | BENZIDIN  | 6.1     | T2                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1886       | BENZILIDÉN-KLORID   | 6.1     | T1                       | II                          | 6.1          |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1887       | BRÓM-KLÓR-METÁN   | 6.1     | T1                       | III                         | 6.1          |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 1888       | KLOROFORM   | 6.1     | T1                       | III                         | 6.1          |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2                     |
| 1889       | CIÁN-BROMID   | 6.1     | TC2                      | I                           | 6.1 + 8      |                                   | LQ0                                       | E5      | P002                           |   | MP18                                    | T6   | TP33                    |
| 1891       | ETIL-BROMID   | 6.1     | T1                       | II                          | 6.1          |                                   | LQ17                                      | E4      | P001<br>IBC02                  | B8  | MP15                                    | T7   | TP2                     |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| LGBF           |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1866    | GYANTA OLDAT, gyúlékony  |
| L4BN           |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1866    | GYANTA OLDAT, gyúlékony<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C)   |
| L1.5BN         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1866    | GYANTA OLDAT, gyúlékony<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C) |
| LGBF           |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1866    | GYANTA OLDAT, gyúlékony<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)                                  |
| SGAN           |                              | AT                             | 2<br>(E)   | V11<br>V12                                |  | CV28   |  | 46                     | 1868    | DEKABORÁN  |
| SGAV           |                              | AT                             | 3<br>(E)   |   | VV1  |  |  | 40                     | 1869    | MAGNÉZIUM vagy<br>MAGNÉZIUM ÖTVÖZET<br>50%-nál több magnézium-tartalommal<br>pellet, forgács vagy szalag formában  |
|                |                              |                                | 1<br>(E)   | V1  |  | CV23   | S20  |                        | 1870    | KÁLIUM-BÓR-HIDRID  |
| SGAN           |                              | AT                             | 2<br>(E)   |   |  |  |  | 40                     | 1871    | TITÁN-HIDRID   |
| SGAN           | TU3                          | AT                             | 3<br>(E)   |   |  | CV24<br>CV28   |  | 56                     | 1872    | ÓLOM-DIOXID  |
| L4DN(+)        | TU3<br>TU28                  | AT                             | 1<br>(B/E)   |   |  | CV24   | S20  | 558                    | 1873    | PERKLÓRSAV 50 tömeg%-nál több, de legfeljebb 72 tömeg% savtartalommal  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 1884    | BÁRIUM-OXID  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1885    | BENZIDIN   |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1886    | BENZILIDÉN-KLORID  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 1887    | BRÓM-KLÓR-METÁN  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 1888    | KLOROFORM  |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 668                    | 1889    | CÍÁN-BROMID  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1891    | ETIL-BROMID  |

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport     | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|---|---------|--------------------------|---------------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------|
|            |   |         |                          |                                 |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                         | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                             | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 1892       | ETIL-DIKLÓR-ARZIN                                       | 6.1     | T3                       | I                               | 6.1          |                                   | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T14  | TP2         |
| 1894       | FENIL-HIGANY(II)-HIDROXID                               | 6.1     | T3                       | II                              | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 1895       | FENIL-HIGANY(II)-NITRÁT                                 | 6.1     | T3                       | II                              | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 1897       | TETRAKLÓR-ETILÉN  | 6.1     | T1                       | III                             | 6.1          |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 1898       | ACETIL-JODID  | 8       | C3                       | II                              | 8            |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 1902       | FOSZFORSAV-DIIZOOKTIL-ÉSZTER                            | 8       | C3                       | III                             | 8            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 1903       | FOLYÉKONY, MARÓ<br>FERTŐTLENÍTŐSZER, M.N.N.             | 8       | C9                       | I                               | 8            | 274                               | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             |  |             |
| 1903       | FOLYÉKONY, MARÓ<br>FERTŐTLENÍTŐSZER, M.N.N.             | 8       | C9                       | II                              | 8            | 274                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    |  |             |
| 1903       | FOLYÉKONY, MARÓ<br>FERTŐTLENÍTŐSZER, M.N.N.             | 8       | C9                       | III                             | 8            | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    |  |             |
| 1905       | SZELÉNSAV   | 8       | C2                       | I                               | 8            |                                   | LQ0                                       | E0      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33        |
| 1906       | HULLADÉK KÉNSAV   | 8       | C1                       | II                              | 8            |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2<br>TP28 |
| 1907       | NÁTRONMÉSZ 4%-nál több nátrium-<br>hidroxid tartalommal | 8       | C6                       | III                             | 8            | 62                                | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 1908       | KLORIT OLDAT  | 8       | C9                       | II                              | 8            | 521                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2<br>TP24 |
| 1908       | KLORIT OLDAT  | 8       | C9                       | III                             | 8            | 521                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP2<br>TP24 |
| 1910       | KALCIUM-OXID  | 8       | C6                       | Nem tartozik az ADR hatálya alá |              |                                   |   |         |                                |   |   |  |             |
| 1911       | DIBORÁN   | 2       | 2TF                      |                                 | 2.3 +<br>2.1 |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     |  |             |
| 1912       | METIL-KLORID ÉS DIKLÓR-METÁN<br>KEVERÉK                 | 2       | 2F                       |                                 | 2.1          | 228                               | LQ0                                       | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |             |
| 1913       | NEON, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT                   | 2       | 3A                       |                                 | 2.2          | 593                               | LQ1                                       | E1      | P203                           |   | MP9                                     | T75  | TP5         |
| 1914       | BUTIL-PROPIONÁTOK                                       | 3       | F1                       | III                             | 3            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1         |

| ADR-tartály                     |                              | Jármű a<br>tartályos<br>szállítás-<br>hoz | Szállítási<br>kategória<br>1.1.3.6<br>(Alagútkorlá-<br>tozási kód) | Szállítás  |   |   |   | Veszélyt<br>jelölő<br>számok | UN szám | Megnevezés és leírás                                    |
|---------------------------------|------------------------------|---|--|--|---|---|---|------------------------------|---------|---|
| Tartálykód                      | Külön-<br>leges<br>előírások |   |  | Különleges<br>előírások a<br>küldemény-<br>darabokra | Különleges<br>előírások az<br>ömlesztett<br>szállításra | Különleges<br>előírások az<br>árukezelésre,<br>be- és kirakásra | Különleges<br>előírások a<br>jármű üze-<br>meltetésre |                              |         |   |
| 4.3                             | 4.3.5, 6.8.4                 | 9.1.1.2                                   | (8.6)  | 7.2.4  | 7.3.3   | 7.5.11  | 8.5   | 5.3.2.3                      |         | 3.1.2   |
| (12)                            | (13)                         | (14)                                      | (15)   | (16)   | (17)  | (18)  | (19)  | (20)                         | (1)     | (2)   |
| L10CH                           | TU14<br>TU15<br>TE19<br>TE21 | AT  | 1<br>(C/E)   |  |   | CV1<br>CV13<br>CV28   | S9<br>S14   | 66                           | 1892    | ETIL-DIKLÓR-ARZIN                                       |
| SGAH                            | TU15<br>TE19                 | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1894    | FENIL-HIGANY(II)-HIDROXID                               |
| SGAH                            | TU15<br>TE19                 | AT  | 2<br>(D/E)   | V11  |   | CV13<br>CV28  | S9<br>S19   | 60                           | 1895    | FENIL-HIGANY(II)-NITRÁT                                 |
| L4BH                            | TU15<br>TE19                 | AT  | 2<br>(E)   |  |   | CV13<br>CV28  | S9  | 60                           | 1897    | TETRAKLÓR-ETILÉN  |
| L4BN                            |                              | AT  | 2<br>(E)   |  |   |   |   | 80                           | 1898    | ACETIL-JODID  |
| L4BN                            |                              | AT  | 3<br>(E)   |  |   |   |   | 80                           | 1902    | FOSZFORSAV-DIIZOOKTIL-ÉSZTER                            |
| L10BH                           |                              | AT  | 1<br>(E)   |  |   |   | S20   | 88                           | 1903    | FOLYÉKONY, MARÓ<br>FERTŐTLENÍTŐSZER, M.N.N.             |
| L4BN                            |                              | AT  | 2<br>(E)   |  |   |   |   | 80                           | 1903    | FOLYÉKONY, MARÓ<br>FERTŐTLENÍTŐSZER, M.N.N.             |
| L4BN                            |                              | AT  | 3<br>(E)   |  |   |   |   | 80                           | 1903    | FOLYÉKONY, MARÓ<br>FERTŐTLENÍTŐSZER, M.N.N.             |
| S10AN                           |                              | AT  | 1<br>(E)   | V10<br>V12   |   |   | S20   | 88                           | 1905    | SZELÉNSAV   |
| L4BN                            |                              | AT  | 2<br>(E)   |  |   |   |   | 80                           | 1906    | HULLADÉK KÉNSAV   |
| SGAV                            |                              | AT  | 3<br>(E)   |  | VV9   |   |   | 80                           | 1907    | NÁTRONMÉSZ 4%-nál több nátrium-<br>hidroxid tartalommal |
| L4BV(+)                         | TE11                         | AT  | 2<br>(E)   |  |   |   |   | 80                           | 1908    | KLORIT OLDAT  |
| L4BV(+)                         | TE11                         | AT  | 3<br>(E)   |  |   |   |   | 80                           | 1908    | KLORIT OLDAT  |
| Nem tartozik az ADR hatálya alá |                              |   |  |  |   |   |   |                              | 1910    | KALCIUM-OXID  |
|                                 |                              |   | 1<br>(D)   |  |   | CV9<br>CV10<br>CV36   | S2<br>S14   |                              | 1911    | DIBORÁN   |
| P*BN(M)                         | TA4<br>TT9                   | FL  | 2<br>(B/D)   |  |   | CV9<br>CV10<br>CV36   | S2<br>S20   | 23                           | 1912    | METIL-KLORID ÉS DIKLÓR-METÁN<br>KEVERÉK                 |
| R*BN                            | TU19<br>TA4<br>TT9           | AT  | 3<br>(C/E)   | V5   |   | CV9<br>CV11<br>CV36   | S20   | 22                           | 1913    | NEON, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT                   |
| LGBF                            |                              | FL  | 3<br>(D/E)   |  |   |   | S2  | 30                           | 1914    | BUTIL-PROPIONÁTOK                                       |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2                                       | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1915       | CIKLOHEXANON                                | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1916       | 2,2'-DIKLÓR-DIETIL-ÉTER                     | 6.1     | TF1                      | II                          | 6.1 + 3 |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1917       | ETIL-AKRILÁT, STABILIZÁLT                   | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1918       | IZOPROPIL-BENZOL (kumol)                    | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1919       | METIL-AKRILÁT, STABILIZÁLT                  | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 1920       | NONÁNOK                                     | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 1921       | PROPILÉN-IMIN, STABILIZÁLT                  | 3       | FT1                      | I                           | 3 + 6.1 |                                   | LQ0  | E0      | P001                           |   | MP2                                     | T14  | TP2                     |
| 1922       | PIRROLIDIN                                  | 3       | FC                       | II                          | 3 + 8   |                                   | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 1923       | KALCIUM-DITIONIT<br>(KALCIUM-HIPODISZULFIT) | 4.2     | S4                       | II                          | 4.2     |                                   | LQ0  | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33                    |
| 1928       | METIL-MAGNÉZIUM-BROMID<br>DIETIL-ÉTERBEN    | 4.3     | WF1                      | I                           | 4.3 + 3 |                                   | LQ0  | E0      | P402                           | RR8   | MP2                                     |  |                         |
| 1929       | KÁLIUM-DITIONIT (KÁLIUM-<br>HIPODISZULFIT)  | 4.2     | S4                       | II                          | 4.2     |                                   | LQ0  | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33                    |
| 1931       | CINK-DITIONIT (CINK-<br>HIPODISZULFIT)      | 9       | M11                      | III                         | 9       |                                   | LQ27                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 1932       | CIRKÓNIUM HULLADÉK                          | 4.2     | S4                       | III                         | 4.2     | 524<br>592                        | LQ0  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                    | T1   | TP33                    |
| 1935       | CIANID OLDAT, M.N.N.                        | 6.1     | T4                       | I                           | 6.1     | 274<br>525                        | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 1935       | CIANID OLDAT, M.N.N.                        | 6.1     | T4                       | II                          | 6.1     | 274<br>525                        | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 1935       | CIANID OLDAT, M.N.N.                        | 6.1     | T4                       | III                         | 6.1     | 274<br>525                        | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2<br>TP28             |
| 1938       | BRÓM-ECETSAV OLDAT                          | 8       | C3                       | II                          | 8       |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |

| ADR-tartály |                                    | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                        |
|-------------|------------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások               |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4                       | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                                       |
| (12)        | (13)                               | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| LGBF        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1915    | CIKLOHEXANON                                |
| L4BH        | TU15<br>TE19                       | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 1916    | 2,2'-DIKLÓR-DIETIL-ÉTER                     |
| LGBF        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 1917    | ETIL-AKRILÁT, STABILIZÁLT                   |
| LGBF        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1918    | IZOPROPIL-BENZOL (kumol)                    |
| LGBF        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 1919    | METIL-AKRILÁT, STABILIZÁLT                  |
| LGBF        |                                    | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1920    | NONÁNOK                                     |
| L15CH       | TU14<br>TU15<br>TE21               | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 1921    | PROPILÉN-IMIN, STABILIZÁLT                  |
| L4BH        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 1922    | PIRROLIDIN                                  |
| SGAN        |                                    | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  |  |  | 40                     | 1923    | KALCIUM-DITIONIT<br>(KALCIUM-HIPODISZULFIT) |
| L10DH       | TU4<br>TU14<br>TU22<br>TE21<br>TM2 | FL                             | 0<br>(B/E)   | V1  |  | CV23   | S2<br>S20                                  | X323                   | 1928    | METIL-MAGNÉZIUM-BROMID<br>DIETIL-ÉTERBEN    |
| SGAN        |                                    | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  |  |  | 40                     | 1929    | KÁLIUM-DITIONIT (KÁLIUM-HIPODISZULFIT)      |
| SGAV        |                                    | AT                             | 3<br>(E)   |   | VV3  |  |  | 90                     | 1931    | CINK-DITIONIT (CINK-HIPODISZULFIT)          |
| SGAN        |                                    | AT                             | 3<br>(E)   | V1  | VV4  |  |  | 40                     | 1932    | CIRKÓNIUM HULLADÉK                          |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21       | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 1935    | CIANID OLDAT, M.N.N.                        |
| L4BH        | TU15<br>TE19                       | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 1935    | CIANID OLDAT, M.N.N.                        |
| L4BH        | TU15<br>TE19                       | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 1935    | CIANID OLDAT, M.N.N.                        |
| L4BN        |                                    | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 1938    | BRÓM-ECETSAV OLDAT                          |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák              | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |                     |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2               | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)                 | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1938       | BRÓM-ECETSAV OLDAT  | 8       | C3                       | III                         | 8                   |                                   | LQ7                                       | E1      | P001<br>IBC02<br>LP01<br>R001  |   | MP19                                    | T7   | TP2                     |
| 1939       | FOSZFOR-OXIBROMID   | 8       | C2                       | II                          | 8                   |                                   | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 1940       | TIOGLIKOLSAV  | 8       | C3                       | II                          | 8                   |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 1941       | DIBRÓM-DIFLUOR-METÁN  | 9       | M11                      | III                         | 9                   |                                   | LQ28                                      | E1      | P001<br>LP01<br>R001           |   | MP15                                    | T11  | TP2                     |
| 1942       | AMMÓNIUM-NITRÁT<br>legfeljebb 0,2% összes éghető anyaggal,<br>beleértve bármely szerves anyagot<br>szénegyenértékre számítva, bármilyen<br>más hozzáadott anyagot kizárva | 5.1     | O2                       | III                         | 5.1                 | 306<br>611                        | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1<br>BK1<br>BK2                               | TP33                    |
| 1944       | BIZTONSÁGI GYUFA (levél, kártya,<br>doboz formában)   | 4.1     | F1                       | III                         | 4.1                 | 293                               | LQ9                                       | E1      | P407<br>R001                   |   | MP11                                    |  |                         |
| 1945       | VESTA-VIASZ GYUFA   | 4.1     | F1                       | III                         | 4.1                 | 293                               | LQ9                                       | E1      | P407<br>R001                   |   | MP11                                    |  |                         |
| 1950       | AEROSZOLOK, fojtó hatású  | 2       | 5A                       |                             | 2.2                 | 190<br>327<br>625                 | LQ2                                       | E0      | P003<br><br>LP02               | PP17<br>PP87<br>RR6<br>L2                     | MP9                                     |  |                         |
| 1950       | AEROSZOLOK, maró  | 2       | 5C                       |                             | 2.2 + 8             | 190<br>327<br>625                 | LQ2                                       | E0      | P003<br><br>LP02               | PP17<br>PP87<br>RR6<br>L2                     | MP9                                     |  |                         |
| 1950       | AEROSZOLOK, maró, gyújtó hatású   | 2       | 5CO                      |                             | 2.2 +<br>5.1 +<br>8 | 190<br>327<br>625                 | LQ2                                       | E0      | P003<br><br>LP02               | PP17<br>PP87<br>RR6<br>L2                     | MP9                                     |  |                         |
| 1950       | AEROSZOLOK, gyúlékony   | 2       | 5F                       |                             | 2.1                 | 190<br>327<br>625                 | LQ2                                       | E0      | P003<br><br>LP02               | PP17<br>PP87<br>RR6<br>L2                     | MP9                                     |  |                         |
| 1950       | AEROSZOLOK, gyúlékony, maró   | 2       | 5FC                      |                             | 2.1+8               | 190<br>327<br>625                 | LQ2                                       | E0      | P003<br><br>LP02               | PP17<br>PP87<br>RR6<br>L2                     | MP9                                     |  |                         |
| 1950       | AEROSZOLOK, gyújtó hatású   | 2       | 5O                       |                             | 2.2 +<br>5.1        | 190<br>327<br>625                 | LQ2                                       | E0      | P003<br><br>LP02               | PP17<br>PP87<br>RR6<br>L2                     | MP9                                     |  |                         |
| 1950       | AEROSZOLOK, mérgező   | 2       | 5T                       |                             | 2.2 +<br>6.1        | 190<br>327<br>625                 | LQ1                                       | E0      | P003<br><br>LP02               | PP17<br>PP87<br>RR6<br>L2                     | MP9                                     |  |                         |
| 1950       | AEROSZOLOK, mérgező, maró   | 2       | 5TC                      |                             | 2.2 +<br>6.1 +<br>8 | 190<br>327<br>625                 | LQ1                                       | E0      | P003<br><br>LP02               | PP17<br>PP87<br>RR6<br>L2                     | MP9                                     |  |                         |
| 1950       | AEROSZOLOK, mérgező, gyúlékony  | 2       | 5TF                      |                             | 2.1 +<br>6.1        | 190<br>327<br>625                 | LQ1                                       | E0      | P003<br><br>LP02               | PP17<br>PP87<br>RR6<br>L2                     | MP9                                     |  |                         |



| ADR-tartály |                              | Jármű a<br>tartályos<br>szállítás-<br>hoz | Szállítási<br>kategória<br>1.1.3.6<br>(Alagútkorlá-<br>tozási kód) | Szállítás  |   |   |   | Veszélyt<br>jelölő<br>számok | UN szám | Megnevezés és leírás  |
|-------------|------------------------------|---|--|--|---|---|---|------------------------------|---------|---|
| Tartánycód  | Külön-<br>leges<br>előírások |   |  | Különleges<br>előírások a<br>küldemény-<br>darabokra | Különleges<br>előírások az<br>ömlesztett<br>szállításra | Különleges<br>előírások az<br>árukezelésre,<br>be- és kirakásra | Különleges<br>előírások a<br>jármű üze-<br>meltetésre |                              |         |   |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                                   | (8.6)  | 7.2.4  | 7.3.3   | 7.5.11  | 8.5   | 5.3.2.3                      |         | 3.1.2   |
| (12)        | (13)                         | (14)                                      | (15)   | (16)   | (17)  | (18)  | (19)  | (20)                         | (1)     | (2)   |
| L4BN        |                              | AT  | 3<br>(E)   |  |   |   |   | 80                           | 1938    | BRÓM-ECETSAV OLDAT  |
| SGAN        |                              | AT  | 2<br>(E)   | V11  |   |   |   | 80                           | 1939    | FOSZFOR-OXIBROMID   |
| L4BN        |                              | AT  | 2<br>(E)   |  |   |   |   | 80                           | 1940    | TIOGLIKOLSAV  |
| L4BN        |                              | AT  | 3<br>(E)   |  |   |   |   | 90                           | 1941    | DIBRÓM-DIFLUOR-METÁN  |
| SGAV        | TU3                          | AT  | 3<br>(E)   |  | VV8   | CV24  | S23   | 50                           | 1942    | AMMÓNIUM-NITRÁT<br>legfeljebb 0,2% összes éghető anyaggal,<br>beleértve bármely szerves anyagot<br>szénegyenértékre számítva, bármilyen<br>más hozzáadott anyagot kizárva |
|             |                              |   | 4<br>(E)   |  |   |   |   |                              | 1944    | BIZTONSÁGI GYUFA (levél, kártya,<br>doboz formában)   |
|             |                              |   | 4<br>(E)   |  |   |   |   |                              | 1945    | VESTA-VIASZ GYUFA   |
|             |                              |   | 3<br>(E)   | V14  |   | CV9<br>CV12   |   |                              | 1950    | AEROSZOLOK, fojtó hatású  |
|             |                              |   | 1<br>(E)   | V14  |   | CV9<br>CV12   |   |                              | 1950    | AEROSZOLOK, maró  |
|             |                              |   | 1<br>(E)   | V14  |   | CV9<br>CV12   |   |                              | 1950    | AEROSZOLOK, maró, gyújtó hatású   |
|             |                              |   | 2<br>(D)   | V14  |   | CV9<br>CV12   | S2  |                              | 1950    | AEROSZOLOK, gyúlékony   |
|             |                              |   | 1<br>(D)   | V14  |   | CV9<br>CV12   | S2  |                              | 1950    | AEROSZOLOK, gyúlékony, maró   |
|             |                              |   | 3<br>(E)   | V14  |   | CV9<br>CV12   |   |                              | 1950    | AEROSZOLOK, gyújtó hatású   |
|             |                              |   | 1<br>(D)   | V14  |   | CV9<br>CV12<br>CV28   |   |                              | 1950    | AEROSZOLOK, mérgező   |
|             |                              |   | 1<br>(D)   | V14  |   | CV9<br>CV12<br>CV28   |   |                              | 1950    | AEROSZOLOK, mérgező, maró   |
|             |                              |   | 1<br>(D)   | V14  |   | CV9<br>CV12<br>CV28   | S2  |                              | 1950    | AEROSZOLOK, mérgező, gyúlékony  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák                       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|------------------------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |                              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2                        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)                          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1950       | AEROSZOLOK, mérgező, gyúlékony,<br>maró  | 2       | 5TFC                     |                             | 2.1 +<br>6.1 +<br>8          | 190<br>327<br>625                 | LQ1                                       | E0      | P003<br><br>LP02               | PP17<br>PP87<br>RR6<br>L2                     | MP9                                     |  |                         |
| 1950       | AEROSZOLOK, mérgező, gyújtó hatású   | 2       | 5TO                      |                             | 2.2 +<br>5.1 +<br>6.1        | 190<br>327<br>625                 | LQ1                                       | E0      | P003<br><br>LP02               | PP17<br>PP87<br>RR6<br>L2                     | MP9                                     |  |                         |
| 1950       | AEROSZOLOK, mérgező, gyújtó hatású,<br>maró  | 2       | 5TOC                     |                             | 2.2 +<br>5.1 +<br>6.1 +<br>8 | 190<br>327<br>625                 | LQ1                                       | E0      | P003<br><br>LP02               | PP17<br>PP87<br>RR6<br>L2                     | MP9                                     |  |                         |
| 1951       | ARGON, MÉLYHÚTOTT,<br>CSEPPFOLYÓSÍTOTT   | 2       | 3A                       |                             | 2.2                          | 593                               | LQ1                                       | E1      | P203                           |   | MP9                                     | T75  | TP5                     |
| 1952       | ETILÉN-OXID ÉS SZÉN-DIOXID<br>KEVERÉKE<br>legfeljebb 9% etilén-oxid tartalommal                                | 2       | 2A                       |                             | 2.2                          |                                   | LQ1                                       | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1953       | SŰRÍTETT GÁZ, MÉRGEZŐ,<br>GYÚLÉKONY, M.N.N.  | 2       | 1TF                      |                             | 2.3 +<br>2.1                 | 274                               | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1954       | SŰRÍTETT GÁZ, GYÚLÉKONY,<br>M.N.N.   | 2       | 1F                       |                             | 2.1                          | 274                               | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1955       | SŰRÍTETT GÁZ, MÉRGEZŐ, M.N.N.  | 2       | 1T                       |                             | 2.3                          | 274                               | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1956       | SŰRÍTETT GÁZ, M.N.N.   | 2       | 1A                       |                             | 2.2                          | 274<br>292<br>567                 | LQ1                                       | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1957       | DEUTÉRIUM, SŰRÍTETT  | 2       | 1F                       |                             | 2.1                          |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1958       | 1,2-DIKLÓR-1,1,2,2-TETRAFLUOR-<br>ETÁN (R 114 HŰTŐGÁZ)   | 2       | 2A                       |                             | 2.2                          |                                   | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1959       | 1,1-DIFLUOR-ETILÉN<br>(R 1132a HŰTŐGÁZ)  | 2       | 2F                       |                             | 2.1                          |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1961       | ETÁN, MÉLYHÚTOTT,<br>CSEPPFOLYÓSÍTOTT  | 2       | 3F                       |                             | 2.1                          |                                   | LQ0                                       | E0      | P203                           |   | MP9                                     | T75  | TP5                     |
| 1962       | ETILÉN   | 2       | 2F                       |                             | 2.1                          |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1963       | HÉLIUM, MÉLYHÚTOTT,<br>CSEPPFOLYÓSÍTOTT  | 2       | 3A                       |                             | 2.2                          | 593                               | LQ1                                       | E1      | P203                           |   | MP9                                     | T75  | TP5<br>TP34             |
| 1964       | SZÉNHDROGÉN-GÁZ KEVERÉK,<br>SŰRÍTETT, M.N.N.   | 2       | 1F                       |                             | 2.1                          | 274                               | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1965       | SZÉNHDROGÉN-GÁZ KEVERÉK,<br>CSEPPFOLYÓSÍTOTT, M.N.N.,<br>mint A, A01, A02, A0, A1, B1, B2, B<br>vagy C keverék | 2       | 2F                       |                             | 2.1                          | 274<br>583<br>652                 | LQ0                                       | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1966       | HIDROGÉN, MÉLYHÚTOTT,<br>CSEPPFOLYÓSÍTOTT  | 2       | 3F                       |                             | 2.1                          |                                   | LQ0                                       | E0      | P203                           |   | MP9                                     | T75  | TP5<br>TP23<br>TP34     |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |                      |                                | 1 (D)  | V14                                       |  | CV9<br>CV12<br>CV28                                    | S2   |                        | 1950    | AEROSZOLOK, mérgező, gyúlékony, maró   |
|             |                      |                                | 1 (D)  | V14                                       |  | CV9<br>CV12<br>CV28                                    |  |                        | 1950    | AEROSZOLOK, mérgező, gyújtó hatású   |
|             |                      |                                | 1 (D)  | V14                                       |  | CV9<br>CV12<br>CV28                                    |  |                        | 1950    | AEROSZOLOK, mérgező, gyújtó hatású, maró   |
| R*BN        | TU19<br>TA4<br>TT9   | AT                             | 3 (C/E)  | V5  |  | CV9<br>CV11<br>CV36                                    | S20  | 22                     | 1951    | ARGON, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT  |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3 (C/E)  |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1952    | ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉKE legfeljebb 9% etilén-oxid tartalommal                              |
| C*BH(M)     | TU6<br>TA4<br>TT9    | FL                             | 1 (B/D)  |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 1953    | SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.   |
| C*BN(M)     | TA4<br>TT9           | FL                             | 2 (B/D)  |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1954    | SŰRÍTETT GÁZ, GYÚLÉKONY, M.N.N.  |
| C*BH(M)     | TU6<br>TA4<br>TT9    | AT                             | 1 (C/D)  |   |  | CV9<br>CV10<br>CV36                                    | S14  | 26                     | 1955    | SŰRÍTETT GÁZ, MÉRGEZŐ, M.N.N.  |
| C*BN(M)     | TA4<br>TT9           | AT                             | 3 (E)  |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1956    | SŰRÍTETT GÁZ, M.N.N.   |
| C*BN(M)     | TA4<br>TT9           | FL                             | 2 (B/D)  |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1957    | DEUTÉRIUM, SŰRÍTETT  |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3 (C/E)  |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 1958    | 1,2-DIKLÓR-1,1,2,2-TETRAFLUORETÁN (R 114 HŰTŐGÁZ)  |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2 (B/D)  |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 239                    | 1959    | 1,1-DIFLUOR-ETILÉN (R 113a HŰTŐGÁZ)  |
| R*BN        | TU18<br>TA4<br>TT9   | FL                             | 2 (B/D)  | V5  |  | CV9<br>CV11<br>CV36                                    | S2<br>S17                                  | 223                    | 1961    | ETÁN, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT   |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2 (B/D)  |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1962    | ETILÉN   |
| R*BN        | TU19<br>TA4<br>TT9   | AT                             | 3 (C/E)  | V5  |  | CV9<br>CV11<br>CV36                                    | S20  | 22                     | 1963    | HÉLIUM, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT   |
| C*BN(M)     | TA4<br>TT9           | FL                             | 2 (B/D)  |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1964    | SZÉNHYDROGÉN-GÁZ KEVERÉK, SŰRÍTETT, M.N.N.   |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2 (B/D)  |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 1965    | SZÉNHYDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N., mint A, A01, A02, A0, A1, B1, B2, B vagy C keverék |
| R*BN        | TU18<br>TA4<br>TT9   | FL                             | 2 (B/D)  | V5  |  | CV9<br>CV11<br>CV36                                    | S2<br>S17                                  | 223                    | 1966    | HIDROGÉN, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT   |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák              | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |                     |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2               | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)                 | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1967       | ROVARIRTÓ GÁZ, MÉRGEZŐ,<br>M.N.N.  | 2       | 2T                       |                             | 2.3                 | 274                               | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1968       | ROVARIRTÓ GÁZ, M.N.N.  | 2       | 2A                       |                             | 2.2                 | 274                               | LQ1  | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1969       | IZOBUTÁN   | 2       | 2F                       |                             | 2.1                 |                                   | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1970       | KRIPTON, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT   | 2       | 3A                       |                             | 2.2                 | 593                               | LQ1  | E1      | P203                           |   | MP9                                     | T75  | TP5                     |
| 1971       | METÁN, SÚRÍTETT vagy<br>FÖLDGÁZ, SÚRÍTETT<br>magas metántartalommal  | 2       | 1F                       |                             | 2.1                 |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 1972       | METÁN, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT vagy<br>FÖLDGÁZ, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT<br>magas metántartalommal                            | 2       | 3F                       |                             | 2.1                 |                                   | LQ0  | E0      | P203                           |   | MP9                                     | T75  | TP5                     |
| 1973       | KLÓR-DIFLUOR-METÁN ÉS<br>KLÓR-PENTAFLUOR-ETÁN<br>KEVERÉK állandó forrásponttal,<br>kb. 49% klór-difluor-metán tartalommal<br>(R 502 HŰTŐGÁZ) | 2       | 2A                       |                             | 2.2                 |                                   | LQ1  | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1974       | BRÓM-KLÓR-DIFLUOR-METÁN<br>(R 12B1 HŰTŐGÁZ)  | 2       | 2A                       |                             | 2.2                 |                                   | LQ1  | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1975       | NITROGÉN-MONOXID ÉS<br>DINITROGÉN-TETROXID<br>KEVERÉKE (NITROGÉN-MONOXID<br>ÉS NITROGÉN-DIOXID KEVERÉKE)                                     | 2       | 2TOC                     |                             | 2.3 +<br>5.1 +<br>8 |                                   | LQ0  | E0      | P200                           |   | MP9                                     |  |                         |
| 1976       | OKTAFLUOR-CIKLOBUTÁN<br>(R 318 HŰTŐGÁZ)  | 2       | 2A                       |                             | 2.2                 |                                   | LQ1  | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1977       | NITROGÉN, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT  | 2       | 3A                       |                             | 2.2                 | 593                               | LQ1  | E1      | P203                           |   | MP9                                     | T75  | TP5                     |
| 1978       | PROPÁN   | 2       | 2F                       |                             | 2.1                 | 652                               | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1982       | TETRAFLUOR-METÁN<br>(R 14 HŰTŐGÁZ)   | 2       | 2A                       |                             | 2.2                 |                                   | LQ1  | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1983       | 1-KLÓR-2,2,2-TRIFLUOR-ETÁN<br>(R 133a HŰTŐGÁZ)   | 2       | 2A                       |                             | 2.2                 |                                   | LQ1  | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 1984       | TRIFLUOR-METÁN<br>(R 23 HŰTŐGÁZ)   | 2       | 2A                       |                             | 2.2                 |                                   | LQ1  | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 1986       | GYÜLÉKONY, MÉRGEZŐ<br>ALKOHOLOK, M.N.N.  | 3       | FT1                      | I                           | 3 + 6.1             | 274                               | LQ0  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 1986       | GYÜLÉKONY, MÉRGEZŐ<br>ALKOHOLOK, M.N.N.  | 3       | FT1                      | II                          | 3 + 6.1             | 274                               | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T11  | TP2<br>TP27             |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyjelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|----------------------|---------|--|
| Tartánykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                      |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3              |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                 | (1)     | (2)  |
| P*BH(M)     | TU6<br>TA4<br>TT9    | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 26                   | 1967    | ROVARIRTÓ GÁZ, MÉRGEZŐ,<br>M.N.N.  |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                   | 1968    | ROVARIRTÓ GÁZ, M.N.N.  |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                   | 1969    | IZOBUTÁN   |
| R*BN        | TU19<br>TA4<br>TT9   | AT                             | 3<br>(C/E)   | V5  |  | CV9<br>CV11<br>CV36                                    | S20  | 22                   | 1970    | KRIPTON, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT   |
| C*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                   | 1971    | METÁN, SŰRÍTETT vagy<br>FÖLDGÁZ, SŰRÍTETT<br>magas metántartalommal  |
| R*BN        | TU18<br>TA4<br>TT9   | FL                             | 2<br>(B/D)   | V5  |  | CV9<br>CV11<br>CV36                                    | S2<br>S17                                  | 223                  | 1972    | METÁN, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT vagy<br>FÖLDGÁZ, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT<br>magas metántartalommal                            |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                   | 1973    | KLÓR-DIFLUOR-METÁN ÉS<br>KLÓR-PENTAFLUOR-ETÁN<br>KEVERÉK állandó forrásponttal,<br>kb. 49% klór-difluor-metán tartalommal<br>(R 502 HŰTŐGÁZ) |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                   | 1974    | BRÓM-KLÓR-DIFLUOR-METÁN<br>(R 12B1 HŰTŐGÁZ)  |
|             |                      |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  |                      | 1975    | NITROGÉN-MONOXID ÉS<br>DINITROGÉN-TETROXID<br>KEVERÉKE (NITROGÉN-MONOXID<br>ÉS NITROGÉN-DIOXID KEVERÉKE)                                     |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                   | 1976    | OKTAFLUOR-CIKLOBUTÁN<br>(R 318 HŰTŐGÁZ)  |
| R*BN        | TU19<br>TA4<br>TT9   | AT                             | 3<br>(C/E)   | V5  |  | CV9<br>CV11<br>CV36                                    | S20  | 22                   | 1977    | NITROGÉN, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT  |
| P*BN(M)     | TA4<br>TT9           | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                   | 1978    | PROPÁN   |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                   | 1982    | TETRAFLUOR-METÁN<br>(R 14 HŰTŐGÁZ)   |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                   | 1983    | 1-KLÓR-2,2,2-TRIFLUOR-ETÁN<br>(R 133a HŰTŐGÁZ)   |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                   | 1984    | TRIFLUOR-METÁN<br>(R 23 HŰTŐGÁZ)   |
| L10CH       | TU14<br>TU15<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                  | 1986    | GYÚLÉKONY, MÉRGEZŐ<br>ALKOHOLOK, M.N.N.  |
| L4BH        | TU15                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                  | 1986    | GYÚLÉKONY, MÉRGEZŐ<br>ALKOHOLOK, M.N.N.  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztartá-<br>r-konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1986       | GYÚLÉKONY, MÉRGEZŐ<br>ALKOHOLOK, M.N.N.  | 3       | FT1                      | III                         | 3 + 6.1 | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP1<br>TP28             |
| 1987       | ALKOHOLOK, M.N.N.<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)                    | 3       | F1                       | II                          | 3       | 274<br>601<br>640C                | LQ4                                       | E2      | P001                           |   | MP19                                    | T7   | TP1<br>TP8<br>TP28      |
| 1987       | ALKOHOLOK, M.N.N.<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                      | 3       | F1                       | II                          | 3       | 274<br>601<br>640D                | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1<br>TP8<br>TP28      |
| 1987       | ALKOHOLOK, M.N.N.  | 3       | F1                       | III                         | 3       | 274<br>601                        | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1<br>TP29             |
| 1988       | GYÚLÉKONY, MÉRGEZŐ<br>ALDEHIDEK, M.N.N.  | 3       | FT1                      | I                           | 3 + 6.1 | 274                               | LQ0                                       | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 1988       | GYÚLÉKONY, MÉRGEZŐ<br>ALDEHIDEK, M.N.N.  | 3       | FT1                      | II                          | 3 + 6.1 | 274                               | LQ0                                       | E2      | P001<br>IBC02                  |   | MP19                                    | T11  | TP2<br>TP27             |
| 1988       | GYÚLÉKONY, MÉRGEZŐ<br>ALDEHIDEK, M.N.N.  | 3       | FT1                      | III                         | 3 + 6.1 | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP1<br>TP28             |
| 1989       | ALDEHIDEK, M.N.N.  | 3       | F1                       | I                           | 3       | 274                               | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP1<br>TP27             |
| 1989       | ALDEHIDEK, M.N.N.<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)                    | 3       | F1                       | II                          | 3       | 274<br>640C                       | LQ4                                       | E2      | P001                           |   | MP19                                    | T7   | TP1<br>TP8<br>TP28      |
| 1989       | ALDEHIDEK, M.N.N.<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                      | 3       | F1                       | II                          | 3       | 274<br>640D                       | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1<br>TP8<br>TP28      |
| 1989       | ALDEHIDEK, M.N.N.  | 3       | F1                       | III                         | 3       | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1<br>TP29             |
| 1990       | BENZALDEHID  | 9       | M11                      | III                         | 9       |                                   | LQ28                                      | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP15                                    | T2   | TP1                     |
| 1991       | KLOROPRÉN, STABILIZÁLT   | 3       | FT1                      | I                           | 3 + 6.1 |                                   | LQ0                                       | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP6              |
| 1992       | GYÚLÉKONY, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.  | 3       | FT1                      | I                           | 3 + 6.1 | 274                               | LQ0                                       | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 1992       | GYÚLÉKONY, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.  | 3       | FT1                      | II                          | 3 + 6.1 | 274                               | LQ0                                       | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP2                     |
| 1992       | GYÚLÉKONY, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.  | 3       | FT1                      | III                         | 3 + 6.1 | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP1<br>TP28             |
| 1993       | GYÚLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.   | 3       | F1                       | I                           | 3       | 274                               | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP1<br>TP27             |
| 1993       | GYÚLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa) | 3       | F1                       | II                          | 3       | 274<br>601<br>640C                | LQ4                                       | E2      | P001                           |   | MP19                                    | T7   | TP1<br>TP8<br>TP28      |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH        | TU15                 | FL                             | 3<br>(D/E)   |   |  | CV13<br>CV28   | S2   | 36                     | 1986    | GYÚLÉKONY, MÉRGEZŐ<br>ALKOHOLOK, M.N.N.   |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1987    | ALKOHOLOK, M.N.N.<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa)                    |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1987    | ALKOHOLOK, M.N.N.<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)                      |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1987    | ALKOHOLOK, M.N.N.   |
| L10CH       | TU14<br>TU15<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 1988    | GYÚLÉKONY, MÉRGEZŐ<br>ALDEHIDEK, M.N.N.   |
| L4BH        | TU15                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 1988    | GYÚLÉKONY, MÉRGEZŐ<br>ALDEHIDEK, M.N.N.   |
| L4BH        | TU15                 | FL                             | 3<br>(D/E)   |   |  | CV13<br>CV28   | S2   | 36                     | 1988    | GYÚLÉKONY, MÉRGEZŐ<br>ALDEHIDEK, M.N.N.   |
| L4BN        |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1989    | ALDEHIDEK, M.N.N.   |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1989    | ALDEHIDEK, M.N.N.<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa)                    |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1989    | ALDEHIDEK, M.N.N.<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)                      |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1989    | ALDEHIDEK, M.N.N.   |
| LGBV        |                      | AT                             | 3<br>(E)   |   |  |  |  | 90                     | 1990    | BENZALDEHID   |
| L10CH       | TU14<br>TU15<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 1991    | KLOROPRÉN, STABILIZÁLT  |
| L10CH       | TU14<br>TU15<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 1992    | GYÚLÉKONY, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.                                     |
| L4BH        | TU15                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 1992    | GYÚLÉKONY, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.                                     |
| L4BH        | TU15                 | FL                             | 3<br>(D/E)   |   |  | CV13<br>CV28   | S2   | 36                     | 1992    | GYÚLÉKONY, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.                                     |
| L4BN        |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1993    | GYÚLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.  |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1993    | GYÚLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa) |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                    |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|--------------------|
|            |  |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |                    |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3            |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)               |
| 1993       | GYÜLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)   | 3       | F1                       | II                          | 3       | 274<br>601<br>640D                | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1<br>TP8<br>TP28 |
| 1993       | GYÜLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.   | 3       | F1                       | III                         | 3       | 274<br>601<br>640E                | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1<br>TP29        |
| 1993       | GYÜLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C)   | 3       | F1                       | III                         | 3       | 274<br>601<br>640F                | LQ7  | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T4   | TP1<br>TP29        |
| 1993       | GYÜLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa, forráspont nagyobb<br>mint 35 °C)                            | 3       | F1                       | III                         | 3       | 274<br>601<br>640G                | LQ7  | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T4   | TP1<br>TP29        |
| 1993       | GYÜLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)  | 3       | F1                       | III                         | 3       | 274<br>601<br>640H                | LQ7  | E1      | P001<br>IBC02<br>LP01<br>R001  |   | MP19                                    | T4   | TP1<br>TP29        |
| 1994       | VAS-PENTAKARBONIL  | 6.1     | TF1                      | I                           | 6.1 + 3 |                                   | LQ0  | E5      | P601                           |   | MP2                                     | T22  | TP2                |
| 1999       | FOLYÉKONY KÁTRÁNYOK,<br>beleértve az útépitésre használt<br>kátrányolajokat, bitument és hígított<br>bitumeneket<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)   | 3       | F1                       | II                          | 3       | 640C                              | LQ6  | E2      | P001                           |   | MP19                                    | T3   | TP3<br>TP29        |
| 1999       | FOLYÉKONY KÁTRÁNYOK,<br>beleértve az útépitésre használt<br>kátrányolajokat, bitument és hígított<br>bitumeneket<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)   | 3       | F1                       | II                          | 3       | 640D                              | LQ6  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T3   | TP3<br>TP29        |
| 1999       | FOLYÉKONY KÁTRÁNYOK,<br>beleértve az útépitésre használt<br>kátrányolajokat, bitument és hígított<br>bitumeneket   | 3       | F1                       | III                         | 3       | 640E                              | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T1   | TP3                |
| 1999       | FOLYÉKONY KÁTRÁNYOK,<br>beleértve az útépitésre használt<br>kátrányolajokat, bitument és hígított<br>bitumeneket<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(forráspont legfeljebb 35 °C) | 3       | F1                       | III                         | 3       | 640F                              | LQ7  | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T1   | TP3                |



| ADR-tartály |   | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|---|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód  | Különleges előírások                        |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                                | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)  | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| LGBF        |   | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1993    | GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)   |
| LGBF        |   | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1993    | GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.  |
| L4BN        |   | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1993    | GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus)<br>(forráspont legfeljebb 35 °C)   |
| L1.5BN      |   | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1993    | GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus)<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)                            |
| LGBF        |   | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1993    | GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus)<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)   |
| L15CH       | TU14<br>TU15<br>TU31<br>TE19<br>TE21<br>TM3 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 1994    | VAS-PENTAKARBONIL  |
| L1.5BN      |   | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1999    | FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket<br>(gőznyomás 50 °C-on nagyobb mint 110 kPa)   |
| LGBF        |   | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 1999    | FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)   |
| LGBF        |   | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 1999    | FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket  |
| L4BN        |   | FL                             | 3<br>(D/E)   |   |  |  | S2   | 33                     | 1999    | FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus)<br>(forráspont legfeljebb 35 °C) |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 1999       | FOLYÉKONY KÁTRÁNYOK,<br>beleértve az útépitésre használt<br>kátrányolajokat, bitument és hígított<br>bitumeneket<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa, forráspont nagyobb<br>mint 35 °C) | 3       | F1                       | III                         | 3            | 640G                              | LQ7                                       | E1      | P001<br>LP01<br>R001           |   | MP19                                    | T1   | TP3                     |
| 1999       | FOLYÉKONY KÁTRÁNYOK,<br>beleértve az útépitésre használt<br>kátrányolajokat, bitument és hígított<br>bitumeneket<br>(lobbanáspont 23 °C alatt és a 2.2.3.1.4<br>pont szerint viszkózus)<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                                     | 3       | F1                       | III                         | 3            | 640H                              | LQ7                                       | E1      | P001<br>IBC02<br>LP01<br>R001  |   | MP19                                    | T1   | TP3                     |
| 2000       | CELLULOID, blokk, rúd, tekercs,<br>lemez, cső, stb. formában, a hulladékok<br>kivételével   | 4.1     | F1                       | III                         | 4.1          | 502                               | LQ9                                       | E1      | P002<br>LP02<br>R001           | PP7   | MP11                                    |  |                         |
| 2001       | KOBALT-NAFTENÁT POR   | 4.1     | F3                       | III                         | 4.1          |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP11                                    | T1   | TP33                    |
| 2002       | CELLULOID HULLADÉK  | 4.2     | S2                       | III                         | 4.2          | 526<br>592                        | LQ0                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | PP8<br>B3                                     | MP14                                    |  |                         |
| 2004       | MAGNÉZIUM-DIAMID  | 4.2     | S4                       | II                          | 4.2          |                                   | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33                    |
| 2006       | NITROCELLULÓZ ALAPÚ,<br>ÖNMELEGEDŐ MŰANYAGOK,<br>M.N.N.   | 4.2     | S2                       | III                         | 4.2          | 274<br>528                        | LQ0                                       | E1      | P002<br>R001                   |   | MP14                                    |  |                         |
| 2008       | SZÁRAZ CIRKÓNIUMPOR   | 4.2     | S4                       | I                           | 4.2          | 524<br>540                        | LQ0                                       | E0      | P404                           |   | MP13                                    | T21  | TP7<br>TP33             |
| 2008       | SZÁRAZ CIRKÓNIUMPOR   | 4.2     | S4                       | II                          | 4.2          | 524<br>540                        | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33                    |
| 2008       | SZÁRAZ CIRKÓNIUMPOR   | 4.2     | S4                       | III                         | 4.2          | 524<br>540                        | LQ0                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                    | T1   | TP33                    |
| 2009       | SZÁRAZ CIRKÓNIUM<br>lemez, szalag vagy huzal formában   | 4.2     | S4                       | III                         | 4.2          | 524<br>592                        | LQ0                                       | E1      | P002<br>LP02<br>R001           |   | MP14                                    |  |                         |
| 2010       | MAGNÉZIUM-HIDRID  | 4.3     | W2                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 2011       | MAGNÉZIUM-FOSZFID   | 4.3     | WT2                      | I                           | 4.3 +<br>6.1 |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 2012       | KÁLIUM-FOSZFID  | 4.3     | WT2                      | I                           | 4.3 +<br>6.1 |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 2013       | STRONCIUM-FOSZFID   | 4.3     | WT2                      | I                           | 4.3 +<br>6.1 |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L1.5BN      |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 33                     | 1999    | FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C) |
| LGBF        |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 33                     | 1999    | FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)                                  |
|             |                      |                                | 3 (E)  |   |  |  |  |                        | 2000    | CELLULOID, blokk, rúd, tekercs, lemez, cső, stb. formában, a hulladékok kivételével   |
| SGAV        |                      | AT                             | 3 (E)  |   | VV1  |  |  | 40                     | 2001    | KOBALT-NAFTENÁT POR   |
|             |                      |                                | 3 (E)  | V1  |  |  |  |                        | 2002    | CELLULOID HULLADÉK  |
| SGAN        |                      | AT                             | 2 (D/E)  | V1<br>V12                                 |  |  |  | 40                     | 2004    | MAGNÉZIUM-DIAMID  |
|             |                      |                                | 3 (E)  | V1  |  |  |  |                        | 2006    | NITROCELLULÓZ ALAPÚ, ÖNMELEGEDŐ MŰANYAGOK, M.N.N.   |
|             |                      | AT                             | 0 (B/E)  | V1  |  |  | S20  | 43                     | 2008    | SZÁRAZ CIRKÓNIUMPOR   |
| SGAN        |                      | AT                             | 2 (D/E)  | V1<br>V12                                 |  |  |  | 40                     | 2008    | SZÁRAZ CIRKÓNIUMPOR   |
| SGAN        |                      | AT                             | 3 (E)  | V1  | VV4  |  |  | 40                     | 2008    | SZÁRAZ CIRKÓNIUMPOR   |
|             |                      |                                | 3 (E)  | V1  | VV4  |  |  | 40                     | 2009    | SZÁRAZ CIRKÓNIUM lemez, szalag vagy húzal formában  |
|             |                      |                                | 1 (E)  | V1  |  | CV23   | S20  |                        | 2010    | MAGNÉZIUM-HIDRID  |
|             |                      |                                | 1 (E)  | V1  |  | CV23<br>CV28   | S20  |                        | 2011    | MAGNÉZIUM-FOSZFID   |
|             |                      |                                | 1 (E)  | V1  |  | CV23<br>CV28   | S20  |                        | 2012    | KÁLIUM-FOSZFID  |
|             |                      |                                | 1 (E)  | V1  |  | CV23<br>CV28   | S20  |                        | 2013    | STRONCIUM-FOSZFID   |

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2014       | HIDROGÉN-PEROXID VIZES OLDAT<br>legalább 20%, de legfeljebb 60%<br>hidrogén-peroxid tartalommal<br>(szükség szerint stabilizálva) | 5.1     | OC1                      | II                          | 5.1 + 8 |                                   | LQ10                                       | E2      | P504<br>IBC02                  | PP10<br>B5                                    | MP15                                    | T7   | TP2<br>TP6<br>TP24      |
| 2015       | HIDROGÉN-PEROXID VIZES OLDAT<br>STABILIZÁLT,<br>70%-nál több hidrogén-peroxid<br>tartalommal                                      | 5.1     | OC1                      | I                           | 5.1 + 8 | 640N                              | LQ0  | E0      | P501                           |   | MP2                                     | T9   | TP2<br>TP6<br>TP24      |
| 2015       | HIDROGÉN-PEROXID VIZES OLDAT<br>STABILIZÁLT,<br>60%-nál több, de legfeljebb 70%<br>hidrogén-peroxid tartalommal                   | 5.1     | OC1                      | I                           | 5.1 + 8 | 640O                              | LQ0  | E0      | P501                           |   | MP2                                     | T9   | TP2<br>TP6<br>TP24      |
| 2016       | MÉRGEZŐ, NEM ROBBANÓ LŐSZER<br>robbanó- vagy hajtótöltet nélkül,<br>gyújtószerkezet nélkül  | 6.1     | T2                       | II                          | 6.1     |                                   | LQ0  | E0      | P600                           |   | MP10                                    |  |                         |
| 2017       | KÖNNYŰGÁZFEJLESZTŐ,<br>NEM ROBBANÓ LŐSZER<br>robbanó- vagy kidobótöltet nélkül,<br>gyújtószerkezet nélkül                         | 6.1     | TC2                      | II                          | 6.1 + 8 |                                   | LQ0  | E0      | P600                           |   |   |  |                         |
| 2018       | SZILÁRD KLÓR-ANILINEK   | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2019       | FOLYÉKONY KLÓR-ANILINEK   | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2020       | SZILÁRD KLÓR-FENOLOK  | 6.1     | T2                       | III                         | 6.1     | 205                               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2021       | FOLYÉKONY KLÓR-FENOLOK  | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2022       | KREZILSAV   | 6.1     | TC1                      | II                          | 6.1 + 8 |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2023       | EPIKLÓRHIDRIN   | 6.1     | TF1                      | II                          | 6.1 + 3 | 279                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2024       | FOLYÉKONY HIGANYVEGYÜLET,<br>M.N.N.   | 6.1     | T4                       | I                           | 6.1     | 43<br>274                         | LQ0  | E5      | P001                           |   | MP8<br>MP17                             |  |                         |
| 2024       | FOLYÉKONY HIGANYVEGYÜLET,<br>M.N.N.   | 6.1     | T4                       | II                          | 6.1     | 43<br>274                         | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    |  |                         |
| 2024       | FOLYÉKONY HIGANYVEGYÜLET,<br>M.N.N.   | 6.1     | T4                       | III                         | 6.1     | 43<br>274                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    |  |                         |
| 2025       | SZILÁRD HIGANYVEGYÜLET,<br>M.N.N.   | 6.1     | T5                       | I                           | 6.1     | 43<br>274<br>529<br>585           | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |

| ADR-tartány  |  | Jármű a tartányos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|--------------|--|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánykód   | Különleges előírások                           |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3          | 4.3.5, 6.8.4                                   | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)         | (13)   | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BV(+)      | TU3<br>TC2<br>TE8<br>TE11<br>TT1               | AT                             | 2<br>(E)   |   |  | CV24   |  | 58                     | 2014    | HIDROGÉN-PEROXID VIZES OLDAT legalább 20%, de legfeljebb 60% hidrogén-peroxid tartalommal (szükség szerint stabilizálva) |
| L4DV(+)      | TU3<br>TU28<br>TC2<br>TE8<br>TE9<br>TT1        | OX                             | 1<br>(B/E)   | V5  |  | CV24   | S20  | 559                    | 2015    | HIDROGÉN-PEROXID VIZES OLDAT, STABILIZÁLT, 70%-nál több hidrogén-peroxid tartalommal                                     |
| L4BV(+)      | TU3<br>TU28<br>TC2<br>TE7<br>TE8<br>TE9<br>TT1 | OX                             | 1<br>(B/E)   | V5  |  | CV24   | S20  | 559                    | 2015    | HIDROGÉN-PEROXID VIZES OLDAT, STABILIZÁLT, 60%-nál több, de legfeljebb 70% hidrogén-peroxid tartalommal                  |
|              |  |                                | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  |                        | 2016    | MÉRGEZŐ, NEM ROBBANÓ LŐSZER robbanó- vagy hajtótöltet nélkül, gyújtószerkezet nélkül                                     |
|              |  |                                | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  |                        | 2017    | KÖNNYŰGÁZFEJLESZTŐ, NEM ROBBANÓ LŐSZER robbanó- vagy kidobótöltet nélkül, gyújtószerkezet nélkül                         |
| L4BH<br>SGAH | TU15<br>TE19                                   | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2018    | SZILÁRD KLÓR-ANILINEK  |
| L4BH         | TU15<br>TE19                                   | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2019    | FOLYÉKONY KLÓR-ANILINEK  |
| SGAH         | TU15<br>TE19                                   | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2020    | SZILÁRD KLÓR-FENOLOK   |
| L4BH         | TU15<br>TE19                                   | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2021    | FOLYÉKONY KLÓR-FENOLOK   |
| L4BH         | TU15<br>TE19                                   | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 2022    | KREZILSAV  |
| L4BH         | TU15<br>TE19                                   | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 2023    | EPIKLÓRHIDRIN  |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21                   | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2024    | FOLYÉKONY HIGANYVEGYÜLET, M.N.N.   |
| L4BH         | TU15<br>TE19                                   | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2024    | FOLYÉKONY HIGANYVEGYÜLET, M.N.N.   |
| L4BH         | TU15<br>TE19                                   | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2024    | FOLYÉKONY HIGANYVEGYÜLET, M.N.N.   |
| S10AH        | TU15<br>TE19                                   | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2025    | SZILÁRD HIGANYVEGYÜLET, M.N.N.   |

| UN<br>szám |  | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák              | Különleges<br>előírások | Korlátozott és<br>engedélyezett<br>mennyiség |         | Csomagolóeszköz               |  |                                    | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|---------------------|------------------------|---------------------|-------------------------|--|---------|-------------------------------|--|------------------------------------|--|---------|
|            |  |         |                     |                        |                     |                         |  |         | Csomagolási<br>utasítások     | Különleges<br>csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2               | 3.3                     | 3.4.6  | 3.5.1.2 | 4.1.4                         | 4.1.4                                  | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                | (4)                    | (5)                 | (6)                     | (7a)   | (7b)    | (8)                           | (9a)                                   | (9b)                               | (10)   | (11)    |
| 2025       | SZILÁRD HIGANYVEGYÜLET,<br>M.N.N.  | 6.1     | T5                  | II                     | 6.1                 | 43<br>274<br>529<br>585 | LQ18   | E4      | P002<br>IBC08                 | B4                                     | MP10                               | T3   | TP33    |
| 2025       | SZILÁRD HIGANYVEGYÜLET,<br>M.N.N.  | 6.1     | T5                  | III                    | 6.1                 | 43<br>274<br>529<br>585 | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                     | MP10                               | T1   | TP33    |
| 2026       | FENIL-HIGANY VEGYÜLET, M.N.N.  | 6.1     | T3                  | I                      | 6.1                 | 43<br>274               | LQ0  | E5      | P002<br>IBC07                 |  | MP18                               | T6   | TP33    |
| 2026       | FENIL-HIGANY VEGYÜLET, M.N.N.  | 6.1     | T3                  | II                     | 6.1                 | 43<br>274               | LQ18   | E4      | P002<br>IBC08                 | B4                                     | MP10                               | T3   | TP33    |
| 2026       | FENIL-HIGANY VEGYÜLET, M.N.N.  | 6.1     | T3                  | III                    | 6.1                 | 43<br>274               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                     | MP10                               | T1   | TP33    |
| 2027       | SZILÁRD NÁTRIUM-ARZENIT  | 6.1     | T5                  | II                     | 6.1                 | 43                      | LQ18   | E4      | P002<br>IBC08                 | B4                                     | MP10                               | T3   | TP33    |
| 2028       | FÜSTFEJLESZTŐ BOMBÁK,<br>NEM ROBBANÓ,<br>maró folyadékkal, gyújtószerkezet nélkül                                  | 8       | C11                 | II                     | 8                   |                         | LQ0  | E0      | P803                          |  |                                    |  |         |
| 2029       | VÍZMENTES HIDRAZIN   | 8       | CFT                 | I                      | 8 + 3<br>+ 6.1      |                         | LQ0  | E0      | P001                          |  | MP8<br>MP17                        |  |         |
| 2030       | HIDRAZIN VIZES OLDAT<br>37 tömeg%-nál több hidrazin-<br>tartalommal, 60 °C feletti<br>lobbanásponttal              | 8       | CT1                 | I                      | 8 + 6.1             | 530                     | LQ0  | E0      | P001                          |  | MP8<br>MP17                        | T10  | TP2     |
| 2030       | HIDRAZIN VIZES OLDAT<br>37 tömeg%-nál több hidrazin-<br>tartalommal, legfeljebb 60 °C<br>lobbanásponttal           | 8       | CFT                 | I                      | 8 + 3+<br>6.1       | 530                     | LQ0  | E0      | P001                          |  | MP8<br>MP17                        | T10  | TP2     |
| 2030       | HIDRAZIN VIZES OLDAT<br>37 tömeg%-nál több hidrazin-<br>tartalommal  | 8       | CT1                 | II                     | 8 + 6.1             | 530                     | LQ22   | E2      | P001<br>IBC02                 |  | MP15                               | T7   | TP2     |
| 2030       | HIDRAZIN VIZES OLDAT<br>37 tömeg%-nál több hidrazin-<br>tartalommal  | 8       | CT1                 | III                    | 8 + 6.1             | 530                     | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T4   | TP1     |
| 2031       | SALÉTROMSAV,<br>a vörösen füstölő salétromsav<br>kivételével,<br>70%-nál több salétromsav-tartalommal              | 8       | CO1                 | I                      | 8 + 5.1             |                         | LQ0  | E0      | P001                          | PP81                                   | MP8<br>MP17                        | T10  | TP2     |
| 2031       | SALÉTROMSAV,<br>a vörösen füstölő salétromsav<br>kivételével,<br>legalább 65%, de legfeljebb 70%<br>savtartalommal | 8       | CO1                 | II                     | 8 + 5.1             |                         | LQ22   | E2      | P001<br>IBC02                 | PP81<br>B15                            | MP15                               | T8   | TP2     |
| 2031       | SALÉTROMSAV, a vörösen füstölő<br>salétromsav kivételével, 65% nál<br>kevesebb savtartalommal                      | 8       | C1                  | II                     | 8                   |                         | LQ22   | E2      | P001<br>IBC02                 | PP81<br>B15                            | MP15                               | T8   | TP2     |
| 2032       | VÖRÖSEN FÜSTÖLGŐ<br>SALÉTROMSAV  | 8       | COT                 | I                      | 8 + 5.1<br>+<br>6.1 |                         | LQ0  | E0      | P602                          |  | MP8<br>MP17                        | T20  | TP2     |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2025    | SZILÁRD HIGANYVEGYÜLET, M.N.N.   |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2025    | SZILÁRD HIGANYVEGYÜLET, M.N.N.   |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2026    | FENIL-HIGANY VEGYÜLET, M.N.N.  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2026    | FENIL-HIGANY VEGYÜLET, M.N.N.  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2026    | FENIL-HIGANY VEGYÜLET, M.N.N.  |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2027    | SZILÁRD NÁTRIUM-ARZENIT  |
|                |                              |                                | 2<br>(E)   |   |  |  |  |                        | 2028    | FÜSTFEJLESZTŐ BOMBÁK, NEM ROBBANÓ, maró folyadékkal, gyújtószerkezet nélkül                            |
|                |                              |                                | 1<br>(E)   |   |  | CV13<br>CV28   | S2<br>S14                                  |                        | 2029    | VÍZMENTES HIDRAZIN   |
| L10BH          |                              | AT                             | 1<br>(C/D)   |   |  | CV13<br>CV28   | S14  | 886                    | 2030    | HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazin-tartalommal, 60 °C feletti lobbanásponttal            |
| L10BH          |                              | FL                             | 1<br>(C/D)   |   |  | CV13<br>CV28   | S2<br>S14                                  | 886                    | 2030    | HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazin-tartalommal, legfeljebb 60 °C lobbanásponttal         |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   |  | 86                     | 2030    | HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazin-tartalommal   |
| L4BN           |                              | AT                             | 3<br>(E)   |   |  | CV13<br>CV28   |  | 86                     | 2030    | HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazin-tartalommal   |
| L10BH          | TC6<br>TT1                   | AT                             | 1<br>(E)   |   |  | CV24   | S14  | 885                    | 2031    | SALÉTROMSAV, a vörösen füstölő salétromsav kivételével, 70%-nál több salétromsav-tartalommal           |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  |  |  | 85                     | 2031    | SALÉTROMSAV, a vörösen füstölő salétromsav kivételével, legalább 65%, de legfeljebb 70% savtartalommal |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2031    | SALÉTROMSAV, a vörösen füstölő salétromsav kivételével, 65% nál kevesebb savtartalommal                |
| L10BH          | TC6<br>TT1                   | AT                             | 1<br>(C/D)   |   |  | CV13<br>CV24<br>CV28                                   | S14  | 856                    | 2032    | VÖRÖSEN FÜSTÖLGŐ SALÉTROMSAV   |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák              | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |                     |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2               | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)                 | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2033       | KÁLIUM-MONOXID   | 8       | C6                       | II                          | 8                   |                                   | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2034       | HIDROGÉN ÉS METÁN KEVERÉKE,<br>SŰRÍTETT  | 2       | 1F                       |                             | 2.1                 |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 2035       | 1,1,1-TRIFLUOR-ETÁN<br>(R 143a HŰTŐGÁZ)  | 2       | 2F                       |                             | 2.1                 |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 2036       | XENON  | 2       | 2A                       |                             | 2.2                 |                                   | LQ1                                       | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 2037       | GÁZZAL TÖLTÖTT KISMÉRETŰ<br>TARTÁLYOK (GÁZPATRONOK)<br>adagolószerkezet nélkül,<br>nem utántölthetők | 2       | 5A                       |                             | 2.2                 | 191<br>303                        | LQ2                                       | E0      | P003                           | PP17<br>RR6                                   | MP9                                     |  |                         |
| 2037       | GÁZZAL TÖLTÖTT KISMÉRETŰ<br>TARTÁLYOK (GÁZPATRONOK)<br>adagolószerkezet nélkül,<br>nem utántölthetők | 2       | 5F                       |                             | 2.1                 | 191<br>303                        | LQ2                                       | E0      | P003                           | PP17<br>RR6                                   | MP9                                     |  |                         |
| 2037       | GÁZZAL TÖLTÖTT KISMÉRETŰ<br>TARTÁLYOK (GÁZPATRONOK)<br>adagolószerkezet nélkül,<br>nem utántölthetők | 2       | 5O                       |                             | 2.2 +<br>5.1        | 191<br>303                        | LQ2                                       | E0      | P003                           | PP17<br>RR6                                   | MP9                                     |  |                         |
| 2037       | GÁZZAL TÖLTÖTT KISMÉRETŰ<br>TARTÁLYOK (GÁZPATRONOK)<br>adagolószerkezet nélkül,<br>nem utántölthetők | 2       | 5T                       |                             | 2.3                 | 303                               | LQ1                                       | E0      | P003                           | PP17<br>RR6                                   | MP9                                     |  |                         |
| 2037       | GÁZZAL TÖLTÖTT KISMÉRETŰ<br>TARTÁLYOK (GÁZPATRONOK)<br>adagolószerkezet nélkül,<br>nem utántölthetők | 2       | 5TC                      |                             | 2.3 + 8             | 303                               | LQ1                                       | E0      | P003                           | PP17<br>RR6                                   | MP9                                     |  |                         |
| 2037       | GÁZZAL TÖLTÖTT KISMÉRETŰ<br>TARTÁLYOK (GÁZPATRONOK)<br>adagolószerkezet nélkül,<br>nem utántölthetők | 2       | 5TF                      |                             | 2.3 +<br>2.1        | 303                               | LQ1                                       | E0      | P003                           | PP17<br>RR6                                   | MP9                                     |  |                         |
| 2037       | GÁZZAL TÖLTÖTT KISMÉRETŰ<br>TARTÁLYOK (GÁZPATRONOK)<br>adagolószerkezet nélkül,<br>nem utántölthetők | 2       | 5TFC                     |                             | 2.3 +<br>2.1 +<br>8 | 303                               | LQ1                                       | E0      | P003                           | PP17<br>RR6                                   | MP9                                     |  |                         |
| 2037       | GÁZZAL TÖLTÖTT KISMÉRETŰ<br>TARTÁLYOK (GÁZPATRONOK)<br>adagolószerkezet nélkül,<br>nem utántölthetők | 2       | 5TO                      |                             | 2.3 +<br>5.1        | 303                               | LQ1                                       | E0      | P003                           | PP17<br>RR6                                   | MP9                                     |  |                         |
| 2037       | GÁZZAL TÖLTÖTT KISMÉRETŰ<br>TARTÁLYOK (GÁZPATRONOK)<br>adagolószerkezet nélkül,<br>nem utántölthetők | 2       | 5TOC                     |                             | 2.3 +<br>5.1 +<br>8 | 303                               | LQ1                                       | E0      | P003                           | PP17<br>RR6                                   | MP9                                     |  |                         |
| 2038       | FOLYÉKONY DINITRO-TOLUOLOK   | 6.1     | T1                       | II                          | 6.1                 |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2044       | 2,2-DIMETIL-PROPÁN   | 2       | 2F                       |                             | 2.1                 |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 2045       | IZOBUTIRALDEHID<br>(IZOBUTILALDEHID)   | 3       | F1                       | II                          | 3                   |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |



| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| SGAN        |                      | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 2033    | KÁLIUM-MONOXID  |
| C*BN(M)     | TA4 TT9              | FL                             | 2 (B/D)  |   |  | CV9 CV10 CV36  | S2 S20                                     | 23                     | 2034    | HIDROGÉN ÉS METÁN KEVERÉKE, SŰRÍTETT  |
| P*BN(M)     | TA4 TT9              | FL                             | 2 (B/D)  |   |  | CV9 CV10 CV36  | S2 S20                                     | 23                     | 2035    | 1,1,1-TRIFLUOR-ETÁN (R 143a HŰTŐGÁZ)  |
| P*BN(M)     | TA4 TT9              | AT                             | 3 (C/E)  |   |  | CV9 CV10 CV36  |  | 20                     | 2036    | XENON   |
|             |                      |                                | 3 (E)  |   |  | CV9 CV12   |  |                        | 2037    | GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők |
|             |                      |                                | 2 (D)  |   |  | CV9 CV12   | S2   |                        | 2037    | GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők |
|             |                      |                                | 3 (E)  |   |  | CV9 CV12   |  |                        | 2037    | GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők |
|             |                      |                                | 1 (D)  |   |  | CV9 CV12   |  |                        | 2037    | GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők |
|             |                      |                                | 1 (D)  |   |  | CV9 CV12   |  |                        | 2037    | GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők |
|             |                      |                                | 1 (D)  |   |  | CV9 CV12   | S2   |                        | 2037    | GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők |
|             |                      |                                | 1 (D)  |   |  | CV9 CV12   | S2   |                        | 2037    | GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők |
|             |                      |                                | 1 (D)  |   |  | CV9 CV12   |  |                        | 2037    | GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők |
| L4BH        | TU15 TE19            | AT                             | 2 (D/E)  |   |  | CV13 CV28  | S9 S19                                     | 60                     | 2038    | FOLYÉKONY DINITRO-TOLUOLOK  |
| P*BN(M)     | TA4 TT9              | FL                             | 2 (B/D)  |   |  | CV9 CV10 CV36  | S2 S20                                     | 23                     | 2044    | 2,2-DIMETIL-PROPÁN  |
| LGBF        |                      | FL                             | 2 (D/E)  |   |  |  | S2 S20                                     | 33                     | 2045    | IZOBUTIRALDEHID (IZOBUTILALDEHID)   |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2046       | CIMOLOK (metil-izopropil-benzolok)   | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2047       | DIKLÓR-PROPÉNEK  | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2047       | DIKLÓR-PROPÉNEK  | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2048       | DICIKLOPENTADIÉN   | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2049       | DIETIL-BENZOLOK  | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2050       | DIIZOBUTILÉN IZOMEREK<br>KEVERÉKE  | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2051       | 2-DIMETIL-AMINO-ETANOL   | 8       | CF1                      | II                          | 8 + 3  |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2052       | DIPENTÉN (limonén)   | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2053       | METIL-IZOBUTIL-KARBINOL (metil-<br>amil-alkohol)   | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2054       | MORFOLIN   | 8       | CF1                      | I                           | 8 + 3  |                                   | LQ0  | E0      | P001                           |   | MP8<br>MP17                             | T10  | TP2                     |
| 2055       | SZTIROL MONOMER, STABILIZÁLT   | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2056       | TETRAHIDRO-FURÁN   | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2057       | TRIPROPILÉN (PROPILÉN-TRIMER)  | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2057       | TRIPROPILÉN (PROPILÉN-TRIMER)  | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2058       | VALERALDEHID   | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2059       | GYÜLÉKONY NITROCELLULÓZ<br>OLDAT a száraz tömegre vetítve<br>legfeljebb 12,6% nitrogéntartalommal és<br>legfeljebb 55% nitrocellulóz-tartalommal | 3       | D                        | I                           | 3      | 198<br>531                        | LQ3  | E0      | P001                           |   | MP7<br>MP17                             | T11  | TP1<br>TP8<br>TP27      |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2046    | CIMOLOK (metil-izopropil-benzolok)   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2047    | DIKLÓR-PROPÉNEK  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2047    | DIKLÓR-PROPÉNEK  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2048    | DICIKLOPENTADIÉN   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2049    | DIETIL-BENZOLOK  |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2050    | DIIZOBUTILÉN IZOMEREK KEVERÉKE   |
| L4BN        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 2051    | 2-DIMETIL-AMINO-ETANOL   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2052    | DIPENTÉN (limonén)   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2053    | METIL-IZOBUTIL-KARBINOL (metil-amil-alkohol)   |
| L10BH       |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S14                                  | 883                    | 2054    | MORFOLIN   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 39                     | 2055    | SZTIROL MONOMER, STABILIZÁLT   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2056    | TETRAHIDRO-FURÁN   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2057    | TRIPROPILÉN (PROPILÉN-TRIMER)  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2057    | TRIPROPILÉN (PROPILÉN-TRIMER)  |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2058    | VALERALDEHID   |
| L4BN        |                      | FL                             | 1<br>(B)   |   |  |  | S2<br>S14                                  | 33                     | 2059    | GYÚLÉKONY NITROCELLULÓZ<br>OLDAT a száraz tömegre vetítve<br>legfeljebb 12,6% nitrogéntartalommal és<br>legfeljebb 55% nitrocellulóz-tartalommal |

| UN<br>szám |  | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport     | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztartá-<br>r-konténer |                         |
|------------|--|---------|--------------------------|---------------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                                 |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                         | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                             | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2059       | GYÚLÉKONY NITROCELLULÓZ<br>OLDAT a száraz tömegre vetítve<br>legfeljebb 12,6% nitrogéntartalommal és<br>legfeljebb 55% nitrocellulóz-tartalommal<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa)   | 3       | D                        | II                              | 3       | 198<br>531<br>640C                | LQ4                                       | E0      | P001<br>IBC02                  |   | MP19                                    | T4   | TP1<br>TP8              |
| 2059       | GYÚLÉKONY NITROCELLULÓZ<br>OLDAT a száraz tömegre vetítve<br>legfeljebb 12,6% nitrogéntartalommal és<br>legfeljebb 55% nitrocellulóz-tartalommal<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)   | 3       | D                        | II                              | 3       | 198<br>531<br>640D                | LQ4                                       | E0      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1<br>TP8              |
| 2059       | GYÚLÉKONY NITROCELLULÓZ<br>OLDAT a száraz tömegre vetítve<br>legfeljebb 12,6% nitrogéntartalommal és<br>legfeljebb 55% nitrocellulóz-tartalommal   | 3       | D                        | III                             | 3       | 198<br>531                        | LQ7                                       | E0      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2067       | AMMÓNIUM-NITRÁT ALAPÚ<br>MŰTRÁGYA  | 5.1     | O2                       | III                             | 5.1     | 186<br>306<br>307                 | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1<br>BK1<br>BK2                               | TP33                    |
| 2071       | AMMÓNIUM-NITRÁT ALAPÚ<br>MŰTRÁGYA,<br>amely nitrogén/ foszfát, nitrogén/kálisó<br>vagy nitrogén/ foszfát/kálisó típusú<br>műtrágya egynemű keveréke legfeljebb<br>70% ammónium-nitrát tartalommal és<br>legfeljebb 0,4% összes éghető anyag<br>tartalommal (beleértve bármilyen szerves<br>anyagot szénegyenértékre átszámítva)<br>vagy legfeljebb 45% ammónium-nitrát<br>tartalommal és korlátlan éghető anyag<br>tartalommal | 9       | M11                      | Nem tartozik az ADR hatálya alá |         |                                   |   |         |                                |   |   |  |                         |
| 2073       | AMMÓNIA OLDAT, vizes, relatív<br>sűrűség 15 °C-on kisebb, mint 0,880,<br>35%-nál több, de legfeljebb 50%<br>ammóniatartalommal   | 2       | 4A                       |                                 | 2.2     | 532                               | LQ1                                       | E1      | P200                           |   | MP9                                     | (M)  |                         |
| 2074       | SZILÁRD AKRILAMID  | 6.1     | T2                       | III                             | 6.1     |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2075       | VÍZMENTES KLORÁL, STABILIZÁLT  | 6.1     | T1                       | II                              | 6.1     |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2076       | FOLYÉKONY KREZOLOK   | 6.1     | TC1                      | II                              | 6.1 + 8 |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2077       | alfa-NAFTIL-AMIN   | 6.1     | T2                       | III                             | 6.1     |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2078       | TOLUILÉN-DIIZOCIANÁT   | 6.1     | T1                       | II                              | 6.1     | 279                               | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2079       | DIETILÉN-TRIAMIN   | 8       | C7                       | II                              | 8       |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2186       | HIDROGÉN-KLORID, MÉLYHÚTOTT<br>CSEPPFOLYÓSÍTOTT  | 2       | 3TC                      | A szállításból ki van zárva     |         |                                   |   |         |                                |   |   |  |                         |
| 2187       | SZÉN-DIOXID, MÉLYHÚTOTT,<br>CSEPPFOLYÓSÍTOTT   | 2       | 3A                       |                                 | 2.2     | 593                               | LQ1                                       | E1      | P203                           |   | MP9                                     | T75  | TP5                     |

| ADR-tartály                     |                      | Jármű a tartályos szállítás-hoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                  |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|---------------------------------|----------------------|---------------------------------|--|--|--|--|--|------------------------|---------|---|
| Tartánycód                      | Különleges előírások |                                 |  | Különleges előírások a küldemény-darabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                             | 4.3.5, 6.8.4         | 9.1.1.2                         | (8.6)  | 7.2.4                                      | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                            | (13)                 | (14)                            | (15)   | (16)                                       | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L1.5BN                          |                      | FL                              | 2 (B)  |  |  |  | S2<br>S14                                  | 33                     | 2059    | GYÚLÉKONY NITROCELLULÓZ OLDAT a száraz tömegre vetítve legfeljebb 12,6% nitrogéntartalommal és legfeljebb 55% nitrocellulóz-tartalommal (gőznyomás 50 °C-on nagyobb mint 110 kPa)   |
| LGBF                            |                      | FL                              | 2 (B)  |  |  |  | S2<br>S14                                  | 33                     | 2059    | GYÚLÉKONY NITROCELLULÓZ OLDAT a száraz tömegre vetítve legfeljebb 12,6% nitrogéntartalommal és legfeljebb 55% nitrocellulóz-tartalommal (gőznyomás 50 °C-on legfeljebb 110 kPa)   |
| LGBF                            |                      | FL                              | 3 (B)  |  |  |  | S2<br>S14                                  | 30                     | 2059    | GYÚLÉKONY NITROCELLULÓZ OLDAT a száraz tömegre vetítve legfeljebb 12,6% nitrogéntartalommal és legfeljebb 55% nitrocellulóz-tartalommal   |
| SGAV                            | TU3                  | AT                              | 3 (E)  |  | VV8  | CV24   | S23  | 50                     | 2067    | AMMÓNIUM-NITRÁT ALAPÚ MŰTRÁGYA  |
| Nem tartozik az ADR hatálya alá |                      |                                 |  |  |  |  |  |                        | 2071    | AMMÓNIUM-NITRÁT ALAPÚ MŰTRÁGYA, amely nitrogén/ foszfát, nitrogén/kálsó vagy nitrogén/ foszfát/kálsó típusú műtrágya egynemű keveréke legfeljebb 70% ammónium-nitrát tartalommal és legfeljebb 0,4% összes éghető anyag tartalommal (beleértve bármilyen szerves anyagot szénegyenértékre átszámítva) vagy legfeljebb 45% ammónium-nitrát tartalommal és korlátlan éghető anyag tartalommal |
| P*BN(M)                         | TA4<br>TT9           | AT                              | 3 (E)  |  |  | CV9<br>CV10  |  | 20                     | 2073    | AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 35%-nál több, de legfeljebb 50% ammóniatartalommal   |
| L4BH<br>SGAH                    | TU15<br>TE19         | AT                              | 2 (E)  |  | VV9  | CV13<br>CV28   | S9   | 60                     | 2074    | SZILÁRD AKRILAMID   |
| L4BH                            | TU15<br>TE19         | AT                              | 2 (D/E)  |  |  | CV13<br>CV28   | S9<br>S19                                  | 69                     | 2075    | VÍZMENTES KLORÁL, STABILIZÁLT   |
| L4BH                            | TU15<br>TE19         | AT                              | 2 (D/E)  |  |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 2076    | FOLYÉKONY KREZOLOK  |
| L4BH<br>SGAH                    | TU15<br>TE19         | AT                              | 2 (E)  |  | VV9  | CV13<br>CV28   | S9   | 60                     | 2077    | alfa-NAFTIL-AMIN  |
| L4BH                            | TU15<br>TE19         | AT                              | 2 (D/E)  |  |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2078    | TOLUILÉN-DIIZOCIANÁT  |
| L4BN                            |                      | AT                              | 2 (E)  |  |  |  |  | 80                     | 2079    | DIETILÉN-TRIAMIN  |
| A szállításból ki van zárva     |                      |                                 |  |  |  |  |  |                        | 2186    | HIDROGÉN-KLORID, MÉLYHŰTÖTT CSEPPFOLYÓSÍTOTT  |
| R*BN                            | TU19<br>TA4<br>TT9   | AT                              | 3 (C/E)  | V5   |  | CV9<br>CV11<br>CV36                                    | S20  | 22                     | 2187    | SZÉN-DIOXID, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT   |

| UN<br>szám | 3.1.2  | Osztály<br>2.2 | Oszta-<br>lyozási<br>kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Bárcák<br>5.2.2  | Külön-<br>leges<br>előírá-<br>sok<br>3.3 | Korlátozott és<br>engedményes<br>mennyiség<br>3.4.6 3.5.1.2 |      | Csomagolóeszköz                         |  |  | Mobil tartány és<br>ömlesztettáru-<br>konténer<br>4.2.5.2,<br>7.3.2 |             | Különleges<br>előírások<br>4.2.5.3 |
|------------|--|----------------|---------------------------------|--|------------------|--|---|------|---|--|--|---|-------------|------------------------------------|
|            |  |                |                                 |  |                  |  |   |      | Csoma-<br>golási<br>utasítások<br>4.1.4 | Különle-<br>ges cso-<br>magolási<br>előírások<br>4.1.4 | Egybe-<br>csmago-<br>lási<br>előírások<br>4.1.10 |   |             |                                    |
| (1)        | (2)  | (3a)           | (3b)                            | (4)                                    | (5)              | (6)                                      | (7a)  | (7b) | (8)                                     | (9a)   | (9b)   | (10)  | (11)        |                                    |
| 2188       | ARZIN  | 2              | 2TF                             |  | 2.3 +<br>2.1     |  | LQ0   | E0   | P200                                    |  | MP9  |   |             |                                    |
| 2189       | DIKLÓR-SZILÁN                                    | 2              | 2TFC                            |  | 2.3 +<br>2.1 + 8 |  | LQ0   | E0   | P200                                    |  | MP9  | (M)   |             |                                    |
| 2190       | OXIGÉN-DIFLUORID, SŰRÍTETT                       | 2              | 1TOC                            |  | 2.3 +<br>5.1 + 8 |  | LQ0   | E0   | P200                                    |  | MP9  |   |             |                                    |
| 2191       | SZULFURIL-FLUORID                                | 2              | 2T                              |  | 2.3              |  | LQ0   | E0   | P200                                    |  | MP9  | (M)   |             |                                    |
| 2192       | GERMÁN   | 2              | 2TF                             |  | 2.3 +<br>2.1     | 632                                      | LQ0   | E0   | P200                                    |  | MP9  | (M)   |             |                                    |
| 2193       | HEXAFLUOR-ETÁN<br>(R 116 HŰTŐGÁZ)                | 2              | 2A                              |  | 2.2              |  | LQ1   | E1   | P200                                    |  | MP9  | (M)   |             |                                    |
| 2194       | SZELÉN-HEXAFLUORID                               | 2              | 2TC                             |  | 2.3 + 8          |  | LQ0   | E0   | P200                                    |  | MP9  |   |             |                                    |
| 2195       | TELLUR-HEXAFLUORID                               | 2              | 2TC                             |  | 2.3 + 8          |  | LQ0   | E0   | P200                                    |  | MP9  |   |             |                                    |
| 2196       | VOLFRAM-HEXAFLUORID                              | 2              | 2TC                             |  | 2.3 + 8          |  | LQ0   | E0   | P200                                    |  | MP9  |   |             |                                    |
| 2197       | HIDROGÉN-JODID, VÍZMENTES                        | 2              | 2TC                             |  | 2.3 + 8          |  | LQ0   | E0   | P200                                    |  | MP9  | (M)   |             |                                    |
| 2198       | FOSZFOR-PENTAFLUORID                             | 2              | 2TC                             |  | 2.3 + 8          |  | LQ0   | E0   | P200                                    |  | MP9  |   |             |                                    |
| 2199       | FOSZFIN  | 2              | 2TF                             |  | 2.3 +<br>2.1     | 632                                      | LQ0   | E0   | P200                                    |  | MP9  |   |             |                                    |
| 2200       | PROPADIÉN, STABILIZÁLT                           | 2              | 2F                              |  | 2.1              |  | LQ0   | E0   | P200                                    |  | MP9  | (M)   |             |                                    |
| 2201       | DINITROGÉN-OXID, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT | 2              | 3O                              |  | 2.2 +<br>5.1     |  | LQ0   | E0   | P203                                    |  | MP9  | T75   | TP5<br>TP22 |                                    |
| 2202       | HIDROGÉN-SZELENID, VÍZMENTES                     | 2              | 2TF                             |  | 2.3 +<br>2.1     |  | LQ0   | E0   | P200                                    |  | MP9  |   |             |                                    |
| 2203       | SZILÍCIUM-HIDROGÉN (SZILÁN)                      | 2              | 2F                              |  | 2.1              | 632                                      | LQ0   | E0   | P200                                    |  | MP9  | (M)   |             |                                    |
| 2204       | KARBONIL-SZULFID                                 | 2              | 2TF                             |  | 2.3 +<br>2.1     |  | LQ0   | E0   | P200                                    |  | MP9  | (M)   |             |                                    |
| 2205       | ADIPONITRIL                                      | 6.1            | T1                              | III                                    | 6.1              |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19   | T3  | TP1         |                                    |

| ADR-tartály |                           | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                             |
|-------------|---------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánykód  | Különleges előírások      |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4              | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                      | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |                           |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  |                        | 2188    | ARZIN  |
| P*BH(M)     | TA4<br>TT9                | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 2189    | DIKLÓR-SZILÁN                                    |
|             |                           |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  |                        | 2190    | OXIGÉN-DIFLUORID, SÚRÍTETT                       |
| P*BH(M)     | TA4<br>TT9                | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 26                     | 2191    | SZULFURIL-FLUORID                                |
|             |                           | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 2192    | GERMÁN   |
| P*BN(M)     | TA4<br>TT9                | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 2193    | HEXAFLUOR-ETÁN<br>(R 116 HÚTÓGÁZ)                |
|             |                           |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  |                        | 2194    | SZELÉN-HEXAFLUORID                               |
|             |                           |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  |                        | 2195    | TELLUR-HEXAFLUORID                               |
|             |                           |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  |                        | 2196    | VOLFRAM-HEXAFLUORID                              |
| P*BH(M)     | TA4<br>TT9                | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                    | 2197    | HIDROGÉN-JODID, VÍZMENTES                        |
|             |                           |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  |                        | 2198    | FOSZFOR-PENTAFLUORID                             |
|             |                           |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  |                        | 2199    | FOSZFIN  |
| P*BN(M)     | TA4<br>TT9                | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 239                    | 2200    | PROPADIÉN, STABILIZÁLT                           |
| R*BN        | TU7<br>TU19<br>TA4<br>TT9 | AT                             | 3<br>(C/E)   | V5  |  | CV9<br>CV11<br>CV36                                    | S20  | 225                    | 2201    | DINITROGÉN-OXID, MÉLYHÚTÓTT,<br>CSEPPFOLYÓSÍTOTT |
|             |                           |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  |                        | 2202    | HIDROGÉN-SZELENID, VÍZMENTES                     |
| P*BN(M)     | TA4<br>TT9                | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 2203    | SZILÍCIUM-HIDROGÉN (SZILÁN)                      |
| P*BH(M)     | TA4<br>TT9                | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 2204    | KARBONIL-SZULFID                                 |
| L4BH        | TU15<br>TE19              | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2205    | ADIPONITRIL                                      |

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport     | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|---|---------|--------------------------|---------------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------|
|            |   |         |                          |                                 |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                         | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                             | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 2206       | MÉRGEZŐ IZOCIANÁTOK, M.N.N.<br>vagy<br>MÉRGEZŐ IZOCIANÁT OLDAT,<br>M.N.N.                       | 6.1     | T1                       | II                              | 6.1          | 274<br>551                        | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27 |
| 2206       | MÉRGEZŐ IZOCIANÁTOK, M.N.N.<br>vagy<br>MÉRGEZŐ IZOCIANÁT OLDAT,<br>M.N.N.                       | 6.1     | T1                       | III                             | 6.1          | 274<br>551                        | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28 |
| 2208       | SZÁRAZ KALCIUM-HIPOKLORIT<br>KEVERÉK 10%-nál több, de legfeljebb<br>39% szabad klórtartalommal  | 5.1     | O2                       | III                             | 5.1          | 313<br>314                        | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3<br>B13                                     | MP10                                    |  |             |
| 2209       | FORMALDEHID OLDAT<br>legalább 25% formaldehidtartalommal  | 8       | C9                       | III                             | 8            | 533                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 2210       | MANEB vagy MANEB KÉSZÍTMÉNY<br>legalább 60% manebtartalommal                                    | 4.2     | SW                       | III                             | 4.2 +<br>4.3 | 273                               | LQ0                                       | E1      | P002<br>IBC06<br>R001          |   | MP14                                    | T1   | TP33        |
| 2211       | HABOSÍTHATÓ POLIMER<br>GYÖNGYÖK, amelyek gyúlékony<br>gőzöket fejlesztenek                      | 9       | M3                       | III                             | —            | 207<br>633                        | LQ27                                      | E1      | P002<br>IBC08<br>R001          | PP14<br>B3 B6                                 | MP10                                    | T1   | TP33        |
| 2212       | KÉK AZBESZT (krokidolit) vagy<br>BARNÁ AZBESZT (amozit)   | 9       | M1                       | II                              | 9            | 168                               | LQ25                                      | E2      | P002<br>IBC08                  | PP37<br>B4                                    | MP10                                    | T3   | TP33        |
| 2213       | PARAFORMALDEHID   | 4.1     | F1                       | III                             | 4.1          |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | PP12<br>B3                                    | MP10                                    | T1<br>BK1<br>BK2                               | TP33        |
| 2214       | FTÁLSAVANHIDRID 0,05%-nál több<br>maleinsavanhidrid- tartalommal                                | 8       | C4                       | III                             | 8            | 169                               | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2215       | MALEINSAVANHIDRID,<br>OLVASZTOTT  | 8       | C3                       | III                             | 8            |                                   | LQ0                                       | E0      |                                |   |   | T4   | TP3         |
| 2215       | MALEINSAVANHIDRID   | 8       | C4                       | III                             | 8            |                                   | LQ24                                      | E1      | P002<br>IBC08<br>R001          | B3  | MP10                                    | T1   | TP33        |
| 2216       | HALLISZT (HALHULLADÉK),<br>STABILIZÁLT  | 9       | M11                      | Nem tartozik az ADR hatálya alá |              |                                   |   |         |                                |   |   |  |             |
| 2217       | OLAJPOGÁCSA<br>legfeljebb 1,5 tömeg% olaj- és<br>legfeljebb 11 tömeg% nedvesség-<br>tartalommal | 4.2     | S2                       | III                             | 4.2          | 142                               | LQ0                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | PP20<br>B3 B6                                 | MP14                                    |  |             |
| 2218       | AKRILSAV, STABILIZÁLT   | 8       | CF1                      | II                              | 8 + 3        |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 2219       | ALLIL-GLICIDIL-ÉTER   | 3       | F1                       | III                             | 3            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1         |
| 2222       | ANIZOL (fenil-metil-éter)   | 3       | F1                       | III                             | 3            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1         |



| ADR-tartály                     |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|---------------------------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód                      | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                             | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                            | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH                            | TU15<br>TE19         | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2206    | MÉRGEZŐ IZOCIANÁTOK, M.N.N.<br>vagy<br>MÉRGEZŐ IZOCIANÁT OLDAT,<br>M.N.N.                       |
| L4BH                            | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2206    | MÉRGEZŐ IZOCIANÁTOK, M.N.N.<br>vagy<br>MÉRGEZŐ IZOCIANÁT OLDAT,<br>M.N.N.                       |
| SGAN                            | TU3                  | AT                             | 3<br>(E)   |   |  | CV24<br>CV35   |  | 50                     | 2208    | SZÁRAZ KALCIUM-HIPOKLORIT<br>KEVERÉK 10%-nál több, de legfeljebb<br>39% szabad klórtartalommal  |
| L4BN                            |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2209    | FORMALDEHID OLDAT<br>legalább 25% formaldehydtartalommal  |
| SGAN                            |                      | AT                             | 3<br>(E)   | V1<br>V12                                 | VV4  |  |  | 40                     | 2210    | MANEB vagy MANEB KÉSZÍTMÉNY<br>legalább 60% manebtartalommal                                    |
| SGAN                            | TE20                 | AT                             | 3<br>(D/E)   |   | VV3  |  |  | 90                     | 2211    | HABOSÍTHATÓ POLIMER<br>GYÖNGYÖK, amelyek gyúlékony<br>gőzöket fejlesztenek                      |
| SGAH                            | TU15                 | AT                             | 2<br>(E)   | V11                                       |  | CV1<br>CV13<br>CV28                                    | S19  | 90                     | 2212    | KÉK AZBESZT (krokidolit) vagy<br>BARNA AZBESZT (amozit)   |
| SGAV                            |                      | AT                             | 3<br>(E)   | V13                                       | VV1  |  |  | 40                     | 2213    | PARAFORMALDEHID   |
| L4BN<br>SGAV                    |                      | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 2214    | FTÁLSAVANHIDRID 0,05%-nál több<br>maleinsavanhidrid- tartalommal                                |
| L4BN                            |                      | AT                             | 0<br>(E)   |   |  |  |  | 80                     | 2215    | MALEINSAVANHIDRID,<br>OLVASZTOTT  |
| SGAV                            |                      | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 2215    | MALEINSAVANHIDRID   |
| Nem tartozik az ADR hatálya alá |                      |                                |  |   |  |  |  |                        | 2216    | HALLISZT (HALHULLADÉK),<br>STABILIZÁLT  |
|                                 |                      |                                | 3<br>(E)   | V1  | VV4  |  |  | 40                     | 2217    | OLAJPOGÁCSA<br>legfeljebb 1,5 tömeg% olaj- és<br>legfeljebb 11 tömeg% nedvesség-<br>tartalommal |
| L4BN                            |                      | FL                             | 2<br>(D/E)   |   |  |  | S2   | 839                    | 2218    | AKRILSAV, STABILIZÁLT   |
| LGBF                            |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2219    | ALLIL-GLICIDIL-ÉTER   |
| LGBF                            |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2222    | ANIZOL (fenil-metil-éter)   |

| UN<br>szám |  | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák | Különleges<br>előírások | Korlátozott és<br>engedélyezett<br>mennyiség |         | Csomagolóeszköz               |  |                                    | Mobil tartály és<br>ömlesztartály-<br>konténer |         |
|------------|--|---------|---------------------|------------------------|--------|-------------------------|--|---------|-------------------------------|--|------------------------------------|--|---------|
|            |  |         |                     |                        |        |                         |  |         | Csomagolási<br>utasítások     | Különleges<br>csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2  | 3.3                     | 3.4.6  | 3.5.1.2 | 4.1.4                         | 4.1.4                                  | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                | (4)                    | (5)    | (6)                     | (7a)   | (7b)    | (8)                           | (9a)                                   | (9b)                               | (10)   | (11)    |
| 2224       | BENZONITRIL                                  | 6.1     | T1                  | II                     | 6.1    |                         | LQ17   | E4      | P001<br>IBC02                 |  | MP15                               | T7   | TP2     |
| 2225       | BENZOL-SZULFONIL-KLORID                      | 8       | C3                  | III                    | 8      |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T4   | TP1     |
| 2226       | BENZO-TRIKLORID<br>((triklór-metil)-benzol)  | 8       | C9                  | II                     | 8      |                         | LQ22   | E2      | P001<br>IBC02                 |  | MP15                               | T7   | TP2     |
| 2227       | n-BUTIL-METAKRILÁT,<br>STABILIZÁLT           | 3       | F1                  | III                    | 3      |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1     |
| 2232       | 2-KLÓR-ACETALDEHID                           | 6.1     | T1                  | I                      | 6.1    |                         | LQ0  | E5      | P001                          |  | MP8<br>MP17                        | T14  | TP2     |
| 2233       | KLÓR-ANIZIDINEK                              | 6.1     | T2                  | III                    | 6.1    |                         | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                     | MP10                               | T1   | TP33    |
| 2234       | KLÓR-BENZO-TRIFLUORIDOK                      | 3       | F1                  | III                    | 3      |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1     |
| 2235       | FOLYÉKONY KLÓR-BENZIL-<br>KLORIDOK           | 6.1     | T1                  | III                    | 6.1    |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T4   | TP1     |
| 2236       | FOLYÉKONY 3-KLÓR-4-METIL-<br>FENIL-IZOCIANÁT | 6.1     | T1                  | II                     | 6.1    |                         | LQ17   | E4      | P001<br>IBC02                 |  | MP15                               |  |         |
| 2237       | KLÓR-NITRO-ANILINEK                          | 6.1     | T2                  | III                    | 6.1    |                         | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                     | MP10                               | T1   | TP33    |
| 2238       | KLÓR-TOLUOLOK                                | 3       | F1                  | III                    | 3      |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1     |
| 2239       | SZILÁRD KLÓR-TOLUIDINEK                      | 6.1     | T2                  | III                    | 6.1    |                         | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                     | MP10                               | T1   | TP33    |
| 2240       | KRÓMKÉNSAV                                   | 8       | C1                  | I                      | 8      |                         | LQ0  | E0      | P001                          |  | MP8<br>MP17                        | T10  | TP2     |
| 2241       | CIKLOHEPTÁN                                  | 3       | F1                  | II                     | 3      |                         | LQ4  | E2      | P001<br>IBC02<br>R001         |  | MP19                               | T4   | TP1     |
| 2242       | CIKLOHEPTÉN                                  | 3       | F1                  | II                     | 3      |                         | LQ4  | E2      | P001<br>IBC02<br>R001         |  | MP19                               | T4   | TP1     |
| 2243       | CIKLOHEXIL-ACETÁT                            | 3       | F1                  | III                    | 3      |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1     |

| ADR-tartály  |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                         |
|--------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánykód   | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)         | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2224    | BENZONITRIL                                  |
| L4BN         |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2225    | BENZOL-SZULFONIL-KLORID                      |
| L4BN         |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2226    | BENZO-TRIKLORID<br>((triklór-metil)-benzol)  |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 39                     | 2227    | n-BUTIL-METAKRILÁT,<br>STABILIZÁLT           |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2232    | 2-KLÓR-ACETALDEHID                           |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2233    | KLÓR-ANIZIDINEK                              |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2234    | KLÓR-BENZO-TRIFLUORIDOK                      |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2235    | FOLYÉKONY KLÓR-BENZIL-<br>KLORIDOK           |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2236    | FOLYÉKONY 3-KLÓR-4-METIL-<br>FENIL-IZOCIANÁT |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2237    | KLÓR-NITRO-ANILINEK                          |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2238    | KLÓR-TOLUOLOK                                |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2239    | SZILÁRD KLÓR-TOLUIDINEK                      |
| L10BH        |                              | AT                             | 1<br>(E)   |   |  |  | S20  | 88                     | 2240    | KRÓMKÉNSAV                                   |
| LGBF         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2241    | CIKLOHEPTÁN                                  |
| LGBF         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2242    | CIKLOHEPTÉN                                  |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2243    | CIKLOHEXIL-ACETÁT                            |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |             |
|------------|--|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------|
|            |  |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 2244       | CIKLOPENTANOL  | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1         |
| 2245       | CIKLOPENTANON  | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1         |
| 2246       | CIKLOPENTÉN  | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02                  | B8  | MP19                                    | T7   | TP2         |
| 2247       | n-DEKÁN  | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1         |
| 2248       | DI-n-BUTIL-AMIN  | 8       | CF1                      | II                          | 8 + 3  |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 2249       | DIKLÓR-DIMETIL-ÉTER,<br>SZIMMETRIKUS   | 6.1     | TF1                      | A szállításból ki van zárva |        |                                   |  |         |                                |   |   |  |             |
| 2250       | DIKLÓR-FENIL-IZOCIANÁTOK   | 6.1     | T2                       | II                          | 6.1    |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 2251       | BICIKLO-[2.2.1]-HEPTA-2,5-DIÉN,<br>STABILIZÁLT<br>(2,5-NORBORNADIÉN,<br>STABILIZÁLT) | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP2         |
| 2252       | 1,2-DIMETOXI-ETÁN  | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1         |
| 2253       | N,N-DIMETIL-ANILIN   | 6.1     | T1                       | II                          | 6.1    |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 2254       | VIHARGYUFA   | 4.1     | F1                       | III                         | 4.1    | 293                               | LQ9  | E1      | P407<br>R001                   |   | MP11                                    |  |             |
| 2256       | CIKLOHEXÉN   | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1         |
| 2257       | KÁLIUM   | 4.3     | W2                       | I                           | 4.3    |                                   | LQ0  | E0      | P403<br>IBC04                  |   | MP2                                     | T9   | TP7<br>TP33 |
| 2258       | 1,2-PROPILÉN-DIAMIN  | 8       | CF1                      | II                          | 8 + 3  |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 2259       | TRIETILÉN-TETRAMIN   | 8       | C7                       | II                          | 8      |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 2260       | TRIPROPIL-AMIN   | 3       | FC                       | III                         | 3 + 8  |                                   | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1         |
| 2261       | SZILÁRD XILENOLOK  | 6.1     | T2                       | II                          | 6.1    |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 2262       | N,N-DIMETIL-KARBAMOIL-KLORID   | 8       | C3                       | II                          | 8      |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 2263       | DIMETIL-CIKLOHEXÁNOK   | 3       | F1                       | II                          | 3      |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1         |
| 2264       | N,N-DIMETIL-CIKLOHEXIL-AMIN  | 8       | CF1                      | II                          | 8 + 3  |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 2265       | N,N-DIMETIL-FORMAMID   | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP2         |

| ADR-tartály                 |                          | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-----------------------------|--------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód                  | Különleges előírások     |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                         | 4.3.5, 6.8.4             | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                        | (13)                     | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| LGBF                        |                          | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2244    | CIKLOPENTANOL   |
| LGBF                        |                          | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2245    | CIKLOPENTANON   |
| L1.5BN                      |                          | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2246    | CIKLOPENTÉN   |
| LGBF                        |                          | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2247    | n-DEKÁN   |
| L4BN                        |                          | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 2248    | DI-n-BUTIL-AMIN   |
| A szállításból ki van zárva |                          |                                |  |   |  |  |  |                        | 2249    | DIKLÓR-DIMETIL-ÉTER, SZIMMETRIKUS   |
| L4BH<br>SGAH                | TU15<br>TE19             | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2250    | DIKLÓR-FENIL-IZOCIANÁTOK  |
| LGBF                        |                          | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 2251    | BICIKLO-[2.2.1]-HEPTA-2,5-DIÉN, STABILIZÁLT (2,5-NORBORNADIÉN, STABILIZÁLT) |
| LGBF                        |                          | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2252    | 1,2-DIMETOXI-ETÁN   |
| L4BH                        | TU15<br>TE19             | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2253    | N,N-DIMETIL-ANILIN  |
|                             |                          |                                | 4<br>(E)   |   |  |  |  |                        | 2254    | VIHARGYUFA  |
| LGBF                        |                          | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2256    | CIKLOHEXÉN  |
| L10BN(+)                    | TU1<br>TE5<br>TT3<br>TM2 | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X423                   | 2257    | KÁLIUM  |
| L4BN                        |                          | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 2258    | 1,2-PROPILÉN-DIAMIN   |
| L4BN                        |                          | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2259    | TRIETILÉN-TETRAMIN  |
| L4BN                        |                          | FL                             | 3<br>(D/E)   |   |  |  | S2   | 38                     | 2260    | TRIPROPIL-AMIN  |
| L4BH<br>SGAH                | TU15<br>TE19             | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2261    | SZILÁRD XILENOLOK   |
| L4BN                        |                          | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2262    | N,N-DIMETIL-KARBAMOIL-KLORID  |
| LGBF                        |                          | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2263    | DIMETIL-CIKLOHEXÁNOK  |
| L4BN                        |                          | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 2264    | N,N-DIMETIL-CIKLOHEXIL-AMIN   |
| LGBF                        |                          | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2265    | N,N-DIMETIL-FORMAMID  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |  | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|--|--|---------|
|            |   |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csmago-<br>lási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                 | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                   | (10)   | (11)    |
| 2266       | N,N-DIMETIL-PROPIL-AMIN   | 3       | FC                       | II                          | 3 + 8   |                                   | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                   | T7   | TP2     |
| 2267       | DIMETIL-TIOFOSZFORIL-KLORID   | 6.1     | TC1                      | II                          | 6.1 + 8 |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                   | T7   | TP2     |
| 2269       | 3,3'-IMINO-BISZPROPIL-AMIN  | 8       | C7                       | III                         | 8       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T4   | TP2     |
| 2270       | ETIL-AMIN VIZES OLDAT<br>legalább 50 tömeg%, de legfeljebb<br>70 tömeg% etil-amin tartalommal | 3       | FC                       | II                          | 3 + 8   |                                   | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                   | T7   | TP1     |
| 2271       | ETIL-AMIL-KETON   | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T2   | TP1     |
| 2272       | N-ETIL-ANILIN   | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T4   | TP1     |
| 2273       | 2-ETIL-ANILIN   | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T4   | TP1     |
| 2274       | N-ETIL-N-BENZIL-ANILIN  | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T4   | TP1     |
| 2275       | 2-ETIL-BUTANOL  | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T2   | TP1     |
| 2276       | 2-ETIL-HEXIL-AMIN   | 3       | FC                       | III                         | 3 + 8   |                                   | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                   | T4   | TP1     |
| 2277       | ETIL-METAKRILÁT, STABILIZÁLT  | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                   | T4   | TP1     |
| 2278       | n-HEPTÉN  | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                   | T4   | TP1     |
| 2279       | HEXAKLÓR-BUTADIÉN   | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T4   | TP1     |
| 2280       | SZILÁRD HEXAMETILÉN-DIAMIN  | 8       | C8                       | III                         | 8       |                                   | LQ24                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                   | T1   | TP33    |
| 2281       | HEXAMETILÉN-DIIZOCIANÁT   | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                   | T7   | TP2     |
| 2282       | HEXANOLOK   | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T2   | TP1     |

| ADR-tartály  |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód   | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH         |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 2266    | N,N-DIMETIL-PROPIL-AMIN   |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 2267    | DIMETIL-TIOFOSZFORIL-KLORID   |
| L4BN         |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2269    | 3,3'-IMINO-BISZPROPIL-AMIN  |
| L4BH         |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 2270    | ETIL-AMIN VIZES OLDAT<br>legalább 50 tömeg%, de legfeljebb<br>70 tömeg% etil-amin tartalommal |
| LGBF         |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2271    | ETIL-AMIL-KETON   |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2272    | N-ETIL-ANILIN   |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2273    | 2-ETIL-ANILIN   |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2274    | N-ETIL-N-BENZIL-ANILIN  |
| LGBF         |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2275    | 2-ETIL-BUTANOL  |
| L4BN         |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 38                     | 2276    | 2-ETIL-HEXIL-AMIN   |
| LGBF         |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 2277    | ETIL-METAKRILÁT, STABILIZÁLT  |
| LGBF         |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2278    | n-HEPTÉN  |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2279    | HEXAKLÓR-BUTADIÉN   |
| L4BN<br>SGAV |                      | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 2280    | SZILÁRD HEXAMETILÉN-DIAMIN  |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2281    | HEXAMETILÉN-DIIZOCIANÁT   |
| LGBF         |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2282    | HEXANOLOK   |

| UN<br>szám |                                     | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák  | Különleges<br>előírások | Korlátozott és<br>engedélyezett<br>mennyiség |         | Csomagolóeszköz               |  |                                    | Mobil tartály és<br>ömlesztartály-<br>konténer |         |
|------------|-------------------------------------|---------|---------------------|------------------------|---------|-------------------------|--|---------|-------------------------------|--|------------------------------------|--|---------|
|            |                                     |         |                     |                        |         |                         |  |         | Csomagolási<br>utasítások     | Különleges<br>csomagolási<br>előírások | Egyéb-<br>csomagolási<br>előírások |  |         |
|            | 3.1.2                               | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2   | 3.3                     | 3.4.6  | 3.5.1.2 | 4.1.4                         | 4.1.4                                  | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)                                 | (3a)    | (3b)                | (4)                    | (5)     | (6)                     | (7a)   | (7b)    | (8)                           | (9a)                                   | (9b)                               | (10)   | (11)    |
| 2283       | IZOBUTIL-METAKRILÁT,<br>STABILIZÁLT | 3       | F1                  | III                    | 3       |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1     |
| 2284       | IZOBUTIRONITRIL                     | 3       | FT1                 | II                     | 3 + 6.1 |                         | LQ0  | E2      | P001<br>IBC02                 |  | MP19                               | T7   | TP2     |
| 2285       | IZOCIANÁTO-BENZO-<br>TRIFLUORIDOK   | 6.1     | TF1                 | II                     | 6.1 + 3 |                         | LQ17   | E4      | P001<br>IBC02                 |  | MP15                               | T7   | TP2     |
| 2286       | PENTAMETIL-HEPTÁN (izododekán)      | 3       | F1                  | III                    | 3       |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1     |
| 2287       | IZOHEPTÉNEK                         | 3       | F1                  | II                     | 3       |                         | LQ4  | E2      | P001<br>IBC02<br>R001         |  | MP19                               | T4   | TP1     |
| 2288       | IZOHEXÉNEK                          | 3       | F1                  | II                     | 3       |                         | LQ4  | E2      | P001<br>IBC02<br>R001         | B8                                     | MP19                               | T11  | TP1     |
| 2289       | IZOFORON-DIAMIN                     | 8       | C7                  | III                    | 8       |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T4   | TP1     |
| 2290       | IZOFORON-DIIZOCIANÁT                | 6.1     | T1                  | III                    | 6.1     |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T4   | TP2     |
| 2291       | OLDHATÓ ÓLOMVEGYÜLET,<br>M.N.N.     | 6.1     | T5                  | III                    | 6.1     | 199<br>274<br>535       | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                     | MP10                               | T1   | TP33    |
| 2293       | 4-METOXI-4-METIL- -2-PENTANON       | 3       | F1                  | III                    | 3       |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1     |
| 2294       | N-METIL-ANILIN                      | 6.1     | T1                  | III                    | 6.1     |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T4   | TP1     |
| 2295       | METIL-KLÓR-ACETÁT                   | 6.1     | TF1                 | I                      | 6.1 + 3 |                         | LQ0  | E5      | P001                          |  | MP8<br>MP17                        | T14  | TP2     |
| 2296       | METIL-CIKLOHEXÁN                    | 3       | F1                  | II                     | 3       |                         | LQ4  | E2      | P001<br>IBC02<br>R001         |  | MP19                               | T4   | TP1     |
| 2297       | METIL-CIKLOHEXANON                  | 3       | F1                  | III                    | 3       |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1     |
| 2298       | METIL-CIKLOPENTÁN                   | 3       | F1                  | II                     | 3       |                         | LQ4  | E2      | P001<br>IBC02<br>R001         |  | MP19                               | T4   | TP1     |
| 2299       | METIL-DIKLÓR-ACETÁT                 | 6.1     | T1                  | III                    | 6.1     |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T4   | TP1     |



| ADR-tartály  |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás             |
|--------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|----------------------------------|
| Tartánykód   | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |                                  |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                            |
| (12)         | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                              |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 39                     | 2283    | IZOBUTIL-METAKRILÁT, STABILIZÁLT |
| L4BH         | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2284    | IZOBUTIRONITRIL                  |
| L4BH         | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 2285    | IZOCIANÁTO-BENZO-TRIFLUORIDOK    |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2286    | PENTAMETIL-HEPTÁN (izododekán)   |
| LGBF         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2287    | IZOHEPTÉNEK                      |
| LGBF         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2288    | IZOHEXÉNEK                       |
| L4BN         |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2289    | IZOFORON-DIAMIN                  |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2290    | IZOFORON-DIIZOCIANÁT             |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2291    | OLDHATÓ ÓLOMVEGYÜLET, M.N.N.     |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2293    | 4-METOXI-4-METIL- -2-PENTANON    |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2294    | N-METIL-ANILIN                   |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2295    | METIL-KLÓR-ACETÁT                |
| LGBF         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2296    | METIL-CIKLOHEXÁN                 |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2297    | METIL-CIKLOHEXANON               |
| LGBF         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2298    | METIL-CIKLOPENTÁN                |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2299    | METIL-DIKLÓR-ACETÁT              |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2300       | 2-METIL-5-ETIL-PIRIDIN   | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2301       | 2-METIL-FURÁN  | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2302       | 5-METIL-2-HEXANON  | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2303       | IZOPROPENIL-BENZOL   | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2304       | OLVASZTOTT NAFTALIN  | 4.1     | F2                       | III                         | 4.1     | 536                               | LQ0  | E0      |                                |   |   | T1   | TP3                     |
| 2305       | NITRO-BENZOLSZULFONSAV   | 8       | C4                       | II                          | 8       |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2306       | FOLYÉKONY NITRO-BENZO-<br>TRIFLUORIDOK                                   | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2307       | 3-NITRO-4-KLÓR-BENZO-<br>TRIFLUORID                                      | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP10                                    | T7   | TP2                     |
| 2308       | FOLYÉKONY NITROZILKÉNSAV   | 8       | C1                       | II                          | 8       |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 2309       | OKTADIÉNEK   | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2310       | 2,4-PENTÁNDION (acetyl-aceton)   | 3       | FT1                      | III                         | 3 + 6.1 |                                   | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2311       | FENETIDINEK  | 6.1     | T1                       | III                         | 6.1     | 279                               | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2312       | OLVASZTOTT FENOL   | 6.1     | T1                       | II                          | 6.1     |                                   | LQ0  | E0      |                                |   |   | T7   | TP3                     |
| 2313       | PIKOLINOK (metil-piridinek)  | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2315       | FOLYÉKONY POLIKLÓROZOTT<br>BIFENILEK                                     | 9       | M2                       | II                          | 9       | 305                               | LQ26                                       | E2      | P906<br>IBC02                  |   | MP15                                    | T4   | TP1                     |
| 2316       | SZILÁRD NÁTRIUM-RÉZ(I)-CIANID  | 6.1     | T5                       | I                           | 6.1     |                                   | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 2317       | NÁTRIUM-RÉZ(I)- -CIANID OLDAT  | 6.1     | T4                       | I                           | 6.1     |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 2318       | NÁTRIUM-HIDROGÉN-SZULFID<br>25%-nál kevesebb kristályvíz-<br>tartalommal | 4.2     | S4                       | II                          | 4.2     | 504                               | LQ0  | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33                    |

| ADR-tartály  |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód   | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2300    | 2-METIL-5-ETIL-PIRIDIN  |
| LGBF         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2301    | 2-METIL-FURÁN   |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2302    | 5-METIL-2-HEXANON   |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2303    | IZOPROPENIL-BENZOL  |
| LGBV         | TU27<br>TE4<br>TE6           | AT                             | 3<br>(E)   |   |  |  |  | 44                     | 2304    | OLVASZTOTT NAFTALIN   |
| L4BN<br>SGAN |                              | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 2305    | NITRO-BENZOLSZULFONSAV  |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2306    | FOLYÉKONY NITRO-BENZO-TRIFLUORIDOK                                |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2307    | 3-NITRO-4-KLÓR-BENZO-TRIFLUORID                                   |
| L4BN         |                              | AT                             | 2<br>(E)   |   |  |  |  | X80                    | 2308    | FOLYÉKONY NITROZILKÉNSAV  |
| LGBF         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2309    | OKTADIÉNEK  |
| L4BH         | TU15                         | FL                             | 3<br>(D/E)   |   |  | CV13<br>CV28   | S2   | 36                     | 2310    | 2,4-PENTÁNDION (acetyl-aceton)                                    |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2311    | FENETIDINEK   |
| L4BH         | TU15<br>TE19                 | AT                             | 0<br>(D/E)   |   |  | CV13   | S9<br>S19                                  | 60                     | 2312    | OLVASZTOTT FENOL  |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2313    | PIKOLINOK (metil-piridinek)                                       |
| L4BH         | TU15                         | AT                             | 0<br>(D/E)   |   | VV15   | CV1<br>CV13<br>CV28                                    | S19  | 90                     | 2315    | FOLYÉKONY POLIKLÓROZOTT BIFENILEK                                 |
| S10AH        | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2316    | SZILÁRD NÁTRIUM-RÉZ(I)-CIANID                                     |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2317    | NÁTRIUM-RÉZ(I)-CIANID OLDAT                                       |
| SGAN         |                              | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  |  |  | 40                     | 2318    | NÁTRIUM-HIDROGÉN-SZULFID 25%-nál kevesebb kristályvíz-tartalommal |

| UN<br>szám |                                      | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|--------------------------------------|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------|
|            |                                      |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2                                | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)                                  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 2319       | TERPÉN SZÉNHYDROGÉNEK, M.N.N.        | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1<br>TP29 |
| 2320       | TETRAETILÉN-PENTAMIN                 | 8       | C7                       | III                         | 8       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 2321       | FOLYÉKONY TRIKLÓR-BENZOLOK           | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 2322       | TRIKLÓR-BUTÉN                        | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 2323       | TRITIL-FOSZFIT                       | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1         |
| 2324       | TRIZOBUTILÉN                         | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 2325       | 1,3,5-TRIMETIL-BENZOL (meztitén)     | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1         |
| 2326       | TRIMETIL-CIKLOHEXIL-AMIN             | 8       | C7                       | III                         | 8       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 2327       | TRIMETIL-HEXAMETILÉN-<br>DIAMINOK    | 8       | C7                       | III                         | 8       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 2328       | TRIMETIL-HEXAMETILÉN-<br>DIIZOCIANÁT | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP2         |
| 2329       | TRIMETIL-FOSZFIT                     | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1         |
| 2330       | UNDEKÁN                              | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1         |
| 2331       | VÍZMENTES CINK-KLORID                | 8       | C2                       | III                         | 8       |                                   | LQ24                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2332       | ACETALDEHID-OKIM                     | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 2333       | ALLIL-ACETÁT                         | 3       | FT1                      | II                          | 3 + 6.1 |                                   | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás             |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|----------------------------------|
| Tartánykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |                                  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                            |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                              |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2319    | TERPÉN SZÉNHYDROGÉNEK, M.N.N.    |
| L4BN        |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2320    | TETRAETILÉN-PENTAMIN             |
| L4BH        | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2321    | FOLYÉKONY TRIKLÓR-BENZOLOK       |
| L4BH        | TU15<br>TE19         | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2322    | TRIKLÓR-BUTÉN                    |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2323    | TRIETIL-FOSZFIT                  |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2324    | TRIIZOBUTILÉN                    |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2325    | 1,3,5-TRIMETIL-BENZOL (meztilén) |
| L4BN        |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2326    | TRIMETIL-CIKLOHEXIL-AMIN         |
| L4BN        |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2327    | TRIMETIL-HEXAMETILÉN-DIAMINOK    |
| L4BH        | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2328    | TRIMETIL-HEXAMETILÉN-DIIZOCIANÁT |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2329    | TRIMETIL-FOSZFIT                 |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2330    | UNDEKÁN                          |
| SGAV        |                      | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 2331    | VÍZMENTES CINK-KLORID            |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2332    | ACETALDEHID-OXIM                 |
| L4BH        | TU15                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2333    | ALLIL-ACETÁT                     |

| UN<br>szám |                              | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|------------------------------|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |                              |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2                        | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)                          | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2334       | ALLIL-AMIN                   | 6.1     | TF1                      | I                           | 6.1 + 3 |                                   | LQ0  | E5      | P602                           |   | MP8<br>MP17                             | T20  | TP2<br>TP35             |
| 2335       | ALLIL-ETIL-ÉTER              | 3       | FT1                      | II                          | 3 + 6.1 |                                   | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 2336       | ALLIL-FORMIÁT                | 3       | FT1                      | I                           | 3 + 6.1 |                                   | LQ0  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2                     |
| 2337       | FENIL-MERKAPTÁN (tiofenol)   | 6.1     | TF1                      | I                           | 6.1 + 3 |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T20  | TP2<br>TP35             |
| 2338       | BENZO-TRIFLUORID             | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2339       | 2-BRÓM-BUTÁN                 | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2340       | 2-BRÓM-ETIL-ETIL-ÉTER        | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2341       | 1-BRÓM-3-METIL-BUTÁN         | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2342       | BRÓM-METIL-PROPÁNOK          | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2343       | 2-BRÓM-PENTÁN                | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2344       | BRÓM-PROPÁNOK                | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2344       | BRÓM-PROPÁNOK                | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2345       | 3-BRÓM-PROPIN                | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2346       | BUTÁNDION (diacetil)         | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2347       | BUTIL-MERKAPTÁN              | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2348       | BUTIL-AKRILÁTOK, STABILIZÁLT | 3       | F1                       | III                         | 3       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2350       | BUTIL-METIL-ÉTER             | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2351       | BUTIL-NITRITEK               | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás         |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|------------------------------|
| Tartánycód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |                              |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                        |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                          |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2334    | ALLIL-AMIN                   |
| L4BH        | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2335    | ALLIL-ETIL-ÉTER              |
| L10CH       | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2336    | ALLIL-FORMIÁT                |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2337    | FENIL-MERKAPTÁN (tiofenol)   |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2338    | BENZO-TRIFLUORID             |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2339    | 2-BRÓM-BUTÁN                 |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2340    | 2-BRÓM-ETIL-ETIL-ÉTER        |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2341    | 1-BRÓM-3-METIL-BUTÁN         |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2342    | BRÓM-METIL-PROPÁNOK          |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2343    | 2-BRÓM-PENTÁN                |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2344    | BRÓM-PROPÁNOK                |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2344    | BRÓM-PROPÁNOK                |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2345    | 3-BRÓM-PROPIN                |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2346    | BUTÁNDION (diacetil)         |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2347    | BUTIL-MERKAPTÁN              |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 39                     | 2348    | BUTIL-AKRILÁTOK, STABILIZÁLT |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2350    | BUTIL-METIL-ÉTER             |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2351    | BUTIL-NITRITEK               |

| UN<br>szám |                                  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák            | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|----------------------------------|---------|--------------------------|-----------------------------|-------------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |                                  |         |                          |                             |                   |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2                            | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2             | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)                              | (3a)    | (3b)                     | (4)                         | (5)               | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2351       | BUTIL-NITRITEK                   | 3       | F1                       | III                         | 3                 |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2352       | BUTIL-VINIL-ÉTER, STABILIZÁLT    | 3       | F1                       | II                          | 3                 |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2353       | BUTIRIL-KLORID                   | 3       | FC                       | II                          | 3 + 8             |                                   | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                    | T8   | TP2                     |
| 2354       | KLÓR-METIL-ETIL-ÉTER             | 3       | FT1                      | II                          | 3 + 6.1           |                                   | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 2356       | 2-KLÓR-PROPÁN (izopropil-klorid) | 3       | F1                       | I                           | 3                 |                                   | LQ3  | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2                     |
| 2357       | CIKLOHEXIL-AMIN                  | 8       | CF1                      | II                          | 8 + 3             |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2358       | CIKLOOKTATETRAÉN                 | 3       | F1                       | II                          | 3                 |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2359       | DIALLIL-AMIN                     | 3       | FTC                      | II                          | 3 + 6.1<br>+<br>8 |                                   | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 2360       | DIALLIL-ÉTER                     | 3       | FT1                      | II                          | 3 + 6.1           |                                   | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 2361       | DIIZOBUTIL-AMIN                  | 3       | FC                       | III                         | 3 + 8             |                                   | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2362       | 1,1-DIKLÓR-ETÁN                  | 3       | F1                       | II                          | 3                 |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2363       | ETIL-MERKAPTÁN                   | 3       | F1                       | I                           | 3                 |                                   | LQ3  | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2                     |
| 2364       | n-PROPIL-BENZOL                  | 3       | F1                       | III                         | 3                 |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2366       | DIETIL-KARBONÁT                  | 3       | F1                       | III                         | 3                 |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2367       | alfa-METIL-VALERALDEHID          | 3       | F1                       | II                          | 3                 |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2368       | alfa-PINÉN                       | 3       | F1                       | III                         | 3                 |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2370       | 1-HEXÉN                          | 3       | F1                       | II                          | 3                 |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2371       | IZOPENTÉNEK                      | 3       | F1                       | I                           | 3                 |                                   | LQ3  | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2                     |
| 2372       | 1,2-DI(DIMETIL-AMINO)-ETÁN       | 3       | F1                       | II                          | 3                 |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2373       | DIETOXI-METÁN                    | 3       | F1                       | II                          | 3                 |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |



| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás             |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|----------------------------------|
| Tartánykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |                                  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                            |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                              |
| LGBF        |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 30                     | 2351    | BUTIL-NITRITEK                   |
| LGBF        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 339                    | 2352    | BUTIL-VINIL-ÉTER, STABILIZÁLT    |
| L4BH        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 338                    | 2353    | BUTIRIL-KLORID                   |
| L4BH        | TU15                 | FL                             | 2 (D/E)  |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2354    | KLÓR-METIL-ETIL-ÉTER             |
| L4BN        |                      | FL                             | 1 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 2356    | 2-KLÓR-PROPÁN (izopropil-klorid) |
| L4BN        |                      | FL                             | 2 (D/E)  |   |  |  | S2   | 83                     | 2357    | CIKLOHEXIL-AMIN                  |
| LGBF        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 2358    | CIKLOOKTATETRAÉN                 |
| L4BH        | TU15                 | FL                             | 2 (D/E)  |   |  | CV13<br>CV28   | S2<br>S19                                  | 338                    | 2359    | DIALLIL-AMIN                     |
| L4BH        | TU15                 | FL                             | 2 (D/E)  |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2360    | DIALLIL-ÉTER                     |
| L4BN        |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 38                     | 2361    | DIIZOBUTIL-AMIN                  |
| LGBF        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 2362    | 1,1-DIKLÓR-ETÁN                  |
| L4BN        |                      | FL                             | 1 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 2363    | ETIL-MERKAPTÁN                   |
| LGBF        |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 30                     | 2364    | n-PROPIL-BENZOL                  |
| LGBF        |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 30                     | 2366    | DIETIL-KARBONÁT                  |
| LGBF        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 2367    | alfa-METIL-VALERALDEHID          |
| LGBF        |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 30                     | 2368    | alfa-PINÉN                       |
| LGBF        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 2370    | 1-HEXÉN                          |
| L4BN        |                      | FL                             | 1 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 2371    | IZOPENTÉNEK                      |
| LGBF        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 2372    | 1,2-DI(DIMETIL-AMINO)-ETÁN       |
| LGBF        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 2373    | DIETOXI-METÁN                    |

| UN<br>szám | 3.1.2                             | Osztály<br>2.2 | Oszta-<br>lyozási<br>kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Bárcák<br>5.2.2 | Külön-<br>leges<br>előírá-<br>sok<br>3.3 | Korlátozott és<br>engedményes<br>mennyiség<br>3.4.6 3.5.1.2 |      | Csomagolóeszköz                         |  |   | Mobil tartány és<br>ömlesztettáru-<br>konténer<br>4.2.5.2,<br>7.3.2 |      | Különleges<br>előírások<br>4.2.5.3 |
|------------|-----------------------------------|----------------|---------------------------------|--|-----------------|--|---|------|---|--|---|---|------|------------------------------------|
|            |                                   |                |                                 |  |                 |  |   |      | Csoma-<br>golási<br>utasítások<br>4.1.4 | Különle-<br>ges cso-<br>magolási<br>előírások<br>4.1.4 | Egybe-<br>csomago-<br>lási<br>előírások<br>4.1.10 |   |      |                                    |
| (1)        | (2)                               | (3a)           | (3b)                            | (4)                                    | (5)             | (6)                                      | (7a)  | (7b) | (8)                                     | (9a)   | (9b)  | (10)  | (11) |                                    |
| 2374       | 3,3-DIETOXI-PROPÉN                | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1  |                                    |
| 2375       | DIETIL-SZULFID                    | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T7  | TP1  |                                    |
| 2376       | 2,3-DIHDRO-PIRÁN                  | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1  |                                    |
| 2377       | 1,1-DIMETOXI-ETÁN                 | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T7  | TP1  |                                    |
| 2378       | 2-DIMETIL-AMINO-ACETONITRIL       | 3              | FT1                             | II                                     | 3 + 6.1         |  | LQ0   | E2   | P001<br>IBC02                           |  | MP19  | T7  | TP1  |                                    |
| 2379       | 1,3-DIMETIL-BUTIL-AMIN            | 3              | FC                              | II                                     | 3 + 8           |  | LQ4   | E2   | P001<br>IBC02                           |  | MP19  | T7  | TP1  |                                    |
| 2380       | DIMETIL-DIETOXI-SZILÁN            | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1  |                                    |
| 2381       | DIMETIL-DISZULFID                 | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1  |                                    |
| 2382       | DIMETIL-HIDRAZIN,<br>SZIMMETRIKUS | 6.1            | TF1                             | I                                      | 6.1 + 3         |  | LQ0   | E5   | P001                                    |  | MP8<br>MP17                                       | T14   | TP2  |                                    |
| 2383       | DIPROPIL-AMIN                     | 3              | FC                              | II                                     | 3 + 8           |  | LQ4   | E2   | P001<br>IBC02                           |  | MP19  | T7  | TP1  |                                    |
| 2384       | DI-n-PROPIL-ÉTER                  | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1  |                                    |
| 2385       | ETIL-IZOBUTIRÁT                   | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1  |                                    |
| 2386       | 1-ETIL-PIPERIDIN                  | 3              | FC                              | II                                     | 3 + 8           |  | LQ4   | E2   | P001<br>IBC02                           |  | MP19  | T7  | TP1  |                                    |
| 2387       | FLUOR-BENZOL                      | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1  |                                    |
| 2388       | FLUOR-TOLUOLOK                    | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1  |                                    |
| 2389       | FURÁN                             | 3              | F1                              | I                                      | 3               |  | LQ3   | E3   | P001                                    |  | MP7<br>MP17                                       | T12   | TP2  |                                    |
| 2390       | 2-JÓD-BUTÁN                       | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1  |                                    |
| 2391       | JÓD-METIL-PROPÁNOK                | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1  |                                    |
| 2392       | JÓD-PROPÁNOK                      | 3              | F1                              | III                                    | 3               |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T2  | TP1  |                                    |
| 2393       | IZOBUTIL-FORMIÁT                  | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4  | TP1  |                                    |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás              |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|-----------------------------------|
| Tartálykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |                                   |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                             |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                               |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2374    | 3,3-DIETOXI-PROPÉN                |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2375    | DIETIL-SZULFID                    |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2376    | 2,3-DIHIDRO-PIRÁN                 |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2377    | 1,1-DIMETOXI-ETÁN                 |
| L4BH        | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2378    | 2-DIMETIL-AMINO-ACETONITRIL       |
| L4BH        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 2379    | 1,3-DIMETIL-BUTIL-AMIN            |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2380    | DIMETIL-DIETOXI-SZILÁN            |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2381    | DIMETIL-DISZULFID                 |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2382    | DIMETIL-HIDRAZIN,<br>SZIMMETRIKUS |
| L4BH        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 2383    | DIPROPIL-AMIN                     |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2384    | DI-n-PROPIL-ÉTER                  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2385    | ETIL-IZOBUTIRÁT                   |
| L4BH        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 2386    | 1-ETIL-PIPERIDIN                  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2387    | FLUOR-BENZOL                      |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2388    | FLUOR-TOLUOLOK                    |
| L4BN        |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2389    | FURÁN                             |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2390    | 2-JÓD-BUTÁN                       |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2391    | JÓD-METIL-PROPÁNOK                |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2392    | JÓD-PROPÁNOK                      |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2393    | IZOBUTIL-FORMIÁT                  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|----------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |                |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2                                       | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2394       | IZOBUTIL-PROPIONÁT                          | 3       | F1                       | III                         | 3              |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2395       | IZOBUTIRIL-KLORID                           | 3       | FC                       | II                          | 3 + 8          |                                   | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP2                     |
| 2396       | METAKRILALDEHID, STABILIZÁLT                | 3       | FT1                      | II                          | 3 + 6.1        |                                   | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 2397       | 3-METIL-2-BUTANON                           | 3       | F1                       | II                          | 3              |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2398       | METIL-terc-BUTIL-ÉTER                       | 3       | F1                       | II                          | 3              |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1                     |
| 2399       | 1-METIL-PIPERIDIN                           | 3       | FC                       | II                          | 3 + 8          |                                   | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 2400       | METIL-IZOVALERÁT                            | 3       | F1                       | II                          | 3              |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2401       | PIPERIDIN                                   | 8       | CF1                      | I                           | 8 + 3          |                                   | LQ0  | E0      | P001                           |   | MP8<br>MP17                             | T10  | TP2                     |
| 2402       | PROPÁN-TIOLOK<br>(propil-merkaptánok)       | 3       | F1                       | II                          | 3              |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2403       | IZOPROPENIL-ACETÁT                          | 3       | F1                       | II                          | 3              |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2404       | PROPIONITRIL                                | 3       | FT1                      | II                          | 3 + 6.1        |                                   | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 2405       | IZOPROPIL-BUTIRÁT                           | 3       | F1                       | III                         | 3              |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2406       | IZOPROPIL-IZOBUTIRÁT                        | 3       | F1                       | II                          | 3              |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2407       | IZOPROPIL-KLÓR-FORMIÁT                      | 6.1     | TFC                      | I                           | 6.1 + 3<br>+ 8 |                                   | LQ0  | E5      | P602                           |   | MP8<br>MP17                             |  |                         |
| 2409       | IZOPROPIL-PROPIONÁT                         | 3       | F1                       | II                          | 3              |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2410       | 1,2,3,6-TETRAHIDRO-PIRIDIN                  | 3       | F1                       | II                          | 3              |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2411       | BUTIRONITRIL                                | 3       | FT1                      | II                          | 3 + 6.1        |                                   | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 2412       | TETRAHIDRO-TIOFÉN<br>(tetrametilén-szulfid) | 3       | F1                       | II                          | 3              |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2413       | TETRAPROPIL-ORTOTITANÁT                     | 3       | F1                       | III                         | 3              |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2414       | TIOFÉN                                      | 3       | F1                       | II                          | 3              |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                        |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                                       |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2394    | IZOBUTIL-PROPIONÁT                          |
| L4BH        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 2395    | IZOBUTIRIL-KLORID                           |
| L4BH        | TU15                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2396    | METAKRILALDEHID, STABILIZÁLT                |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2397    | 3-METIL-2-BUTANON                           |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2398    | METIL-terc-BUTIL-ÉTER                       |
| L4BH        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 2399    | 1-METIL-PIPERIDIN                           |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2400    | METIL-IZOVALERÁT                            |
| L10BH       |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S14                                  | 883                    | 2401    | PIPERIDIN                                   |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2402    | PROPÁN-TIOLOK<br>(propil-merkaptánok)       |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2403    | IZOPROPENIL-ACETÁT                          |
| L4BH        | TU15                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2404    | PROPIONITRIL                                |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2405    | IZOPROPIL-BUTIRÁT                           |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2406    | IZOPROPIL-IZOBUTIRÁT                        |
|             |                      |                                | 1<br>(D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            |                        | 2407    | IZOPROPIL-KLÓR-FORMIÁT                      |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2409    | IZOPROPIL-PROPIONÁT                         |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2410    | 1,2,3,6-TETRAHIDRO-PIRIDIN                  |
| L4BH        | TU15                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2411    | BUTIRONITRIL                                |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2412    | TETRAHIDRO-TIOFÉN<br>(tetrametilén-szulfid) |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2413    | TETRAPROPIL-ORTOTITANÁT                     |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2414    | TIOFÉN                                      |

| UN<br>szám | 3.1.2   | Osztály<br>2.2 | Oszta-<br>lyozási<br>kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Bárcák<br>5.2.2 | Külön-<br>leges<br>előírá-<br>sok<br>3.3 | Korlátozott és<br>engedményes<br>mennyiség<br>3.4.6 3.5.1.2 |      | Csomagolóeszköz                         |  |   | Mobil tartány és<br>ömlesztettáru-<br>konténer<br>4.2.5.2,<br>7.3.2 |                     | Különleges<br>előírások<br>4.2.5.3 |
|------------|---|----------------|---------------------------------|--|-----------------|--|---|------|---|--|---|---|---------------------|------------------------------------|
|            |   |                |                                 |  |                 |  |   |      | Csoma-<br>golási<br>utasítások<br>4.1.4 | Különle-<br>ges cso-<br>magolási<br>előírások<br>4.1.4 | Egybe-<br>csomago-<br>lási<br>előírások<br>4.1.10 |   |                     |                                    |
| (1)        | (2)   | (3a)           | (3b)                            | (4)                                    | (5)             | (6)                                      | (7a)  | (7b) | (8)                                     | (9a)   | (9b)  | (10)  | (11)                |                                    |
| 2416       | TRIMETIL-BORÁT  | 3              | F1                              | II                                     | 3               |  | LQ4   | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T7  | TP1                 |                                    |
| 2417       | KARBONIL-FLUORID  | 2              | 2TC                             |  | 2.3 + 8         |  | LQ0   | E0   | P200                                    |  | MP9   | (M)   |                     |                                    |
| 2418       | KÉN-TETRAFLUORID  | 2              | 2TC                             |  | 2.3 + 8         |  | LQ0   | E0   | P200                                    |  | MP9   |   |                     |                                    |
| 2419       | BRÓM-TRIFLUOR-ETILÉN  | 2              | 2F                              |  | 2.1             |  | LQ0   | E0   | P200                                    |  | MP9   | (M)   |                     |                                    |
| 2420       | HEXAFLUOR-ACETON  | 2              | 2TC                             |  | 2.3 + 8         |  | LQ0   | E0   | P200                                    |  | MP9   | (M)   |                     |                                    |
| 2421       | NITROGÉN-TRIOXID  | 2              | 2TOC                            | A szállításból ki van zárva            |                 |  |   |      |   |  |   |   |                     |                                    |
| 2422       | OKTAFLUOR-2-BUTÉN<br>(R 1318 HŰTŐGÁZ)   | 2              | 2A                              |  | 2.2             |  | LQ1   | E1   | P200                                    |  | MP9   | (M)   |                     |                                    |
| 2424       | OKTAFLUOR-PROPÁN<br>(R 218 HŰTŐGÁZ)   | 2              | 2A                              |  | 2.2             |  | LQ1   | E1   | P200                                    |  | MP9   | T50<br>(M)  |                     |                                    |
| 2426       | FOLYÉKONY AMMÓNIUM-NITRÁT<br>(forró, tömény oldat, 80%-nál nagyobb,<br>de legfeljebb 93% koncentrációval) | 5.1            | O1                              |  | 5.1             | 252<br>644                               | LQ0   | E0   |   |  |   | T7  | TP1<br>TP16<br>TP17 |                                    |
| 2427       | KÁLIUM-KLORÁT VIZES OLDAT   | 5.1            | O1                              | II                                     | 5.1             |  | LQ10  | E2   | P504<br>IBC02                           |  | MP2   | T4  | TP1                 |                                    |
| 2427       | KÁLIUM-KLORÁT VIZES OLDAT   | 5.1            | O1                              | III                                    | 5.1             |  | LQ13  | E1   | P504<br>IBC02<br>R001                   |  | MP2   | T4  | TP1                 |                                    |
| 2428       | NÁTRIUM-KLORÁT VIZES OLDAT  | 5.1            | O1                              | II                                     | 5.1             |  | LQ10  | E2   | P504<br>IBC02                           |  | MP2   | T4  | TP1                 |                                    |
| 2428       | NÁTRIUM-KLORÁT VIZES OLDAT  | 5.1            | O1                              | III                                    | 5.1             |  | LQ13  | E1   | P504<br>IBC02<br>R001                   |  | MP2   | T4  | TP1                 |                                    |
| 2429       | KALCIUM-KLORÁT VIZES OLDAT  | 5.1            | O1                              | II                                     | 5.1             |  | LQ10  | E2   | P504<br>IBC02                           |  | MP2   | T4  | TP1                 |                                    |
| 2429       | KALCIUM-KLORÁT VIZES OLDAT  | 5.1            | O1                              | III                                    | 5.1             |  | LQ13  | E1   | P504<br>IBC02<br>R001                   |  | MP2   | T4  | TP1                 |                                    |
| 2430       | SZILÁRD ALKIL-FENOLOK, M.N.N.<br>(a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)                | 8              | C4                              | I                                      | 8               | 274                                      | LQ0   | E0   | P002<br>IBC07                           |  | MP18  | T6  | TP33                |                                    |
| 2430       | SZILÁRD ALKIL-FENOLOK, M.N.N.<br>(a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)                | 8              | C4                              | II                                     | 8               | 274                                      | LQ23  | E2   | P002<br>IBC08                           | B4   | MP10  | T3  | TP33                |                                    |
| 2430       | SZILÁRD ALKIL-FENOLOK, M.N.N.<br>(a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)                | 8              | C4                              | III                                    | 8               | 274                                      | LQ24  | E1   | P002<br>IBC08<br>LP02<br>R001           | B3   | MP10  | T1  | TP33                |                                    |
| 2431       | ANIZIDINEK  | 6.1            | T1                              | III                                    | 6.1             |  | LQ7   | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T4  | TP1                 |                                    |

| ADR-tartály                 |  | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-----------------------------|--|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód                  | Különleges előírások                             |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                         | 4.3.5, 6.8.4                                     | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                        | (13)   | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| LGBF                        |  | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2416    | TRIMETIL-BORÁT  |
| P*BH(M)                     | TA4<br>TT9                                       | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                    | 2417    | KARBONIL-FLUORID  |
|                             |  |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  |                        | 2418    | KÉN-TETRAFLUORID  |
| P*BN(M)                     | TA4<br>TT9                                       | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 2419    | BRÓM-TRIFLUOR-ETILÉN  |
| P*BH(M)                     | TA4<br>TT9                                       | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                    | 2420    | HEXAFLUOR-ACETON  |
| A szállításból ki van zárva |  |                                |  |   |  |  |  |                        | 2421    | NITROGÉN-TRIOXID  |
| P*BN(M)                     | TA4<br>TT9                                       | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 2422    | OKTAFLUOR-2-BUTÉN<br>(R 1318 HÜTŐGÁZ)   |
| P*BN(M)                     | TA4<br>TT9                                       | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 2424    | OKTAFLUOR-PROPÁN<br>(R 218 HÜTŐGÁZ)   |
| L4BV(+)                     | TU3<br>TU12<br>TU29<br>TC3<br>TE9<br>TE10<br>TA1 | AT                             | 0<br>(E)   |   |  |  | S23  | 59                     | 2426    | FOLYÉKONY AMMÓNIUM-NITRÁT<br>(forró, tömény oldat, 80%-nál nagyobb,<br>de legfeljebb 93% koncentrációval) |
| L4BN                        | TU3  | AT                             | 2<br>(E)   |   |  | CV24   |  | 50                     | 2427    | KÁLIUM-KLORÁT VIZES OLDAT   |
| LGBV                        | TU3  | AT                             | 3<br>(E)   |   |  | CV24   |  | 50                     | 2427    | KÁLIUM-KLORÁT VIZES OLDAT   |
| L4BN                        | TU3  | AT                             | 2<br>(E)   |   |  | CV24   |  | 50                     | 2428    | NÁTRIUM-KLORÁT VIZES OLDAT  |
| LGBV                        | TU3  | AT                             | 3<br>(E)   |   |  | CV24   |  | 50                     | 2428    | NÁTRIUM-KLORÁT VIZES OLDAT  |
| L4BN                        | TU3  | AT                             | 2<br>(E)   |   |  | CV24   |  | 50                     | 2429    | KALCIUM-KLORÁT VIZES OLDAT  |
| LGBV                        | TU3  | AT                             | 3<br>(E)   |   |  | CV24   |  | 50                     | 2429    | KALCIUM-KLORÁT VIZES OLDAT  |
| L10BH<br>S10AN              |  | AT                             | 1<br>(E)   | V10<br>V12                                |  |  | S20  | 88                     | 2430    | SZILÁRD ALKIL-FENOLOK, M.N.N.<br>(a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)                |
| L4BN<br>SGAN                |  | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 2430    | SZILÁRD ALKIL-FENOLOK, M.N.N.<br>(a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)                |
| L4BN<br>SGAV                |  | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 2430    | SZILÁRD ALKIL-FENOLOK, M.N.N.<br>(a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)                |
| L4BH                        | TU15<br>TE19                                     | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2431    | ANIZIDINEK  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|----------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |                |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2432       | N,N-DIETIL-ANILIN  | 6.1     | T1                       | III                         | 6.1            | 279                               | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2433       | FOLYÉKONY KLÓR-NITRO-<br>TOLUOLOK                                      | 6.1     | T1                       | III                         | 6.1            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2434       | DIBENZIL-DIKLÓR-SZILÁN   | 8       | C3                       | II                          | 8              |                                   | LQ22                                       | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 2435       | ETIL-FENIL-DIKLÓR-SZILÁN   | 8       | C3                       | II                          | 8              |                                   | LQ22                                       | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 2436       | TIOECETSAV   | 3       | F1                       | II                          | 3              |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2437       | METIL-FENIL-DIKLÓR-SZILÁN  | 8       | C3                       | II                          | 8              |                                   | LQ22                                       | E2      | P010                           |   | MP15                                    | T10  | TP2<br>TP7              |
| 2438       | TRIMETIL-ACETIL-KLORID   | 6.1     | TFC                      | I                           | 6.1 + 3<br>+ 8 |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 2439       | NÁTRIUM-HIDROGÉN-DIFLUORID<br>(nátrium-bifluorid)                      | 8       | C2                       | II                          | 8              |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2440       | ÖN-TETRAKLORID-PENTAHIDRÁT   | 8       | C2                       | III                         | 8              |                                   | LQ24                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2441       | PIROFOROS TITÁN-TRIKLORID vagy<br>PIROFOROS TITÁN-TRIKLORID<br>KEVERÉK | 4.2     | SC4                      | I                           | 4.2 + 8        | 537                               | LQ0  | E0      | P404                           |   | MP13                                    |  |                         |
| 2442       | TRIKLÓR-ACETIL-KLORID  | 8       | C3                       | II                          | 8              |                                   | LQ22                                       | E2      | P001                           |   | MP15                                    | T7   | TP2                     |
| 2443       | VANÁDIUM-OXITRIKLORID  | 8       | C1                       | II                          | 8              |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2444       | VANÁDIUM-TETRAKLORID   | 8       | C1                       | I                           | 8              |                                   | LQ0  | E0      | P802                           |   | MP8<br>MP17                             | T10  | TP2                     |
| 2446       | SZILÁRD NITRO-KREZOLOK   | 6.1     | T2                       | III                         | 6.1            |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2447       | OLVASZTOTT FEHÉR- vagy<br>SÁRGAFOSZFOR                                 | 4.2     | ST3                      | I                           | 4.2 +<br>6.1   |                                   | LQ0  | E0      |                                |   |   | T21  | TP3<br>TP7<br>TP26      |
| 2448       | OLVASZTOTT KÉN   | 4.1     | F3                       | III                         | 4.1            | 538                               | LQ0  | E0      |                                |   |   | T1   | TP3                     |
| 2451       | NITROGÉN-TRIFLUORID  | 2       | 2O                       |                             | 2.2 +<br>5.1   |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 2452       | ETIL-ACETILÉN, STABILIZÁLT   | 2       | 2F                       |                             | 2.1            |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 2453       | ETIL-FLUORID (R 161 HŰTŐGÁZ)   | 2       | 2F                       |                             | 2.1            |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |                         |



| ADR-tartály  |                                     | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|--------------|-------------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód   | Különleges előírások                |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3          | 4.3.5, 6.8.4                        | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)         | (13)                                | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BH         | TU15<br>TE19                        | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2432    | N,N-DIETIL-ANILIN  |
| L4BH         | TU15<br>TE19                        | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2433    | FOLYÉKONY KLÓR-NITRO-TOLUOLOK                                    |
| L4BN         |                                     | AT                             | 2<br>(E)   |   |  |  |  | X80                    | 2434    | DIBENZIL-DIKLÓR-SZILÁN   |
| L4BN         |                                     | AT                             | 2<br>(E)   |   |  |  |  | X80                    | 2435    | ETIL-FENIL-DIKLÓR-SZILÁN   |
| LGBF         |                                     | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2436    | TIOECETSAV   |
| L4BN         |                                     | AT                             | 2<br>(E)   |   |  |  |  | X80                    | 2437    | METIL-FENIL-DIKLÓR-SZILÁN  |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21        | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2438    | TRIMETIL-ACETIL-KLORID   |
| SGAN         |                                     | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 2439    | NÁTRIUM-HIDROGÉN-DIFLUORID (nátrium-bifluorid)                   |
| SGAV         |                                     | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 2440    | ÖN-TETRAKLORID-PENTAHIDRÁT                                       |
|              |                                     |                                | 0<br>(E)   | V1  |  |  | S20  |                        | 2441    | PIROFOROS TITÁN-TRIKLORID vagy PIROFOROS TITÁN-TRIKLORID KEVERÉK |
| L4BN         |                                     | AT                             | 2<br>(E)   |   |  |  |  | X80                    | 2442    | TRIKLÓR-ACETIL-KLORID  |
| L4BN         |                                     | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2443    | VANÁDIUM-OXITRIKLORID  |
| L10BH        |                                     | AT                             | 1<br>(E)   |   |  |  | S20  | X88                    | 2444    | VANÁDIUM-TETRAKLORID   |
| L4BH<br>SGAH | TU15<br>TE19                        | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2446    | SZILÁRD NITRO-KREZOLOK   |
| L10DH(+)     | TU14<br>TU16<br>TU21<br>TE3<br>TE21 | AT                             | 0<br>(B/E)   |   |  |  | S20  | 446                    | 2447    | OLVASZTOTT FEHÉR- vagy SÁRGAFOSZFOR                              |
| LGBV(+)      | TU27<br>TE4<br>TE6                  | AT                             | 3<br>(E)   |   |  |  |  | 44                     | 2448    | OLVASZTOTT KÉN   |
| P*BN(M)      | TA4<br>TT9                          | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 25                     | 2451    | NITROGÉN-TRIFLUORID  |
| P*BN(M)      | TA4<br>TT9                          | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 239                    | 2452    | ETIL-ACETILÉN, STABILIZÁLT                                       |
| P*BN(M)      | TA4<br>TT9                          | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 2453    | ETIL-FLUORID (R 161 HŰTŐGÁZ)                                     |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2454       | METIL-FLUORID (R 41 HŰTŐGÁZ)                               | 2       | 2F                       |                             | 2.1          |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 2455       | METIL-NITRIT   | 2       | 2A                       | A szállításból ki van zárva |              |                                   |   |         |                                |   |   |  |                         |
| 2456       | 2-KLÓR-PROPÉN  | 3       | F1                       | I                           | 3            |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2                     |
| 2457       | 2,3-DIMETIL-BUTÁN  | 3       | F1                       | II                          | 3            |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1                     |
| 2458       | HEXADIÉNEK   | 3       | F1                       | II                          | 3            |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2459       | 2-METIL-1-BUTÉN  | 3       | F1                       | I                           | 3            |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2                     |
| 2460       | 2-METIL-2-BUTÉN  | 3       | F1                       | II                          | 3            |                                   | LQ4                                       | E2      | P001<br>IBC02                  | B8  | MP19                                    | T7   | TP1                     |
| 2461       | METIL-PENTADIÉN  | 3       | F1                       | II                          | 3            |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2463       | ALUMÍNIUM-HIDRID   | 4.3     | W2                       | I                           | 4.3          |                                   | LQ0                                       | E0      | P403                           |   | MP2                                     |  |                         |
| 2464       | BERILLIUM-NITRÁT   | 5.1     | OT2                      | II                          | 5.1 +<br>6.1 |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 2465       | SZÁRAZ DIKLÓR-IZOCIANURSAV<br>vagy DIKLÓR-IZOCIANURSAV SÓK | 5.1     | O2                       | II                          | 5.1          | 135                               | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2466       | KÁLIUM-HIPEOXID  | 5.1     | O2                       | I                           | 5.1          |                                   | LQ0                                       | E0      | P503<br>IBC06                  |   | MP2                                     |  |                         |
| 2468       | SZÁRAZ TRIKLÓR-IZOCIANURSAV                                | 5.1     | O2                       | II                          | 5.1          |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2469       | CINK-BROMÁT  | 5.1     | O2                       | III                         | 5.1          |                                   | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2470       | FOLYÉKONY FENIL-ACETONITRIL                                | 6.1     | T1                       | III                         | 6.1          |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2471       | OZMIUM-TETROXID  | 6.1     | T5                       | I                           | 6.1          |                                   | LQ0                                       | E5      | P002<br>IBC07                  | PP30  | MP18                                    | T6   | TP33                    |
| 2473       | NÁTRIUM-ARZANILÁT  | 6.1     | T3                       | III                         | 6.1          |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2474       | TIOFOSZGÉN   | 6.1     | T1                       | II                          | 6.1          | 279                               | LQ17                                      | E4      | P001                           |   | MP15                                    | T7   | TP2                     |
| 2475       | VANÁDIUM-TRIKLORID   | 8       | C2                       | III                         | 8            |                                   | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2477       | METIL-IZOTIOCIANÁT   | 6.1     | TF1                      | I                           | 6.1 + 3      |                                   | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2                     |

| ADR-tartály                 |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                       |
|-----------------------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánykód                  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3                         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)                        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| P*BN(M)                     | TA4<br>TT9                   | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 2454    | METIL-FLUORID (R 41 HŰTŐGÁZ)                               |
| A szállításból ki van zárva |                              |                                |  |   |  |  |  |                        | 2455    | METIL-NITRIT   |
| L4BN                        |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2456    | 2-KLÓR-PROPÉN  |
| LGBF                        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2457    | 2,3-DIMETIL-BUTÁN  |
| LGBF                        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2458    | HEXADIÉNEK   |
| L4BN                        |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2459    | 2-METIL-1-BUTÉN  |
| L1.5BN                      |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2460    | 2-METIL-2-BUTÉN  |
| LGBF                        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2461    | METIL-PENTADIÉN  |
|                             |                              |                                | 1<br>(E)   | V1  |  | CV23   | S20  |                        | 2463    | ALUMÍNIUM-HIDRID   |
| SGAN                        | TU3                          | AT                             | 2<br>(E)   | V11                                       |  | CV24<br>CV28   |  | 56                     | 2464    | BERILLIUM-NITRÁT   |
| SGAN                        | TU3                          | AT                             | 2<br>(E)   | V11                                       |  | CV24   |  | 50                     | 2465    | SZÁRAZ DIKLÓR-IZOCIANURSAV<br>vagy DIKLÓR-IZOCIANURSAV SÓK |
|                             |                              |                                | 1<br>(E)   | V10<br>V12                                |  | CV24   | S20  |                        | 2466    | KÁLIUM-HIPEKSID  |
| SGAN                        | TU3                          | AT                             | 2<br>(E)   | V11                                       |  | CV24   |  | 50                     | 2468    | SZÁRAZ TRIKLÓR-IZOCIANURSAV                                |
| SGAV                        | TU3                          | AT                             | 3<br>(E)   |   | VV8  | CV24   |  | 50                     | 2469    | CINK-BROMÁT  |
| L4BH                        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2470    | FOLYÉKONY FENIL-ACETONITRIL                                |
| S10AH                       | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2471    | OZMIUM-TETROXID  |
| L4BH<br>SGAH                | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2473    | NÁTRIUM-ARZANILÁT  |
| L4BH                        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2474    | TIOFOSZGÉN   |
| SGAV                        |                              | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 2475    | VANÁDIUM-TRIKLORID   |
| L10CH                       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2477    | METIL-IZOTIOCIANÁT   |

| UN<br>szám |   | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák              | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|---------------------|------------------------|---------------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                     |                        |                     |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2               | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                | (4)                    | (5)                 | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2478       | GYÚLÉKONY, MÉRGEZŐ<br>IZOCIANÁTOK, M.N.N. vagy<br>GYÚLÉKONY, MÉRGEZŐ<br>IZOCIANÁT OLDAT, M.N.N. | 3       | FT1                 | II                     | 3 + 6.1             | 274<br>539                        | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T11  | TP2<br>TP27             |
| 2478       | GYÚLÉKONY, MÉRGEZŐ<br>IZOCIANÁTOK, M.N.N. vagy<br>GYÚLÉKONY, MÉRGEZŐ<br>IZOCIANÁT OLDAT, M.N.N. | 3       | FT1                 | III                    | 3 + 6.1             | 274                               | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP1<br>TP28             |
| 2480       | METIL-IZOCIANÁT   | 6.1     | TF1                 | I                      | 6.1 + 3             |                                   | LQ0  | E5      | P601                           |   | MP2                                     | T22  | TP2                     |
| 2481       | ETIL-IZOCIANÁT  | 3       | FT1                 | I                      | 3 + 6.1             |                                   | LQ0  | E0      | P601                           |   | MP2                                     | T14  | TP2                     |
| 2482       | n-PROPIL-IZOCIANÁT  | 6.1     | TF1                 | I                      | 6.1 + 3             |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 2483       | IZOPROPIL-IZOCIANÁT   | 3       | FT1                 | I                      | 3 + 6.1             |                                   | LQ0  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2                     |
| 2484       | terc-BUTIL-IZOCIANÁT  | 6.1     | TF1                 | I                      | 6.1 + 3             |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 2485       | n-BUTIL-IZOCIANÁT   | 6.1     | TF1                 | I                      | 6.1 + 3             |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 2486       | IZOBUTIL-IZOCIANÁT  | 3       | FT1                 | II                     | 3 + 6.1             |                                   | LQ0  | E2      | P001                           |   | MP19                                    | T8   | TP2                     |
| 2487       | FENIL-IZOCIANÁT   | 6.1     | TF1                 | I                      | 6.1 + 3             |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 2488       | CIKLOHEXIL-IZOCIANÁT  | 6.1     | TF1                 | I                      | 6.1 + 3             |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 2490       | DIKLÓR-IZOPROPIL-ÉTER   | 6.1     | T1                  | II                     | 6.1                 |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2491       | ETANOL-AMIN vagy<br>ETANOL-AMIN OLDAT   | 8       | C7                  | III                    | 8                   |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2493       | HEXAMETILÉN-IMIN  | 3       | FC                  | II                     | 3 + 8               |                                   | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 2495       | JÓD-PENTAFLUORID  | 5.1     | OTC                 | I                      | 5.1 +<br>6.1 +<br>8 |                                   | LQ0  | E0      | P200                           |   | MP2                                     |  |                         |
| 2496       | PROPIONSAVANHIDRID  | 8       | C3                  | III                    | 8                   |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BH        | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2478    | GYÚLÉKONY, MÉRGEZŐ IZOCIANÁTOK, M.N.N. vagy GYÚLÉKONY, MÉRGEZŐ IZOCIANÁT OLDAT, M.N.N. |
| L4BH        | TU15                         | FL                             | 3<br>(D/E)   |   |  | CV13<br>CV28   | S2   | 36                     | 2478    | GYÚLÉKONY, MÉRGEZŐ IZOCIANÁTOK, M.N.N. vagy GYÚLÉKONY, MÉRGEZŐ IZOCIANÁT OLDAT, M.N.N. |
| L15CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2480    | METIL-IZOCIANÁT  |
| L15CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2481    | ETIL-IZOCIANÁT   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2482    | n-PROPIL-IZOCIANÁT   |
| L10CH       | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2483    | IZOPROPIL-IZOCIANÁT  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2484    | terc-BUTIL-IZOCIANÁT   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2485    | n-BUTIL-IZOCIANÁT  |
| L4BH        | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2486    | IZOBUTIL-IZOCIANÁT   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2487    | FENIL-IZOCIANÁT  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2488    | CIKLOHEXIL-IZOCIANÁT   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2490    | DIKLÓR-IZOPROPIL-ÉTER  |
| L4BN        |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2491    | ETANOL-AMIN vagy ETANOL-AMIN OLDAT   |
| L4BH        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 2493    | HEXAMETILÉN-IMIN   |
| L10DH       | TU3                          | AT                             | 1<br>(B/E)   |   |  | CV24<br>CV28   | S20  | 568                    | 2495    | JÓD-PENTAFLUORID   |
| L4BN        |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2496    | PROPIONSÁVANHIDRID   |

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|---|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|---|--|---------|
|            |   |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 2498       | 1,2,3,6-TETRAHIDRO-BENZALDEHID                    | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1     |
| 2501       | TRISZ-(1-AZIRIDINIL)-FOSZFIN-<br>OXID OLDAT       | 6.1     | T1                       | II                          | 6.1    |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 2501       | TRISZ-(1-AZIRIDINIL)-FOSZFIN-<br>OXID OLDAT       | 6.1     | T1                       | III                         | 6.1    |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |
| 2502       | VALERIL-KLORID                                    | 8       | CF1                      | II                          | 8 + 3  |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 2503       | CIRKÓNIUM-TETRAKLORID                             | 8       | C2                       | III                         | 8      |                                   | LQ24                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 2504       | TETRABRÓM-ETÁN                                    | 6.1     | T1                       | III                         | 6.1    |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |
| 2505       | AMMÓNIUM-FLUORID                                  | 6.1     | T5                       | III                         | 6.1    |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 2506       | AMMÓNIUM-HIDROGÉN-SZULFÁT<br>(ammónium-biszulfát) | 8       | C2                       | II                          | 8      |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 2507       | SZILÁRD HEXAKLÓR-PLATINASAV                       | 8       | C2                       | III                         | 8      |                                   | LQ24                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 2508       | MOLIBDÉN-PENTAKLORID                              | 8       | C2                       | III                         | 8      |                                   | LQ24                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 2509       | KÁLIUM-HIDROGÉN-SZULFÁT<br>(kálium-biszulfát)     | 8       | C2                       | II                          | 8      |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 2511       | 2-KLÓR-PROPIONSÁV                                 | 8       | C3                       | III                         | 8      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP2     |
| 2512       | AMINO-FENOLOK (o-, m-, p-)                        | 6.1     | T2                       | III                         | 6.1    | 279                               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 2513       | BRÓM-ACETIL-BROMID                                | 8       | C3                       | II                          | 8      |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2     |
| 2514       | BRÓM-BENZOL                                       | 3       | F1                       | III                         | 3      |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1     |
| 2515       | BROMOFORM   | 6.1     | T1                       | III                         | 6.1    |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |

| ADR-tartály  |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                           |
|--------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód   | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3          | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)         | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| LGBF         |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 30                     | 2498    | 1,2,3,6-TETRAHIDRO-BENZALDEHID                 |
| L4BH         | TU15<br>TE19         | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2501    | TRISZ-(1-AZIRIDINIL)-FOSZFIN-OXID OLDAT        |
| L4BH         | TU15<br>TE19         | AT                             | 2 (E)  |   |  | CV13<br>CV28   | S9   | 60                     | 2501    | TRISZ-(1-AZIRIDINIL)-FOSZFIN-OXID OLDAT        |
| L4BN         |                      | FL                             | 2 (D/E)  |   |  |  | S2   | 83                     | 2502    | VALERIL-KLORID                                 |
| SGAV         |                      | AT                             | 3 (E)  |   | VV9  |  |  | 80                     | 2503    | CIRKÓNIUM-TETRAKLORID                          |
| L4BH         | TU15<br>TE19         | AT                             | 2 (E)  |   |  | CV13<br>CV28   | S9   | 60                     | 2504    | TETRABRÓM-ETÁN                                 |
| SGAH         | TU15<br>TE19         | AT                             | 2 (E)  |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2505    | AMMÓNIUM-FLUORID                               |
| SGAV         |                      | AT                             | 2 (E)  | V11                                       | VV9  |  |  | 80                     | 2506    | AMMÓNIUM-HIDROGÉN-SZULFÁT (ammónium-biszulfát) |
| SGAV         |                      | AT                             | 3 (E)  |   | VV9  |  |  | 80                     | 2507    | SZILÁRD HEXAKLÓR-PLATINASAV                    |
| SGAV         |                      | AT                             | 3 (E)  |   | VV9  |  |  | 80                     | 2508    | MOLIBDÉN-PENTAKLORID                           |
| SGAV         |                      | AT                             | 2 (E)  | V11                                       | VV9  |  |  | 80                     | 2509    | KÁLIUM-HIDROGÉN-SZULFÁT (kálium-biszulfát)     |
| L4BN         |                      | AT                             | 3 (E)  |   |  |  |  | 80                     | 2511    | 2-KLÓR-PROPIONSÁV                              |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2 (E)  |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2512    | AMINO-FENOLOK (o-, m-, p-)                     |
| L4BN         |                      | AT                             | 2 (E)  |   |  |  |  | X80                    | 2513    | BRÓM-ACETIL-BROMID                             |
| LGBF         |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 30                     | 2514    | BRÓM-BENZOL                                    |
| L4BH         | TU15<br>TE19         | AT                             | 2 (E)  |   |  | CV13<br>CV28   | S9   | 60                     | 2515    | BROMOFORM                                      |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák              | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |                     |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2                                       | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2               | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)                 | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2516       | SZÉN-TETRABROMID                            | 6.1     | T2                       | III                         | 6.1                 |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2517       | 1-KLÓR-1,1-DIFLUOR-ETÁN<br>(R 142b HŰTŐGÁZ) | 2       | 2F                       |                             | 2.1                 |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 2518       | 1,5,9-CIKLODODEKATRIÉN                      | 6.1     | T1                       | III                         | 6.1                 |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2520       | CIKLOOKTADIÉNEK                             | 3       | F1                       | III                         | 3                   |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2521       | DIKETÉN, STABILIZÁLT                        | 6.1     | TF1                      | I                           | 6.1 + 3             |                                   | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2                     |
| 2522       | 2-DIMETIL-AMINO-ETIL-<br>METAKRILÁT         | 6.1     | T1                       | II                          | 6.1                 |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2524       | ETIL-ORTOFORMIÁT                            | 3       | F1                       | III                         | 3                   |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2525       | ETIL-OXALÁT                                 | 6.1     | T1                       | III                         | 6.1                 |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2526       | FURFURIL-AMIN                               | 3       | FC                       | III                         | 3 + 8               |                                   | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2527       | IZOBUTIL-AKRILÁT, STABILIZÁLT               | 3       | F1                       | III                         | 3                   |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2528       | IZOBUTIL-IZOBUTIRÁT                         | 3       | F1                       | III                         | 3                   |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2529       | IZOVAJSAV                                   | 3       | FC                       | III                         | 3 + 8               |                                   | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2531       | METAKRILSAV, STABILIZÁLT                    | 8       | C3                       | II                          | 8                   |                                   | LQ22                                      | E2      | P001<br>IBC02<br>LP01          |   | MP15                                    | T7   | TP2<br>TP18<br>TP30     |
| 2533       | METIL-TRIKLÓR-ACETÁT                        | 6.1     | T1                       | III                         | 6.1                 |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2534       | METIL-KLÓR-SZILÁN                           | 2       | 2TFC                     |                             | 2.3 +<br>2.1 +<br>8 |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 2535       | 4-METIL-MORFOLIN (N-METIL-<br>MORFOLIN)     | 3       | FC                       | II                          | 3 + 8               |                                   | LQ4                                       | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |



| ADR-tartály  |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                        |
|--------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód   | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                                       |
| (12)         | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2516    | SZÉN-TETRABROMID                            |
| P*BN(M)      | TA4<br>TT9                   | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 2517    | 1-KLÓR-1,1-DIFLUOR-ETÁN<br>(R 142b HÜTŐGÁZ) |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2518    | 1,5,9-CIKLODODEKATRIÉN                      |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2520    | CIKLOOKTADIÉNEK                             |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2521    | DIKETÉN, STABILIZÁLT                        |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 69                     | 2522    | 2-DIMETIL-AMINO-ETIL-METAKRILÁT             |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2524    | ETIL-ORTOFORMIÁT                            |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2525    | ETIL-OXALÁT                                 |
| L4BN         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 38                     | 2526    | FURFURIL-AMIN                               |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 39                     | 2527    | IZOBUTIL-AKRILÁT, STABILIZÁLT               |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2528    | IZOBUTIL-IZOBUTIRÁT                         |
| L4BN         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 38                     | 2529    | IZOVAJSAV                                   |
| L4BN         |                              | AT                             | 2<br>(E)   |   |  |  |  | 89                     | 2531    | METAKRILSAV, STABILIZÁLT                    |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2533    | METIL-TRIKLÓR-ACETÁT                        |
|              |                              | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 2534    | METIL-KLÓR-SZILÁN                           |
| L4BH         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 2535    | 4-METIL-MORFOLIN (N-METIL-MORFOLIN)         |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák              | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|--------------------------|-----------------------------|---------------------|-----------------------------------|---|---------|--------------------------------|---|---|--|---------|
|            |  |         |                          |                             |                     |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2               | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)                 | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 2536       | METIL-TETRAHIDRO-FURÁN   | 3       | F1                       | II                          | 3                   |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1     |
| 2538       | NITRO-NAFTALIN   | 4.1     | F1                       | III                         | 4.1                 |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 2541       | TERPINOLÉN   | 3       | F1                       | III                         | 3                   |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1     |
| 2542       | TRIBUTIL-AMIN  | 6.1     | T1                       | II                          | 6.1                 |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 2545       | SZÁRAZ HAFNIUMPOR  | 4.2     | S4                       | I                           | 4.2                 | 540                               | LQ0                                       | E0      | P404                           |   | MP13                                    |  |         |
| 2545       | SZÁRAZ HAFNIUMPOR  | 4.2     | S4                       | II                          | 4.2                 | 540                               | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33    |
| 2545       | SZÁRAZ HAFNIUMPOR  | 4.2     | S4                       | III                         | 4.2                 | 540                               | LQ0                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                    | T1   | TP33    |
| 2546       | SZÁRAZ TITÁNPOR  | 4.2     | S4                       | I                           | 4.2                 | 540                               | LQ0                                       | E0      | P404                           |   | MP13                                    |  |         |
| 2546       | SZÁRAZ TITÁNPOR  | 4.2     | S4                       | II                          | 4.2                 | 540                               | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33    |
| 2546       | SZÁRAZ TITÁNPOR  | 4.2     | S4                       | III                         | 4.2                 | 540                               | LQ0                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                    | T1   | TP33    |
| 2547       | NÁTRIUM-HIPEROXID  | 5.1     | O2                       | I                           | 5.1                 |                                   | LQ0                                       | E0      | P503<br>IBC06                  |   | MP2                                     |  |         |
| 2548       | KLÓR-PENTAFLUORID  | 2       | 2TOC                     |                             | 2.3 +<br>5.1 +<br>8 |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     |  |         |
| 2552       | FOLYÉKONY HEXAFLUOR-ACETON<br>HIDRÁT   | 6.1     | T1                       | II                          | 6.1                 |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 2554       | METIL-ALLIL-KLORID   | 3       | F1                       | II                          | 3                   |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1     |
| 2555       | NITROCELLULÓZ VÍZZEL<br>(legalább 25 tömeg% vízzel)  | 4.1     | D                        | II                          | 4.1                 | 541                               | LQ0                                       | E0      | P406                           |   | MP2                                     |  |         |
| 2556       | NITROCELLULÓZ ALKOHOLLAL<br>(legalább 25 tömeg% alkohollal és a<br>szárazanyagra vetítve legfeljebb 12,6%<br>nitrogéntartalommal)                                    | 4.1     | D                        | II                          | 4.1                 | 541                               | LQ0                                       | E0      | P406                           |   | MP2                                     |  |         |
| 2557       | NITROCELLULÓZ KEVERÉK<br>a szárazanyagra vetítve legfeljebb 12,6%<br>nitrogéntartalommal,<br>LÁGYÍTÓVAL vagy<br>LÁGYÍTÓ NÉLKÜL,<br>PIGMENTTEL vagy<br>PIGMENT NÉLKÜL | 4.1     | D                        | II                          | 4.1                 | 241<br>541                        | LQ0                                       | E0      | P406                           |   | MP2                                     |  |         |
| 2558       | EPIBROMHIDRIN  | 6.1     | TF1                      | I                           | 6.1 + 3             |                                   | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2     |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2536    | METIL-TETRAHIDRO-FURÁN   |
| SGAV        |                              | AT                             | 3<br>(E)   |   | VV1  |  |  | 40                     | 2538    | NITRO-NAFTALIN   |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2541    | TERPINOLÉN   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2542    | TRIBUTIL-AMIN  |
|             |                              |                                | 0<br>(E)   | V1  |  |  | S20  |                        | 2545    | SZÁRAZ HAFNIUMPOR  |
| SGAN        |                              | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  |  |  | 40                     | 2545    | SZÁRAZ HAFNIUMPOR  |
| SGAN        |                              | AT                             | 3<br>(E)   | V1  | VV4  |  |  | 40                     | 2545    | SZÁRAZ HAFNIUMPOR  |
|             |                              |                                | 0<br>(E)   | V1  |  |  | S20  |                        | 2546    | SZÁRAZ TITÁNPOR  |
| SGAN        |                              | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  |  |  | 40                     | 2546    | SZÁRAZ TITÁNPOR  |
| SGAN        |                              | AT                             | 3<br>(E)   | V1  | VV4  |  |  | 40                     | 2546    | SZÁRAZ TITÁNPOR  |
|             |                              |                                | 1<br>(E)   | V10<br>V12                                |  | CV24   | S20  |                        | 2547    | NÁTRIUM-HIPEROXID  |
|             |                              |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  |                        | 2548    | KLÓR-PENTAFLUORID  |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2552    | FOLYÉKONY HEXAFLUOR-ACETON<br>HIDRÁT   |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2554    | METIL-ALLIL-KLORID   |
|             |                              |                                | 2<br>(B)   |   |  |  | S14  |                        | 2555    | NITROCELLULÓZ VÍZZEL<br>(legalább 25 tömeg% vízzel)  |
|             |                              |                                | 2<br>(B)   |   |  |  | S14  |                        | 2556    | NITROCELLULÓZ ALKOHOLLAL<br>(legalább 25 tömeg% alkohollal és a<br>szárazanyagra vetítve legfeljebb 12,6%<br>nitrogéntartalommal)                                    |
|             |                              |                                | 2<br>(B)   |   |  |  | S14  |                        | 2557    | NITROCELLULÓZ KEVERÉK<br>a szárazanyagra vetítve legfeljebb 12,6%<br>nitrogéntartalommal,<br>LÁGYÍTÓVAL vagy<br>LÁGYÍTÓ NÉLKÜL,<br>PIGMENTTEL vagy<br>PIGMENT NÉLKÜL |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2558    | EPIBROMHIDRIN  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |              |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2560       | 2-METIL-2-PENTANOL                                      | 3       | F1                       | III                         | 3            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2561       | 3-METIL-1-BUTÉN   | 3       | F1                       | I                           | 3            |                                   | LQ3  | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2                     |
| 2564       | TRIKLÓR-ECETSAV OLDAT                                   | 8       | C3                       | II                          | 8            |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2564       | TRIKLÓR-ECETSAV OLDAT                                   | 8       | C3                       | III                         | 8            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2565       | DICIKLOHEXIL-AMIN                                       | 8       | C7                       | III                         | 8            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2567       | NÁTRIUM-PENTAKLÓR-FENOLÁT                               | 6.1     | T2                       | II                          | 6.1          |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2570       | KADMIUMVEGYÜLET   | 6.1     | T5                       | I                           | 6.1          | 274<br>596                        | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 2570       | KADMIUMVEGYÜLET   | 6.1     | T5                       | II                          | 6.1          | 274<br>596                        | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2570       | KADMIUMVEGYÜLET   | 6.1     | T5                       | III                         | 6.1          | 274<br>596                        | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2571       | ALKIL-KÉNSAVAK  | 8       | C3                       | II                          | 8            |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2<br>TP28             |
| 2572       | FENIL-HIDRAZIN  | 6.1     | T1                       | II                          | 6.1          |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2573       | TALLIUM-KLORÁT  | 5.1     | OT2                      | II                          | 5.1 +<br>6.1 |                                   | LQ11                                       | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33                    |
| 2574       | TRIKREZIL-FOSZFÁT<br>3%-nál több ortoizomer-tartalommal | 6.1     | T1                       | II                          | 6.1          |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2576       | OLVASZTOTT FOSZFOR-<br>OXIBROMID                        | 8       | C1                       | II                          | 8            |                                   | LQ0  | E0      |                                |   |   | T7   | TP3                     |
| 2577       | FENIL-ACETIL-KLORID                                     | 8       | C3                       | II                          | 8            |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2578       | FOSZFOR-TRIOXID   | 8       | C2                       | III                         | 8            |                                   | LQ24                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2579       | PIPERAZIN   | 8       | C8                       | III                         | 8            |                                   | LQ24                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2580       | ALUMÍNÍUM-BROMID OLDAT                                  | 8       | C1                       | III                         | 8            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2581       | ALUMÍNÍUM-KLORID OLDAT                                  | 8       | C1                       | III                         | 8            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |

| ADR-tartály          |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                    |
|----------------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód           | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                  | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                 | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| LGBF                 |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2560    | 2-METIL-2-PENTANOL                                      |
| L4BN                 |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2561    | 3-METIL-1-BUTÉN   |
| L4BN                 |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2564    | TRIKLÓR-ECETSAV OLDAT                                   |
| L4BN                 |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2564    | TRIKLÓR-ECETSAV OLDAT                                   |
| L4BN                 |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2565    | DICIKLOHEXIL-AMIN                                       |
| SGAH                 | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2567    | NÁTRIUM-PENTAKLÓR-FENOLÁT                               |
| L10CH<br>S10AH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2570    | KADMIVEGYÜLET   |
| L4BH<br>SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2570    | KADMIVEGYÜLET   |
| L4BH<br>SGAH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2570    | KADMIVEGYÜLET   |
| L4BN                 |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2571    | ALKIL-KÉNSAVAK  |
| L4BH<br>TU15<br>TE19 |                              | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2572    | FENIL-HIDRAZIN  |
| SGAN                 | TU3                          | AT                             | 2<br>(E)   | V11<br>V12                                |  | CV24<br>CV28   |  | 56                     | 2573    | TALLIUM-KLORÁT  |
| L4BH<br>TU15<br>TE19 |                              | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2574    | TRIKREZIL-FOSZFÁT<br>3%-nál több ortoizomer-tartalommal |
| L4BN                 |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2576    | OLVASZTOTT FOSZFOR-<br>OXIBROMID                        |
| L4BN                 |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2577    | FENIL-ACETIL-KLORID                                     |
| SGAV                 |                              | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 2578    | FOSZFOR-TRIOXID   |
| L4BN<br>SGAV         |                              | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 2579    | PIPERAZIN   |
| L4BN                 |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2580    | ALUMÍNIUM-BROMID OLDAT                                  |
| L4BN                 |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2581    | ALUMÍNIUM-KLORID OLDAT                                  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|---------|
|            |  |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 2582       | VAS(III)-KLORID OLDAT  | 8       | C1                       | III                         | 8       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |
| 2583       | SZILÁRD ALKIL-SZULFONSAVAK<br>vagy<br>SZILÁRD ARIL-SZULFONSAVAK<br>5%-nál több szabad kénsav-tartalommal                         | 8       | C2                       | II                          | 8       | 274                               | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 2584       | FOLYÉKONY ALKIL-SZULFONSAVAK vagy<br>FOLYÉKONY ARIL-SZULFONSAVAK<br>5%-nál több szabad kénsav-tartalommal                        | 8       | C1                       | II                          | 8       | 274                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2     |
| 2585       | SZILÁRD ALKIL-SZULFONSAVAK<br>vagy<br>SZILÁRD ARIL-SZULFONSAVAK<br>legfeljebb 5% szabad kénsav-<br>tartalommal                   | 8       | C4                       | III                         | 8       | 274                               | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 2586       | FOLYÉKONY ALKIL-SZULFONSAVAK vagy<br>FOLYÉKONY ARIL-SZULFONSAVAK<br>legfeljebb 5% szabad kénsav-<br>tartalommal                  | 8       | C3                       | III                         | 8       | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |
| 2587       | BENZOKINON   | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 2588       | SZILÁRD, MÉRGEZŐ<br>PESZTICID, M.N.N.  | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P002<br>IBC02                  |   | MP18                                    | T6   | TP33    |
| 2588       | SZILÁRD, MÉRGEZŐ<br>PESZTICID, M.N.N.  | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 2588       | SZILÁRD, MÉRGEZŐ<br>PESZTICID, M.N.N.  | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 2589       | VINIL-KLÓR-ACETÁT  | 6.1     | TF1                      | II                          | 6.1 + 3 |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 2590       | FEHÉRAZBESZT (krizotil, aktinolit,<br>antofillit, tremolit)  | 9       | M1                       | III                         | 9       | 168<br>542                        | LQ27                                      | E1      | P002<br>IBC08<br>R001          | PP37<br>B4                                    | MP10                                    | T1   | TP33    |
| 2591       | XENON, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT   | 2       | 3A                       |                             | 2.2     | 593                               | LQ1                                       | E1      | P203                           |   | MP9                                     | T75  | TP5     |
| 2599       | KLÓR-TRIFLUOR-METÁN ÉS<br>TRIFLUOR-METÁN AZEOTRÓP<br>KEVERÉK kb. 60% klór-trifluor-metán<br>tartalommal (R 503 HŰTŐGÁZ)          | 2       | 2A                       |                             | 2.2     |                                   | LQ1                                       | E1      | P200                           |   | MP9                                     | (M)  |         |
| 2601       | CIKLOBUTÁN   | 2       | 2F                       |                             | 2.1     |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |         |
| 2602       | DIKLÓR-DIFLUOR-METÁN ÉS 1,1-<br>DIFLUOR-ETÁN AZEOTRÓP<br>KEVERÉK kb. 74% diklór-difluor-<br>metán tartalommal<br>(R 500 HŰTŐGÁZ) | 2       | 2A                       |                             | 2.2     |                                   | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BN        |                      | AT                             | 3 (E)  |   |  |  |  | 80                     | 2582    | VAS(III)-KLORID OLDAT  |
| L4BN SGAN   |                      | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 2583    | SZILÁRD ALKIL-SZULFONSAVAK vagy SZILÁRD ARIL-SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal                    |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | 80                     | 2584    | FOLYÉKONY ALKIL-SZULFONSAVAK vagy FOLYÉKONY ARIL-SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal                |
| SGAV        |                      | AT                             | 3 (E)  |   | VV9  |  |  | 80                     | 2585    | SZILÁRD ALKIL-SZULFONSAVAK vagy SZILÁRD ARIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal                  |
| L4BN        |                      | AT                             | 3 (E)  |   |  |  |  | 80                     | 2586    | FOLYÉKONY ALKIL-SZULFONSAVAK vagy FOLYÉKONY ARIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal              |
| L4BH SGAH   | TU15 TE19            | AT                             | 2 (D/E)  | V11                                       |  | CV13 CV28  | S9 S19                                     | 60                     | 2587    | BENZOKINON   |
| L10CH S10AH | TU14 TU15 TE19 TE21  | AT                             | 1 (C/E)  |   |  | CV1 CV13 CV28  | S9 S14                                     | 66                     | 2588    | SZILÁRD, MÉRGEZŐ PESZTICID, M.N.N.   |
| L4BH SGAH   | TU15 TE19            | AT                             | 2 (D/E)  | V11                                       |  | CV13 CV28  | S9 S19                                     | 60                     | 2588    | SZILÁRD, MÉRGEZŐ PESZTICID, M.N.N.   |
| L4BH SGAH   | TU15 TE19            | AT                             | 2 (E)  |   | VV9  | CV13 CV28  | S9   | 60                     | 2588    | SZILÁRD, MÉRGEZŐ PESZTICID, M.N.N.   |
| L4BH        | TU15 TE19            | FL                             | 2 (D/E)  |   |  | CV13 CV28  | S2 S9 S19                                  | 63                     | 2589    | VINIL-KLÓR-ACETÁT  |
| SGAH        | TU15                 | AT                             | 3 (E)  | V11                                       |  | CV13 CV28  |  | 90                     | 2590    | FEHÉRAZBESZT (krizotil, aktinolit, antofillit, tremolit)   |
| R*BN        | TU19 TA4 TT9         | AT                             | 3 (C/E)  | V5  |  | CV9 CV11 CV36  | S20  | 22                     | 2591    | XENON, MÉLYHŰTÖTT, CSEPPFOLYÓSTOTT   |
| P*BN(M)     | TA4 TT9              | AT                             | 3 (C/E)  |   |  | CV9 CV10 CV36  |  | 20                     | 2599    | KLÓR-TRIFLUOR-METÁN ÉS TRIFLUOR-METÁN AZEOTRÓP KEVERÉK kb. 60% klór-trifluor-metán tartalommal (R 503 HŰTŐGÁZ)     |
| P*BN(M)     | TA4 TT9              | FL                             | 2 (B/D)  |   |  | CV9 CV10 CV36  | S2 S20                                     | 23                     | 2601    | CIKLOBUTÁN   |
| P*BN(M)     | TA4 TT9              | AT                             | 3 (C/E)  |   |  | CV9 CV10 CV36  |  | 20                     | 2602    | DIKLÓR-DIFLUOR-METÁN ÉS 1,1-DIFLUOR-ETÁN AZEOTRÓP KEVERÉK kb. 74% diklór-difluor-metán tartalommal (R 500 HŰTŐGÁZ) |

| UN<br>szám | 3.1.2                              | Osztály<br>2.2 | Oszta-<br>lyozási<br>kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Bárcák<br>5.2.2 | Külön-<br>leges<br>előírá-<br>sok<br>3.3 | Korlátozott és<br>engedélyes<br>mennyiség<br>3.4.6 3.5.1.2 |      | Csomagolóeszköz                         |  |   | Mobil tartány és<br>ömlesztettáru-<br>konténer<br>4.2.5.2, 7.3.2 |      |
|------------|------------------------------------|----------------|---------------------------------|--|-----------------|--|--|------|---|--|---|--|------|
|            |                                    |                |                                 |  |                 |  |  |      | Csoma-<br>golási<br>utasítások<br>4.1.4 | Különle-<br>ges cso-<br>magolási<br>előírások<br>4.1.4 | Egybe-<br>csomago-<br>lási<br>előírások<br>4.1.10 |  |      |
| (1)        | (2)                                | (3a)           | (3b)                            | (4)                                    | (5)             | (6)                                      | (7a)   | (7b) | (8)                                     | (9a)   | (9b)  | (10)   | (11) |
| 2603       | CIKLOHEPTATRIÉN                    | 3              | FT1                             | II                                     | 3 + 6.1         |  | LQ0  | E2   | P001<br>IBC02                           |  | MP19  | T7   | TP1  |
| 2604       | BÓR-TRIFLUORID-DIETIL-ÉTERÁT       | 8              | CF1                             | I                                      | 8 + 3           |  | LQ0  | E0   | P001                                    |  | MP8<br>MP17                                       | T10  | TP2  |
| 2605       | METOXI-METIL-IZOCIANÁT             | 3              | FT1                             | I                                      | 3 + 6.1         |  | LQ0  | E0   | P001                                    |  | MP7<br>MP17                                       | T14  | TP2  |
| 2606       | METIL-ORTOSZILIKÁT                 | 6.1            | TF1                             | I                                      | 6.1 + 3         |  | LQ0  | E5   | P001                                    |  | MP8<br>MP17                                       | T14  | TP2  |
| 2607       | AKROLEIN DIMER, STABILIZÁLT        | 3              | F1                              | III                                    | 3               |  | LQ7  | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T2   | TP1  |
| 2608       | NITRO-PROPÁNOK                     | 3              | F1                              | III                                    | 3               |  | LQ7  | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T2   | TP1  |
| 2609       | TRIALLIL-BORÁT                     | 6.1            | T1                              | III                                    | 6.1             |  | LQ7  | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  |  |      |
| 2610       | TRIALLIL-AMIN                      | 3              | FC                              | III                                    | 3 + 8           |  | LQ7  | E1   | P001<br>IBC03<br>R001                   |  | MP19  | T4   | TP1  |
| 2611       | PROPILÉN-KLÓRHIDRIN                | 6.1            | TF1                             | II                                     | 6.1 + 3         |  | LQ17   | E4   | P001<br>IBC02                           |  | MP15  | T7   | TP2  |
| 2612       | METIL-PROPIL-ÉTER                  | 3              | F1                              | II                                     | 3               |  | LQ4  | E2   | P001<br>IBC02                           | B8   | MP19  | T7   | TP2  |
| 2614       | METIL-ALLIL-ALKOHOL                | 3              | F1                              | III                                    | 3               |  | LQ7  | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T2   | TP1  |
| 2615       | ETIL-PROPIL-ÉTER                   | 3              | F1                              | II                                     | 3               |  | LQ4  | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4   | TP1  |
| 2616       | TRIIZOPROPIL-BORÁT                 | 3              | F1                              | II                                     | 3               |  | LQ4  | E2   | P001<br>IBC02<br>R001                   |  | MP19  | T4   | TP1  |
| 2616       | TRIIZOPROPIL-BORÁT                 | 3              | F1                              | III                                    | 3               |  | LQ7  | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T2   | TP1  |
| 2617       | METIL-CIKLOHEXANOLOK,<br>gyúlékony | 3              | F1                              | III                                    | 3               |  | LQ7  | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T2   | TP1  |
| 2618       | VINIL-TOLUOLOK, STABILIZÁLT        | 3              | F1                              | III                                    | 3               |  | LQ7  | E1   | P001<br>IBC03<br>LP01<br>R001           |  | MP19  | T2   | TP1  |
| 2619       | BENZIL-DIMETIL-AMIN                | 8              | CF1                             | II                                     | 8 + 3           |  | LQ22   | E2   | P001<br>IBC02                           |  | MP15  | T7   | TP2  |



| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás            |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---------------------------------|
| Tartánykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |                                 |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                           |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                             |
| L4BH        | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2603    | CIKLOHEPTATRIÉN                 |
| L10BH       |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S14                                  | 883                    | 2604    | BÓR-TRIFLUORID-DIETIL-ÉTERÁT    |
| L10CH       | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2605    | METOXI-METIL-IZOCIANÁT          |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2606    | METIL-ORTOSZILIKÁT              |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 39                     | 2607    | AKROLEIN DIMER, STABILIZÁLT     |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2608    | NITRO-PROPÁNOK                  |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2609    | TRIALIL-BORÁT                   |
| L4BN        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 38                     | 2610    | TRIALIL-AMIN                    |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 2611    | PROPILÉN-KLÓRHIDRIN             |
| L1.5BN      |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2612    | METIL-PROPIL-ÉTER               |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2614    | METIL-ALLIL-ALKOHOL             |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2615    | ETIL-PROPIL-ÉTER                |
| LGBF        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2616    | TRIIZOPROPIL-BORÁT              |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2616    | TRIIZOPROPIL-BORÁT              |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2617    | METIL-CIKLOHEXANOLOK, gyúlékony |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 39                     | 2618    | VINIL-TOLUOLOK, STABILIZÁLT     |
| L4BN        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 2619    | BENZIL-DIMETIL-AMIN             |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztartá-<br>rkonténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|---|-------------------------|
|            |   |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                               | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                             | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)  | (11)                    |
| 2620       | AMIL-BUTIRÁTOK  | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2  | TP1                     |
| 2621       | ACETIL-METIL-KARBINOL                                     | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2  | TP1                     |
| 2622       | GLICIDALDEHID   | 3       | FT1                      | II                          | 3 + 6.1 |                                   | LQ0                                       | E2      | P001<br>IBC02                  | B8  | MP19                                    | T7  | TP1                     |
| 2623       | SZILÁRD ALÁGYÚJTÓS<br>gyúlékony folyadékkal impregnálva   | 4.1     | F1                       | III                         | 4.1     |                                   | LQ9                                       | E1      | P002<br>LP02<br>R001           | PP15  | MP11                                    |   |                         |
| 2624       | MAGNÉZIUM-SZILICID  | 4.3     | W2                       | II                          | 4.3     |                                   | LQ11                                      | E2      | P410<br>IBC07                  |   | MP14                                    | T3  | TP33                    |
| 2626       | KLÓRSAV VIZES OLDAT<br>legfeljebb 10% klórsav-tartalommal | 5.1     | O1                       | II                          | 5.1     | 613                               | LQ10                                      | E2      | P504<br>IBC02                  |   | MP2                                     | T4  | TP1                     |
| 2627       | SZERVETLEN NITRITEK, M.N.N.                               | 5.1     | O2                       | II                          | 5.1     | 103<br>274                        | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3  | TP33                    |
| 2628       | KÁLIUM-FLUOR-ACETÁT                                       | 6.1     | T2                       | I                           | 6.1     |                                   | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6  | TP33                    |
| 2629       | NÁTRIUM-FLUOR-ACETÁT                                      | 6.1     | T2                       | I                           | 6.1     |                                   | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6  | TP33                    |
| 2630       | SZELENÁTOK vagy SZELENITEK                                | 6.1     | T5                       | I                           | 6.1     | 274                               | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6  | TP33                    |
| 2642       | FLUOR-ECETSAV   | 6.1     | T2                       | I                           | 6.1     |                                   | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6  | TP33                    |
| 2643       | METIL-BRÓM-ACETÁT   | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7  | TP2                     |
| 2644       | METIL-JODID   | 6.1     | T1                       | I                           | 6.1     |                                   | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14   | TP2                     |
| 2645       | FENACIL-BROMID  | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3  | TP33                    |
| 2646       | HEXAKLÓR-CIKLOPENTADIÉN                                   | 6.1     | T1                       | I                           | 6.1     |                                   | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T20   | TP2<br>TP35             |
| 2647       | MALONITRIL  | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3  | TP33                    |
| 2648       | 1,2-DIBRÓM-3-BUTANON                                      | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    |   |                         |
| 2649       | 1,3-DIKLÓR-ACETON   | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3  | TP33                    |
| 2650       | 1,1-DIKLÓR-1-NITRO-ETÁN                                   | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7  | TP2                     |
| 2651       | 4,4'-DIAMINO-DIFENIL-METÁN                                | 6.1     | T2                       | III                         | 6.1     |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1  | TP33                    |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                   |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| LGBF           |                              | FL                             | 3 (D/E)  |   |  |  | S2   | 30                     | 2620    | AMIL-BUTIRÁTOK   |
| LGBF           |                              | FL                             | 3 (D/E)  |   |  |  | S2   | 30                     | 2621    | ACETIL-METIL-KARBINOL                                  |
| L4BH           | TU15                         | FL                             | 2 (D/E)  |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 2622    | GLICIDALDEHID  |
|                |                              |                                | 4 (E)  |   |  |  |  |                        | 2623    | SZILÁRD ALÁGYÚJTÓS gyúlékony folyadékkal impregnálva   |
| SGAN           |                              | AT                             | 2 (D/E)  | V1<br>V12                                 |  | CV23   |  | 423                    | 2624    | MAGNÉZIUM-SZILICID                                     |
| L4BN           | TU3                          | AT                             | 2 (E)  |   |  | CV24   |  | 50                     | 2626    | KLÓRSAV VIZES OLDAT legfeljebb 10% klórsav-tartalommal |
| SGAN           | TU3                          | AT                             | 2 (E)  | V11                                       |  | CV24   |  | 50                     | 2627    | SZERVETLEN NITRITEK, M.N.N.                            |
| S10AH          | TU15<br>TE19                 | AT                             | 1 (C/E)  | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2628    | KÁLIUM-FLUOR-ACETÁT                                    |
| S10AH          | TU15<br>TE19                 | AT                             | 1 (C/E)  | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2629    | NÁTRIUM-FLUOR-ACETÁT                                   |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1 (C/E)  | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2630    | SZELENÁTOK vagy SZELENITEK                             |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1 (C/E)  | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2642    | FLUOR-ECETSAV  |
| L4BH           | TU15<br>TE19                 | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2643    | METIL-BRÓM-ACETÁT                                      |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1 (C/E)  |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2644    | METIL-JODID  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2 (D/E)  | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2645    | FENACIL-BROMID   |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1 (C/E)  |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2646    | HEXAKLÓR-CIKLOPENTADIÉN                                |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2 (D/E)  | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2647    | MALONITRIL   |
| L4BH           | TU15<br>TE19                 | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2648    | 1,2-DIBRÓM-3-BUTANON                                   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2 (D/E)  | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2649    | 1,3-DIKLÓR-ACETON                                      |
| L4BH           | TU15<br>TE19                 | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2650    | 1,1-DIKLÓR-1-NITRO-ETÁN                                |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2 (E)  |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2651    | 4,4'-DIAMINO-DIFENIL-METÁN                             |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|---------|
|            |   |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 2653       | BENZIL-JODID  | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 2655       | KÁLIUM-FLUORO-SZILIKÁT  | 6.1     | T5                       | III                         | 6.1     |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 2656       | KINOLIN   | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |
| 2657       | SZELÉN-DISZULFID  | 6.1     | T5                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 2659       | NÁTRIUM-KLÓR-ACETÁT   | 6.1     | T2                       | III                         | 6.1     |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 2660       | NITRO-TOLUIDINEK (MONO)   | 6.1     | T2                       | III                         | 6.1     |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 2661       | HEXAKLÓR-ACETON   | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |
| 2664       | DIBRÓM-METÁN  | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |
| 2667       | BUTIL-TOLUOLOK  | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |
| 2668       | KLÓR-ACETONITRIL  | 6.1     | TF1                      | II                          | 6.1 + 3 |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 2669       | KLÓR-KREZOL OLDATOK   | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 2669       | KLÓR-KREZOL OLDATOK   | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2     |
| 2670       | CIANUR-KLORID   | 8       | C4                       | II                          | 8       |                                   | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 2671       | AMINO-PIRIDINEK (o-, m-, p-)  | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 2672       | AMMÓNIA OLDAT, vizes,<br>relatív sűrűség 15 °C-on<br>0,880 és 0,957 között,<br>10%-nál több, de legfeljebb 35%<br>ammónia tartalommal | 8       | C5                       | III                         | 8       | 543                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1     |
| 2673       | 2-AMINO-4-KLÓR-FENOL  | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 2674       | NÁTRIUM-FLUORO-SZILIKÁT   | 6.1     | T5                       | III                         | 6.1     |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |

| ADR-tartály  |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód   | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2653    | BENZIL-JODID  |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2655    | KÁLIUM-FLUORO-SZILIKÁT  |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2656    | KINOLIN   |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2657    | SZELÉN-DISZULFID  |
| SGAH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2659    | NÁTRIUM-KLÓR-ACETÁT   |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2660    | NITRO-TOLUIDINEK (MONO)   |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2661    | HEXAKLÓR-ACETON   |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2664    | DIBRÓM-METÁN  |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2667    | BUTIL-TOLUOLOK  |
| L4BH         | TU15<br>TE19         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 2668    | KLÓR-ACETONITRIL  |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2669    | KLÓR-KREZOL OLDATOK   |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2669    | KLÓR-KREZOL OLDATOK   |
| L4BN<br>SGAN |                      | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 2670    | CIANUR-KLORID   |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2671    | AMINO-PIRIDINEK (o-, m-, p-)  |
| L4BN         |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2672    | AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on 0,880 és 0,957 között, 10%-nál több, de legfeljebb 35% ammónia tartalommal |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2673    | 2-AMINO-4-KLÓR-FENOL  |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2674    | NÁTRIUM-FLUORO-SZILIKÁT   |

| UN<br>szám |                                     | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|-------------------------------------|---------|--------------------------|-----------------------------|----------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |                                     |         |                          |                             |                |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2                               | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)                                 | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2676       | SZTIBIN                             | 2       | 2TF                      |                             | 2.3 +<br>2.1   |                                   | LQ0  | E0      | P200                           |   | MP9                                     |  |                         |
| 2677       | RUBÍDIUM-HIDROXID OLDAT             | 8       | C5                       | II                          | 8              |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2677       | RUBÍDIUM-HIDROXID OLDAT             | 8       | C5                       | III                         | 8              |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2678       | RUBÍDIUM-HIDROXID                   | 8       | C6                       | II                          | 8              |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2679       | LÍTIUM-HIDROXID OLDAT               | 8       | C5                       | II                          | 8              |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2679       | LÍTIUM-HIDROXID OLDAT               | 8       | C5                       | III                         | 8              |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP2                     |
| 2680       | LÍTIUM-HIDROXID                     | 8       | C6                       | II                          | 8              |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2681       | CÉZIUM-HIDROXID OLDAT               | 8       | C5                       | II                          | 8              |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2681       | CÉZIUM-HIDROXID OLDAT               | 8       | C5                       | III                         | 8              |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2682       | CÉZIUM-HIDROXID                     | 8       | C6                       | II                          | 8              |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2683       | AMMÓNIUM-SZULFID OLDAT              | 8       | CFT                      | II                          | 8 + 3<br>+ 6.1 |                                   | LQ22                                       | E2      | P001<br>IBC01                  |   | MP15                                    | T7   | TP2                     |
| 2684       | 3-DIETIL-AMINO-PROPIL-AMIN          | 3       | FC                       | III                         | 3 + 8          |                                   | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2685       | N,N-DIETIL-ETILÉN-DIAMIN            | 8       | CF1                      | II                          | 8 + 3          |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2686       | 2-DIETIL-AMINO-ETANOL               | 8       | CF1                      | II                          | 8 + 3          |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2687       | DICIKLOHEXIL-AMMÓNIUM-NITRIT        | 4.1     | F3                       | III                         | 4.1            |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP11                                    | T1   | TP33                    |
| 2688       | 1-BRÓM-3-KLÓR-PROPÁN                | 6.1     | T1                       | III                         | 6.1            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2689       | GLICERIN-alfa-MONOKLÓRHIDRIN        | 6.1     | T1                       | III                         | 6.1            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2690       | N,n-BUTIL-IMIDAZOL                  | 6.1     | T1                       | II                          | 6.1            |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2691       | FOSZFOR-PENTABROMID                 | 8       | C2                       | II                          | 8              |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2692       | BÓR-TRIBROMID                       | 8       | C1                       | I                           | 8              |                                   | LQ0  | E0      | P602                           |   | MP8<br>MP17                             | T20  | TP2                     |
| 2693       | BISZULFITOK, VIZES OLDAT,<br>M.N.N. | 8       | C1                       | III                         | 8              | 274                               | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás             |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|----------------------------------|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |                                  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                            |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                              |
|             |                      |                                | 1<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  |                        | 2676    | SZTIBIN                          |
| L4BN        |                      | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2677    | RUBÍDIUM-HIDROXID OLDAT          |
| L4BN        |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2677    | RUBÍDIUM-HIDROXID OLDAT          |
| SGAN        |                      | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 2678    | RUBÍDIUM-HIDROXID                |
| L4BN        |                      | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2679    | LÍTÍUM-HIDROXID OLDAT            |
| L4BN        |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2679    | LÍTÍUM-HIDROXID OLDAT            |
| SGAN        |                      | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 2680    | LÍTÍUM-HIDROXID                  |
| L4BN        |                      | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2681    | CÉZIUM-HIDROXID OLDAT            |
| L4BN        |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2681    | CÉZIUM-HIDROXID OLDAT            |
| SGAN        |                      | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 2682    | CÉZIUM-HIDROXID                  |
| L4BN        |                      | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2   | 86                     | 2683    | AMMÓNIUM-SZULFID OLDAT           |
| L4BN        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 38                     | 2684    | 3-DIETIL-AMINO-PROPIL-AMIN       |
| L4BN        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 2685    | N,N-DIETIL-ETILÉN-DIAMIN         |
| L4BN        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 2686    | 2-DIETIL-AMINO-ETANOL            |
| SGAV        |                      | AT                             | 3<br>(E)   |   | VV1  |  |  | 40                     | 2687    | DICIKLOHEXIL-AMMÓNIUM-NITRIT     |
| L4BH        | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2688    | 1-BRÓM-3-KLÓR-PROPÁN             |
| L4BH        | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2689    | GLICERIN-alfa-MONOKLÓRHIDRIN     |
| L4BH        | TU15<br>TE19         | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2690    | N,n-BUTIL-IMIDAZOL               |
| SGAN        |                      | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 2691    | FOSZFOR-PENTABROMID              |
| L10BH       |                      | AT                             | 1<br>(E)   |   |  |  | S20  | X88                    | 2692    | BÓR-TRIBROMID                    |
| L4BN        |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2693    | BISZULFITOK, VIZES OLDAT, M.N.N. |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |              |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2698       | TETRAHIDRO-<br>FTÁLSAVANHIDRIDEK<br>0,05%-nál több maleinsavanhidriddel | 8       | C4                       | III                         | 8            | 169                               | LQ24                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | PP14<br>B3                                    | MP10                                    | T1   | TP33                    |
| 2699       | TRIFLUOR-ECETSAV  | 8       | C3                       | I                           | 8            |                                   | LQ0  | E0      | P001                           |   | MP8<br>MP17                             | T10  | TP2                     |
| 2705       | 1-PENTOL  | 8       | C9                       | II                          | 8            |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2707       | DIMETIL-DIOXÁNOK  | 3       | F1                       | II                          | 3            |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2707       | DIMETIL-DIOXÁNOK  | 3       | F1                       | III                         | 3            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2709       | BUTIL-BENZOLOK  | 3       | F1                       | III                         | 3            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2710       | DIPROPIL-KETON  | 3       | F1                       | III                         | 3            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2713       | AKRIDIN   | 6.1     | T2                       | III                         | 6.1          |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2714       | CINK-REZINÁT  | 4.1     | F3                       | III                         | 4.1          |                                   | LQ9  | E1      | P002<br>IBC06<br>R001          |   | MP11                                    | T1   | TP33                    |
| 2715       | ALUMÍNIUM-REZINÁT   | 4.1     | F3                       | III                         | 4.1          |                                   | LQ9  | E1      | P002<br>IBC06<br>R001          |   | MP11                                    | T1   | TP33                    |
| 2716       | BUTIN-1,4-DIOL  | 6.1     | T2                       | III                         | 6.1          |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2717       | KÁMFOR, szintetikus   | 4.1     | F1                       | III                         | 4.1          |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2719       | BÁRIUM-BROMÁT   | 5.1     | OT2                      | II                          | 5.1 +<br>6.1 |                                   | LQ11                                       | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 2720       | KRÓM-NITRÁT   | 5.1     | O2                       | III                         | 5.1          |                                   | LQ12                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2721       | RÉZ-KLORÁT  | 5.1     | O2                       | II                          | 5.1          |                                   | LQ11                                       | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 2722       | LÍTIUM-NITRÁT   | 5.1     | O2                       | III                         | 5.1          |                                   | LQ12                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2723       | MAGNÉZIUM-KLORÁT  | 5.1     | O2                       | II                          | 5.1          |                                   | LQ11                                       | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |



| ADR-tartály  |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyjelölő számok | UN szám | Megnevezés és leírás  |
|--------------|----------------------|--------------------------------|--|---|--|--|--|----------------------|---------|---|
| Tartálykód   | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                      |         |   |
| 4.3          | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3              |         | 3.1.2   |
| (12)         | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                 | (1)     | (2)   |
| L4BN<br>SGAV |                      | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                   | 2698    | TETRAHIDRO-<br>FTÁLSAVANHIDRIDEK<br>0,05%-nál több maleinsavanhidriddel |
| L10BH        |                      | AT                             | 1<br>(E)   |   |  |  | S20  | 88                   | 2699    | TRIFLUOR-ECETSAV  |
| L4BN         |                      | AT                             | 2<br>(E)   |   |  |  |  | 80                   | 2705    | 1-PENTOL  |
| LGBF         |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                   | 2707    | DIMETIL-DIOXÁNOK  |
| LGBF         |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                   | 2707    | DIMETIL-DIOXÁNOK  |
| LGBF         |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                   | 2709    | BUTIL-BENZOLOK  |
| LGBF         |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                   | 2710    | DIPROPIL-KETON  |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                   | 2713    | AKRIDIN   |
| SGAV         |                      | AT                             | 3<br>(E)   | V12                                       | VV1  |  |  | 40                   | 2714    | CINK-REZINÁT  |
| SGAV         |                      | AT                             | 3<br>(E)   | V12                                       | VV1  |  |  | 40                   | 2715    | ALUMÍNIUM-REZINÁT   |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                   | 2716    | BUTIN-1,4-DIOL  |
| SGAV         |                      | AT                             | 3<br>(E)   |   | VV1  |  |  | 40                   | 2717    | KÁMFOR, szintetikus   |
| SGAN         | TU3                  | AT                             | 2<br>(E)   | V11                                       |  | CV24<br>CV28   |  | 56                   | 2719    | BÁRIUM-BROMÁT   |
| SGAV         | TU3                  | AT                             | 3<br>(E)   |   | VV8  | CV24   |  | 50                   | 2720    | KRÓM-NITRÁT   |
| SGAV         | TU3                  | AT                             | 2<br>(E)   | V11                                       | VV8  | CV24   |  | 50                   | 2721    | RÉZ-KLORÁT  |
| SGAV         | TU3                  | AT                             | 3<br>(E)   |   | VV8  | CV24   |  | 50                   | 2722    | LÍTIUM-NITRÁT   |
| SGAV         | TU3                  | AT                             | 2<br>(E)   | V11                                       | VV8  | CV24   |  | 50                   | 2723    | MAGNÉZIUM-KLORÁT  |

| UN<br>szám |   | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák       | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedélyezett<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|---|---------|---------------------|------------------------|--------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------|
|            |   |         |                     |                        |              |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2   | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2        | 3.3                               | 3.4.6  | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)   | (3a)    | (3b)                | (4)                    | (5)          | (6)                               | (7a)   | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 2724       | MANGÁN-NITRÁT   | 5.1     | O2                  | III                    | 5.1          |                                   | LQ12   | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2725       | NIKKEL-NITRÁT   | 5.1     | O2                  | III                    | 5.1          |                                   | LQ12   | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2726       | NIKKEL-NITRIT   | 5.1     | O2                  | III                    | 5.1          |                                   | LQ12   | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2727       | TALLIUM-NITRÁT  | 6.1     | TO2                 | II                     | 6.1 +<br>5.1 |                                   | LQ18   | E4      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33        |
| 2728       | CIRKÓNIUM-NITRÁT  | 5.1     | O2                  | III                    | 5.1          |                                   | LQ12   | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2729       | HEXAKLÓR-BENZOL   | 6.1     | T2                  | III                    | 6.1          |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2730       | FOLYÉKONY NITRO-ANIZOLOK  | 6.1     | T1                  | III                    | 6.1          | 279                               | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 2732       | FOLYÉKONY NITRO-BRÓM-<br>BENZOLOK   | 6.1     | T1                  | III                    | 6.1          |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 2733       | GYÚLÉKONY, MARÓ<br>AMINOK, M.N.N. vagy<br>GYÚLÉKONY, MARÓ<br>POLIAMINOK, M.N.N.                       | 3       | FC                  | I                      | 3 + 8        | 274<br>544                        | LQ3  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP1<br>TP27 |
| 2733       | GYÚLÉKONY, MARÓ<br>AMINOK, M.N.N. vagy<br>GYÚLÉKONY, MARÓ<br>POLIAMINOK, M.N.N.                       | 3       | FC                  | II                     | 3 + 8        | 274<br>544                        | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                    | T11  | TP1<br>TP27 |
| 2733       | GYÚLÉKONY, MARÓ<br>AMINOK, M.N.N. vagy<br>GYÚLÉKONY, MARÓ<br>POLIAMINOK, M.N.N.                       | 3       | FC                  | III                    | 3 + 8        | 274<br>544                        | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP1<br>TP28 |
| 2734       | FOLYÉKONY, MARÓ, GYÚLÉKONY<br>AMINOK, M.N.N. vagy<br>FOLYÉKONY, MARÓ, GYÚLÉKONY<br>POLIAMINOK, M.N.N. | 8       | CF1                 | I                      | 8 + 3        | 274                               | LQ0  | E0      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27 |
| 2734       | FOLYÉKONY, MARÓ, GYÚLÉKONY<br>AMINOK, M.N.N. vagy<br>FOLYÉKONY, MARÓ, GYÚLÉKONY<br>POLIAMINOK, M.N.N. | 8       | CF1                 | II                     | 8 + 3        | 274                               | LQ22   | E2      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27 |
| 2735       | FOLYÉKONY, MARÓ<br>AMINOK, M.N.N. vagy<br>FOLYÉKONY, MARÓ<br>POLIAMINOK, M.N.N.                       | 8       | C7                  | I                      | 8            | 274                               | LQ0  | E0      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27 |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 2724    | MANGÁN-NITRÁT  |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 2725    | NIKKEL-NITRÁT  |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 2726    | NIKKEL-NITRIT  |
| SGAH        | TU15 TE19            | AT                             | 2 (D/E)  | V11 V12                                   |  | CV13 CV28  | S9 S19                                     | 65                     | 2727    | TALLIUM-NITRÁT   |
| SGAV        | TU3                  | AT                             | 3 (E)  |   | VV8  | CV24   |  | 50                     | 2728    | CIRKÓNIUM-NITRÁT   |
| SGAH        | TU15 TE19            | AT                             | 2 (E)  |   | VV9  | CV13 CV28  | S9   | 60                     | 2729    | HEXAKLÓR-BENZOL  |
| L4BH        | TU15 TE19            | AT                             | 2 (E)  |   |  | CV13 CV28  | S9   | 60                     | 2730    | FOLYÉKONY NITRO-ANIZOLOK   |
| L4BH        | TU15 TE19            | AT                             | 2 (E)  |   |  | CV13 CV28  | S9   | 60                     | 2732    | FOLYÉKONY NITRO-BRÓM-BENZOLOK  |
| L10CH       | TU14 TE21            | FL                             | 1 (C/E)  |   |  |  | S2 S20                                     | 338                    | 2733    | GYÚLÉKONY, MARÓ AMINOK, M.N.N. vagy GYÚLÉKONY, MARÓ POLIAMINOK, M.N.N.                       |
| L4BH        |                      | FL                             | 2 (D/E)  |   |  |  | S2 S20                                     | 338                    | 2733    | GYÚLÉKONY, MARÓ AMINOK, M.N.N. vagy GYÚLÉKONY, MARÓ POLIAMINOK, M.N.N.                       |
| L4BN        |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 38                     | 2733    | GYÚLÉKONY, MARÓ AMINOK, M.N.N. vagy GYÚLÉKONY, MARÓ POLIAMINOK, M.N.N.                       |
| L10BH       |                      | FL                             | 1 (D/E)  |   |  |  | S2 S14                                     | 883                    | 2734    | FOLYÉKONY, MARÓ, GYÚLÉKONY AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ, GYÚLÉKONY POLIAMINOK, M.N.N. |
| L4BN        |                      | FL                             | 2 (D/E)  |   |  |  | S2   | 83                     | 2734    | FOLYÉKONY, MARÓ, GYÚLÉKONY AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ, GYÚLÉKONY POLIAMINOK, M.N.N. |
| L10BH       |                      | AT                             | 1 (E)  |   |  |  | S20  | 88                     | 2735    | FOLYÉKONY, MARÓ AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ POLIAMINOK, M.N.N.                       |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|----------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |                |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2735       | FOLYÉKONY, MARÓ<br>AMINOK, M.N.N vagy<br>FOLYÉKONY, MARÓ<br>POLIAMINOK, M.N.N. | 8       | C7                       | II                          | 8              | 274                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T11  | TP1<br>TP27             |
| 2735       | FOLYÉKONY, MARÓ<br>AMINOK, M.N.N vagy<br>FOLYÉKONY, MARÓ<br>POLIAMINOK, M.N.N. | 8       | C7                       | III                         | 8              | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |
| 2738       | N-BUTIL-ANILIN   | 6.1     | T1                       | II                          | 6.1            |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2739       | VAJSAVANHIDRID   | 8       | C3                       | III                         | 8              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2740       | n-PROPIL-KLÓR-FORMIÁT  | 6.1     | TFC                      | I                           | 6.1 + 3<br>+ 8 |                                   | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T20  | TP2                     |
| 2741       | BÁRIUM-HIPOKLORIT<br>22%-nál több szabad klórtartalommal                       | 5.1     | OT2                      | II                          | 5.1 +<br>6.1   |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33                    |
| 2742       | MÉRGEZŐ, MARÓ, GYŰLÉKONY<br>KLÓR-FORMIÁTOK, M.N.N.                             | 6.1     | TFC                      | II                          | 6.1 + 3<br>+ 8 | 274<br>561                        | LQ17                                      | E4      | P001<br>IBC01                  |   | MP15                                    |  |                         |
| 2743       | n-BUTIL-KLÓR-FORMIÁT   | 6.1     | TFC                      | II                          | 6.1 + 3<br>+ 8 |                                   | LQ17                                      | E4      | P001                           |   | MP15                                    | T20  | TP2                     |
| 2744       | CIKLOBUTIL-KLÓR-FORMIÁT  | 6.1     | TFC                      | II                          | 6.1 + 3<br>+ 8 |                                   | LQ17                                      | E4      | P001<br>IBC01                  |   | MP15                                    | T7   | TP2                     |
| 2745       | KLÓR-METIL-KLÓR-FORMIÁT  | 6.1     | TC1                      | II                          | 6.1 + 8        |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2746       | FENIL-KLÓR-FORMIÁT   | 6.1     | TC1                      | II                          | 6.1 + 8        |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2747       | terc-BUTIL-CIKLOHEXIL-KLÓR-<br>FORMIÁT   | 6.1     | T1                       | III                         | 6.1            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2748       | 2-ETIL-HEXIL-KLÓR-FORMIÁT  | 6.1     | TC1                      | II                          | 6.1 + 8        |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2749       | TETRAMETIL-SZILÁN  | 3       | F1                       | I                           | 3              |                                   | LQ3                                       | E3      | P001                           |   | MP7<br>MP17                             | T14  | TP2                     |
| 2750       | 1,3-DIKLÓR-2-PROPANOL  | 6.1     | T1                       | II                          | 6.1            |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2751       | DIETIL-TIOFOSZFORIL-KLORID   | 8       | C3                       | II                          | 8              |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2752       | 1,2-EPOXI-3-ETOXI-PROPÁN   | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2753       | FOLYÉKONY N-ETIL-BENZIL-<br>TOLUIDINEK   | 6.1     | T1                       | III                         | 6.1            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1                     |
| 2754       | N-ETIL-TOLUIDINEK  | 6.1     | T1                       | II                          | 6.1            |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BN        |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2735    | FOLYÉKONY, MARÓ AMINOK, M.N.N vagy FOLYÉKONY, MARÓ POLIAMINOK, M.N.N. |
| L4BN        |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2735    | FOLYÉKONY, MARÓ AMINOK, M.N.N vagy FOLYÉKONY, MARÓ POLIAMINOK, M.N.N. |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2738    | N-BUTIL-ANILIN  |
| L4BN        |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2739    | VAJSAVANHIDRID  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 668                    | 2740    | n-PROPIL-KLÓR-FORMIÁT   |
| SGAN        | TU3                          | AT                             | 2<br>(E)   | V11                                       |  | CV24<br>CV28   |  | 56                     | 2741    | BÁRIUM-HIPOKLORIT<br>22%-nál több szabad klórtartalommal              |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 638                    | 2742    | MÉRGEZŐ, MARÓ, GYÚLÉKONY<br>KLÓR-FORMIÁTOK, M.N.N.                    |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 638                    | 2743    | n-BUTIL-KLÓR-FORMIÁT  |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 638                    | 2744    | CIKLOBUTIL-KLÓR-FORMIÁT   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 2745    | KLÓR-METIL-KLÓR-FORMIÁT   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 2746    | FENIL-KLÓR-FORMIÁT  |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2747    | terc-BUTIL-CIKLOHEXIL-KLÓR-FORMIÁT                                    |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 2748    | 2-ETIL-HEXIL-KLÓR-FORMIÁT   |
| L4BN        |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 2749    | TETRAMETIL-SZILÁN   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2750    | 1,3-DIKLÓR-2-PROPANOL   |
| L4BN        |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2751    | DIETIL-TIOFOSZFORIL-KLORID  |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2752    | 1,2-EPOXI-3-ETOXI-PROPÁN  |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2753    | FOLYÉKONY N-ETIL-BENZIL-TOLUIDINEK                                    |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2754    | N-ETIL-TOLUIDINEK   |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |             |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------|
|            |  |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 2757       | SZILÁRD, MÉRGEZŐ KARBAMÁT<br>PESZTICID   | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33        |
| 2757       | SZILÁRD, MÉRGEZŐ KARBAMÁT<br>PESZTICID   | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 2757       | SZILÁRD, MÉRGEZŐ KARBAMÁT<br>PESZTICID   | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2758       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ KARBAMÁT PESZTICID<br>(lobbanáspont 23 °C alatt)                | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3                                       | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27 |
| 2758       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ KARBAMÁT PESZTICID<br>(lobbanáspont 23 °C alatt)                | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11  | TP2<br>TP27 |
| 2759       | SZILÁRD, MÉRGEZŐ ARZÉN<br>PESZTICID  | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33        |
| 2759       | SZILÁRD, MÉRGEZŐ ARZÉN<br>PESZTICID  | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 2759       | SZILÁRD, MÉRGEZŐ ARZÉN<br>PESZTICID  | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2760       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ ARZÉN PESZTICID<br>(lobbanáspont 23 °C alatt)                   | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3                                       | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27 |
| 2760       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ ARZÉN PESZTICID<br>(lobbanáspont 23 °C alatt)                   | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11  | TP2<br>TP27 |
| 2761       | SZILÁRD, MÉRGEZŐ SZERVES<br>KLÓRTARTALMÚ PESZTICID   | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33        |
| 2761       | SZILÁRD, MÉRGEZŐ SZERVES<br>KLÓRTARTALMÚ PESZTICID   | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 2761       | SZILÁRD, MÉRGEZŐ SZERVES<br>KLÓRTARTALMÚ PESZTICID   | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2762       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ SZERVES<br>KLÓRTARTALMÚ PESZTICID<br>(lobbanáspont 23 °C alatt) | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3                                       | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27 |
| 2762       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ SZERVES<br>KLÓRTARTALMÚ PESZTICID<br>(lobbanáspont 23 °C alatt) | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11  | TP2<br>TP27 |
| 2763       | SZILÁRD, MÉRGEZŐ TRIAZIN<br>PESZTICID  | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33        |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2757    | SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2757    | SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2757    | SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID   |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2758    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID (lobbanáspont 23 °C alatt)             |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2758    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID (lobbanáspont 23 °C alatt)             |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2759    | SZILÁRD, MÉRGEZŐ ARZÉN PESZTICID  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2759    | SZILÁRD, MÉRGEZŐ ARZÉN PESZTICID  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2759    | SZILÁRD, MÉRGEZŐ ARZÉN PESZTICID  |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2760    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ ARZÉN PESZTICID (lobbanáspont 23 °C alatt)                |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2760    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ ARZÉN PESZTICID (lobbanáspont 23 °C alatt)                |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2761    | SZILÁRD, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2761    | SZILÁRD, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2761    | SZILÁRD, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID   |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2762    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID (lobbanáspont 23 °C alatt) |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2762    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID (lobbanáspont 23 °C alatt) |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2763    | SZILÁRD, MÉRGEZŐ TRIAZIN PESZTICID  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2763       | SZILÁRD, MÉRGEZŐ TRIAZIN<br>PESZTICID  | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2763       | SZILÁRD, MÉRGEZŐ TRIAZIN<br>PESZTICID  | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9  | E1      | P002<br>IBC08<br>R001          | B3  | MP10                                    | T1   | TP33                    |
| 2764       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ TRIAZIN PESZTICID<br>(lobbanáspont 23 °C alatt)     | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 2764       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ TRIAZIN PESZTICID<br>(lobbanáspont 23 °C alatt)     | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11  | TP2<br>TP27             |
| 2771       | SZILÁRD, MÉRGEZŐ<br>TIOKARBAMÁT PESZTICID  | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 2771       | SZILÁRD, MÉRGEZŐ<br>TIOKARBAMÁT PESZTICID  | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2771       | SZILÁRD, MÉRGEZŐ<br>TIOKARBAMÁT PESZTICID  | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2772       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ TIOKARBAMÁT<br>PESZTICID (lobbanáspont 23 °C alatt) | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 2772       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ TIOKARBAMÁT<br>PESZTICID (lobbanáspont 23 °C alatt) | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11  | TP2<br>TP27             |
| 2775       | SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ<br>PESZTICID  | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 2775       | SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ<br>PESZTICID  | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2775       | SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ<br>PESZTICID  | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2776       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ RÉZ ALAPÚ PESZTICID<br>(lobbanáspont 23 °C alatt)   | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 2776       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ RÉZ ALAPÚ PESZTICID<br>(lobbanáspont 23 °C alatt)   | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11  | TP2<br>TP27             |
| 2777       | SZILÁRD, MÉRGEZŐ HIGANY<br>ALAPÚ PESZTICID   | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 2777       | SZILÁRD, MÉRGEZŐ HIGANY<br>ALAPÚ PESZTICID   | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2777       | SZILÁRD, MÉRGEZŐ HIGANY<br>ALAPÚ PESZTICID   | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |



| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2763    | SZILÁRD, MÉRGEZŐ TRIAZIN PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2763    | SZILÁRD, MÉRGEZŐ TRIAZIN PESZTICID   |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2764    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TRIAZIN PESZTICID (lobbanáspont 23 °C alatt)     |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2764    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TRIAZIN PESZTICID (lobbanáspont 23 °C alatt)     |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2771    | SZILÁRD, MÉRGEZŐ TIOKARBAMÁT PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2771    | SZILÁRD, MÉRGEZŐ TIOKARBAMÁT PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2771    | SZILÁRD, MÉRGEZŐ TIOKARBAMÁT PESZTICID   |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2772    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID (lobbanáspont 23 °C alatt) |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2772    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID (lobbanáspont 23 °C alatt) |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2775    | SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2775    | SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2775    | SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ PESZTICID   |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2776    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID (lobbanáspont 23 °C alatt)   |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2776    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID (lobbanáspont 23 °C alatt)   |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2777    | SZILÁRD, MÉRGEZŐ HIGANY ALAPÚ PESZTICID  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2777    | SZILÁRD, MÉRGEZŐ HIGANY ALAPÚ PESZTICID  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2777    | SZILÁRD, MÉRGEZŐ HIGANY ALAPÚ PESZTICID  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztartá-<br>rkonténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|---|-------------------------|
|            |   |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                               | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                             | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)  | (11)                    |
| 2778       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ HIGANY ALAPÚ<br>PESZTICID (lobbanáspont 23 °C alatt)                   | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3                                       | E0      | P001                           |   | MP7<br>MP17                             | T14   | TP2<br>TP27             |
| 2778       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ HIGANY ALAPÚ<br>PESZTICID (lobbanáspont 23 °C alatt)                   | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11   | TP2<br>TP27             |
| 2779       | SZILÁRD, MÉRGEZŐ,<br>HELYETTESÍTETT<br>NITRO-FENOL PESZTICID  | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6  | TP33                    |
| 2779       | SZILÁRD, MÉRGEZŐ,<br>HELYETTESÍTETT<br>NITRO-FENOL PESZTICID  | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3  | TP33                    |
| 2779       | SZILÁRD, MÉRGEZŐ,<br>HELYETTESÍTETT<br>NITRO-FENOL PESZTICID  | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1  | TP33                    |
| 2780       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ, HELYETTESÍTETT<br>NITRO-FENOL PESZTICID<br>(lobbanáspont 23 °C alatt) | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3                                       | E0      | P001                           |   | MP7<br>MP17                             | T14   | TP2<br>TP27             |
| 2780       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ, HELYETTESÍTETT<br>NITRO-FENOL PESZTICID<br>(lobbanáspont 23 °C alatt) | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11   | TP2<br>TP27             |
| 2781       | SZILÁRD, MÉRGEZŐ BIPYRIDILIAM<br>PESZTICID  | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6  | TP33                    |
| 2781       | SZILÁRD, MÉRGEZŐ BIPYRIDILIAM<br>PESZTICID  | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3  | TP33                    |
| 2781       | SZILÁRD, MÉRGEZŐ BIPYRIDILIAM<br>PESZTICID  | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1  | TP33                    |
| 2782       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ BIPYRIDILIAM PESZTICID<br>(lobbanáspont 23 °C alatt)                   | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3                                       | E0      | P001                           |   | MP7<br>MP17                             | T14   | TP2<br>TP27             |
| 2782       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ BIPYRIDILIAM PESZTICID<br>(lobbanáspont 23 °C alatt)                   | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11   | TP2<br>TP27             |
| 2783       | SZILÁRD, MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID   | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6  | TP33                    |
| 2783       | SZILÁRD, MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID   | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3  | TP33                    |
| 2783       | SZILÁRD, MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID   | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1  | TP33                    |
| 2784       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID<br>(lobbanáspont 23 °C alatt)     | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3                                       | E0      | P001                           |   | MP7<br>MP17                             | T14   | TP2<br>TP27             |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2778    | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ HIGANY ALAPÚ<br>PESZTICID (lobbanáspont 23 °C alatt)                   |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2778    | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ HIGANY ALAPÚ<br>PESZTICID (lobbanáspont 23 °C alatt)                   |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2779    | SZILÁRD, MÉRGEZŐ,<br>HELYETTESÍTETT<br>NITRO-FENOL PESZTICID  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2779    | SZILÁRD, MÉRGEZŐ,<br>HELYETTESÍTETT<br>NITRO-FENOL PESZTICID  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2779    | SZILÁRD, MÉRGEZŐ,<br>HELYETTESÍTETT<br>NITRO-FENOL PESZTICID  |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2780    | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ, HELYETTESÍTETT<br>NITRO-FENOL PESZTICID<br>(lobbanáspont 23 °C alatt) |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2780    | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ, HELYETTESÍTETT<br>NITRO-FENOL PESZTICID<br>(lobbanáspont 23 °C alatt) |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2781    | SZILÁRD, MÉRGEZŐ BIPRIDILIUM<br>PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2781    | SZILÁRD, MÉRGEZŐ BIPRIDILIUM<br>PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2781    | SZILÁRD, MÉRGEZŐ BIPRIDILIUM<br>PESZTICID   |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2782    | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ BIPRIDILIUM PESZTICID<br>(lobbanáspont 23 °C alatt)                    |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2782    | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ BIPRIDILIUM PESZTICID<br>(lobbanáspont 23 °C alatt)                    |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2783    | SZILÁRD, MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2783    | SZILÁRD, MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2783    | SZILÁRD, MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID   |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2784    | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID<br>(lobbanáspont 23 °C alatt)     |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2784       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID<br>(Jobbanáspont 23 °C alatt)                       | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11  | TP2<br>TP27             |
| 2785       | 4-TIA-PENTANAL  | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2786       | SZILÁRD, MÉRGEZŐ SZERVES ÓN<br>PESZTICID  | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 2786       | SZILÁRD, MÉRGEZŐ SZERVES ÓN<br>PESZTICID  | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2786       | SZILÁRD, MÉRGEZŐ SZERVES ÓN<br>PESZTICID  | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2787       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ SZERVES ÓN PESZTICID<br>(Jobbanáspont 23 °C alatt)                                       | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 2787       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ SZERVES ÓN PESZTICID<br>(Jobbanáspont 23 °C alatt)                                       | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11  | TP2<br>TP27             |
| 2788       | FOLYÉKONY, SZERVES<br>ÓNVEGYÜLET, M.N.N.  | 6.1     | T3                       | I                           | 6.1     | 43<br>274                         | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 2788       | FOLYÉKONY, SZERVES<br>ÓNVEGYÜLET, M.N.N.  | 6.1     | T3                       | II                          | 6.1     | 43<br>274                         | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 2788       | FOLYÉKONY, SZERVES<br>ÓNVEGYÜLET, M.N.N.  | 6.1     | T3                       | III                         | 6.1     | 43<br>274                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2<br>TP28             |
| 2789       | ECETSAV, JÉGECET vagy<br>ECETSAV OLDAT 80 tömeg%-nál több<br>ecetsav-tartalommal  | 8       | CF1                      | II                          | 8 + 3   |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2790       | ECETSAV OLDAT<br>50 tömeg%-nál több, de legfeljebb<br>80 tömeg% ecetsav-tartalommal                                       | 8       | C3                       | II                          | 8       |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2790       | ECETSAV OLDAT<br>10 tömeg%-nál több, de legfeljebb<br>50 tömeg% ecetsav-tartalommal                                       | 8       | C3                       | III                         | 8       | 597<br>647                        | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2793       | VASTARTALMÚ FORGÁCS<br>FŰRÁSBÓL, KÖSZÖRÜLÉSBŐL,<br>ESZTERGÁLÁSBÓL vagy<br>DARABOLÁSBÓL<br>önmelegedésre hajlamos formában | 4.2     | S4                       | III                         | 4.2     | 592                               | LQ0  | E1      | P003<br>IBC08<br>LP02<br>R001  | PP20<br>B3 B6                                 | MP14                                    |  |                         |
| 2794       | NEDVES, SAVAS<br>AKKUMULÁTORTELEPEK<br>elektromosság tárolására   | 8       | C11                      |                             | 8       | 295<br>598                        | LQ0  | E0      | P801<br>P801a                  |   |   |  |                         |
| 2795       | NEDVES, LŰGOS<br>AKKUMULÁTORTELEPEK<br>elektromosság tárolására   | 8       | C11                      |                             | 8       | 295<br>598                        | LQ0  | E0      | P801<br>P801a                  |   |   |  |                         |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2784    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID (lobbanáspont 23 °C alatt)                    |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2785    | 4-TIA-PENTANAL  |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2786    | SZILÁRD, MÉRGEZŐ SZERVES ÓN PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2786    | SZILÁRD, MÉRGEZŐ SZERVES ÓN PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2786    | SZILÁRD, MÉRGEZŐ SZERVES ÓN PESZTICID   |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2787    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID (lobbanáspont 23 °C alatt)                                 |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2787    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID (lobbanáspont 23 °C alatt)                                 |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2788    | FOLYÉKONY, SZERVES ÓNVEGYÜLET, M.N.N.   |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2788    | FOLYÉKONY, SZERVES ÓNVEGYÜLET, M.N.N.   |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2788    | FOLYÉKONY, SZERVES ÓNVEGYÜLET, M.N.N.   |
| L4BN           |                              | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 2789    | ECETSAV, JÉGECET vagy ECETSAV OLDAT 80 tömeg%-nál több ecetsav-tartalommal                                    |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2790    | ECETSAV OLDAT 50 tömeg%-nál több, de legfeljebb 80 tömeg% ecetsav-tartalommal                                 |
| L4BN           |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2790    | ECETSAV OLDAT 10 tömeg%-nál több, de legfeljebb 50 tömeg% ecetsav-tartalommal                                 |
|                |                              |                                | 3<br>(E)   | V1  | VV4  |  |  | 40                     | 2793    | VASTARTALMÚ FORGÁCS FŰRÁSBÓL, KÖSZÖRÜLÉSBÓL, ESZTERGÁLÁSBÓL vagy DARABOLÁSBÓL önmelegedésre hajlamos formában |
|                |                              |                                | 3<br>(E)   |   | VV14   |  |  | 80                     | 2794    | NEDVES, SAVAS AKKUMULÁTORTELEPEK elektromosság tárolására   |
|                |                              |                                | 3<br>(E)   |   | VV14   |  |  | 80                     | 2795    | NEDVES, LŰGOS AKKUMULÁTORTELEPEK elektromosság tárolására   |

[illegible]

| ADR-tartály                     |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|---------------------------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód                      | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3                             | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)                            | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BN                            |                              | AT                             | 2 (E)  |   |  |  |  | 80                     | 2796    | KÉNSAV legfeljebb 51% savtartalommal vagy SAVAS AKKUMULÁTOR FOLYADÉK               |
| L4BN                            |                              | AT                             | 2 (E)  |   |  |  |  | 80                     | 2797    | LÚGOS AKKUMULÁTOR FOLYADÉK   |
| L4BN                            |                              | AT                             | 2 (E)  |   |  |  |  | 80                     | 2798    | FENIL-FOSZFOR-DIKLORID   |
| L4BN                            |                              | AT                             | 2 (E)  |   |  |  |  | 80                     | 2799    | FENIL-TIOFOSZFORIL-DIKLORID  |
|                                 |                              |                                | 3 (E)  |   | VV14   |  |  | 80                     | 2800    | KIFOLYÁSBIZTOS, NEDVES AKKUMULÁTORTELEPEK elektromosság tárolására                 |
| L10BH                           |                              | AT                             | 1 (E)  |   |  |  | S20  | 88                     | 2801    | FOLYÉKONY, MARÓ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N. |
| L4BN                            |                              | AT                             | 2 (E)  |   |  |  |  | 80                     | 2801    | FOLYÉKONY, MARÓ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N. |
| L4BN                            |                              | AT                             | 3 (E)  |   |  |  |  | 80                     | 2801    | FOLYÉKONY, MARÓ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N. |
| SGAV                            |                              | AT                             | 3 (E)  |   | VV9  |  |  | 80                     | 2802    | RÉZ-KLORID   |
| L4BN SGAV                       |                              | AT                             | 3 (E)  |   | VV9  |  |  | 80                     | 2803    | GALLIUM  |
| SGAN                            |                              | AT                             | 2 (D/E)  | V1  |  | CV23   |  | 423                    | 2805    | LÍTIUM-HIDRID, OLVASZTOTT, SZILÁRD   |
|                                 |                              |                                | 1 (E)  | V1  |  | CV23   | S20  |                        | 2806    | LÍTIUM-NITRID  |
| Nem tartozik az ADR hatálya alá |                              |                                |  |   |  |  |  |                        | 2807    | MÁGNESEZETT ANYAG  |
| L4BN                            |                              | AT                             | 3 (E)  |   |  |  |  | 80                     | 2809    | HIGANY   |
| L10CH                           | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1 (C/E)  |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2810    | SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   |
| L4BH                            | TU15<br>TE19                 | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2810    | SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   |
| L4BH                            | TU15<br>TE19                 | AT                             | 2 (E)  |   |  | CV13<br>CV28   | S9   | 60                     | 2810    | SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   |
| L10CH<br>S10AH                  | TU15<br>TE19                 | AT                             | 1 (C/E)  | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2811    | SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
| L4BH<br>SGAH                    | TU15<br>TE19                 | AT                             | 2 (D/E)  | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2811    | SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
| L4BH<br>SGAH                    | TU15<br>TE19                 | AT                             | 2 (E)  |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2811    | SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
| Nem tartozik az ADR hatálya alá |                              |                                |  |   |  |  |  |                        | 2812    | SZILÁRD NÁTRIUM-ALUMINÁT   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztartá-<br>r-konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2813       | VÍZZEL REAKTÍV SZILÁRD ANYAG,<br>M.N.N.   | 4.3     | W2                       | I                           | 4.3          | 274                               | LQ0                                       | E0      | P403<br>IBC99                  | PP83  | MP2                                     | T9   | TP7<br>TP33             |
| 2813       | VÍZZEL REAKTÍV SZILÁRD ANYAG,<br>M.N.N.   | 4.3     | W2                       | II                          | 4.3          | 274                               | LQ11                                      | E2      | P410<br>IBC07                  | PP83  | MP14                                    | T3   | TP33                    |
| 2813       | VÍZZEL REAKTÍV SZILÁRD ANYAG,<br>M.N.N.   | 4.3     | W2                       | III                         | 4.3          | 274                               | LQ12                                      | E1      | P410<br>IBC08<br>R001          | PP83<br>B4                                    | MP14                                    | T1   | TP33                    |
| 2814       | EMBEREKRE ÁRTALMAS FERTŐZŐ<br>ANYAG   | 6.2     | II                       |                             | 6.2          | 318                               | LQ0                                       | E0      | P620                           |   | MP5                                     |  |                         |
| 2814       | EMBEREKRE ÁRTALMAS FERTŐZŐ<br>ANYAG mélyhűtött, cseppfolyósított<br>nitrogénben | 6.2     | II                       |                             | 6.2 +<br>2.2 | 318                               | LQ0                                       | E0      | P620                           |   | MP5                                     |  |                         |
| 2814       | EMBEREKRE ÁRTALMAS FERTŐZŐ<br>ANYAG (csak állati eredetű anyagok)               | 6.2     | II                       |                             | 6.2          | 318                               | LQ0                                       | E0      | P620                           |   | MP5                                     | BK1<br>BK2                                     |                         |
| 2815       | N-AMINO-ETIL-PIPERAZIN  | 8       | C7                       | III                         | 8            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2817       | AMMÓNIUM-HIDROGÉN-<br>DIFLUORID OLDAT   | 8       | CT1                      | II                          | 8 + 6.1      |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2                     |
| 2817       | AMMÓNIUM-HIDROGÉN-<br>DIFLUORID OLDAT   | 8       | CT1                      | III                         | 8 + 6.1      |                                   | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2818       | AMMÓNIUM-POLISZULFID OLDAT  | 8       | CT1                      | II                          | 8 + 6.1      |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2818       | AMMÓNIUM-POLISZULFID OLDAT  | 8       | CT1                      | III                         | 8 + 6.1      |                                   | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2819       | FOSZFORSAV-MONOAMIL-ÉSZTER  | 8       | C3                       | III                         | 8            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2820       | VAJSAV  | 8       | C3                       | III                         | 8            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2821       | FENOL OLDAT   | 6.1     | T1                       | II                          | 6.1          |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2821       | FENOL OLDAT   | 6.1     | T1                       | III                         | 6.1          |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2822       | 2-KLÓR-PIRIDIN  | 6.1     | T1                       | II                          | 6.1          |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2823       | SZILÁRD KROTONSAV   | 8       | C4                       | III                         | 8            |                                   | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |



| ADR-tartály    |                                    | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|----------------|------------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód     | Különleges előírások               |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3            | 4.3.5, 6.8.4                       | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)           | (13)                               | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L10DH<br>S10AN | TU4<br>TU14<br>TU22<br>TE21<br>TM2 | AT                             | 0<br>(E)   | V1  |  | CV23   | S20  | X423                   | 2813    | VÍZZEL REAKTÍV SZILÁRD ANYAG,<br>M.N.N.   |
| SGAN           |                                    | AT                             | 0<br>(D/E)   | V1<br>V12                                 |  | CV23   |  | 423                    | 2813    | VÍZZEL REAKTÍV SZILÁRD ANYAG,<br>M.N.N.   |
| SGAN           |                                    | AT                             | 0<br>(E)   | V1  | VV5  | CV23   |  | 423                    | 2813    | VÍZZEL REAKTÍV SZILÁRD ANYAG,<br>M.N.N.   |
|                |                                    |                                | 0<br>(E)   |   |  | CV13<br>CV25<br>CV26<br>CV28                           | S3<br>S9<br>S15                            |                        | 2814    | EMBEREKRE ÁRTALMAS FERTŐZŐ<br>ANYAG   |
|                |                                    |                                | 0<br>(E)   |   |  | CV13<br>CV25<br>CV26<br>CV28                           | S3<br>S9<br>S15                            |                        | 2814    | EMBEREKRE ÁRTALMAS FERTŐZŐ<br>ANYAG mélyhűtött, cseppfolyósított<br>nitrogénben |
|                |                                    |                                | 0<br>(E)   |   |  | CV13<br>CV25<br>CV26<br>CV28                           | S3<br>S9<br>S15                            | 606                    | 2814    | EMBEREKRE ÁRTALMAS FERTŐZŐ<br>ANYAG (csak állati eredetű anyagok)               |
| L4BN           |                                    | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2815    | N-AMINO-ETIL-PIPERAZIN  |
| L4DH           | TU14<br>TE21<br>TT4                | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   |  | 86                     | 2817    | AMMÓNIUM-HIDROGÉN-<br>DIFLUORID OLDAT   |
| L4DH           | TU14<br>TE21                       | AT                             | 3<br>(E)   |   |  | CV13<br>CV28   |  | 86                     | 2817    | AMMÓNIUM-HIDROGÉN-<br>DIFLUORID OLDAT   |
| L4BN           |                                    | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   |  | 86                     | 2818    | AMMÓNIUM-POLISZULFID OLDAT  |
| L4BN           |                                    | AT                             | 3<br>(E)   |   |  | CV13<br>CV28   |  | 86                     | 2818    | AMMÓNIUM-POLISZULFID OLDAT  |
| L4BN           |                                    | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2819    | FOSZFORSAV-MONOAMIL-ÉSZTER  |
| L4BN           |                                    | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2820    | VAJSAV  |
| L4BH           | TU15<br>TE19                       | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2821    | FENOL OLDAT   |
| L4BH           | TU15<br>TE19                       | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2821    | FENOL OLDAT   |
| L4BH           | TU15<br>TE19                       | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2822    | 2-KLÓR-PIRIDIN  |
| L4BN<br>SGAV   |                                    | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 2823    | SZILÁRD KROTONSAV   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2826       | ETIL-KLÓR-TIOFORMIÁT                          | 8       | CF1                      | II                          | 8 + 3   |                                   | LQ22                                      | E2      | P001                           |   | MP15                                    | T7   | TP2                     |
| 2829       | KAPRONSAV                                     | 8       | C3                       | III                         | 8       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2830       | LÍTIUM-FERROSZILÍCIUM                         | 4.3     | W2                       | II                          | 4.3     |                                   | LQ11                                      | E2      | P410<br>IBC07                  |   | MP14                                    | T3   | TP33                    |
| 2831       | 1,1,1-TRIKLÓR-ETÁN                            | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2834       | FOSZFOROSSAV                                  | 8       | C2                       | III                         | 8       |                                   | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2835       | NÁTRIUM-ALUMÍNIUM-HIDRID                      | 4.3     | W2                       | II                          | 4.3     |                                   | LQ11                                      | E2      | P410<br>IBC04                  |   | MP14                                    | T3   | TP33                    |
| 2837       | BISZULFÁTOK VIZES OLDATAI                     | 8       | C1                       | II                          | 8       | 274                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2837       | BISZULFÁTOK VIZES OLDATAI                     | 8       | C1                       | III                         | 8       | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2838       | VINIL-BUTIRÁT, STABILIZÁLT                    | 3       | F1                       | II                          | 3       |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2839       | ALDOL   | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2840       | BUTIRALDOXIM                                  | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2841       | DI-n-AMIL-AMIN                                | 3       | FT1                      | III                         | 3 + 6.1 |                                   | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1                     |
| 2842       | NITRO-ETÁN                                    | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2844       | KALCIUM-MANGÁN-SZILÍCIUM                      | 4.3     | W2                       | III                         | 4.3     |                                   | LQ12                                      | E1      | P410<br>IBC08<br>R001          | B4  | MP14                                    | T1   | TP33                    |
| 2845       | PIROFOROS, SZERVES FOLYÉKONY<br>ANYAG, M.N.N. | 4.2     | S1                       | I                           | 4.2     | 274                               | LQ0                                       | E0      | P400                           |   | MP2                                     | T22  | TP2<br>TP7              |
| 2846       | PIROFOROS, SZERVES SZILÁRD<br>ANYAG, M.N.N.   | 4.2     | S2                       | I                           | 4.2     | 274                               | LQ0                                       | E0      | P404                           |   | MP13                                    |  |                         |
| 2849       | 3-KLÓR-1-PROPANOL                             | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2850       | TETRAPROPILÉN<br>(PROPILÉN-TETRAMER)          | 3       | F1                       | III                         | 3       |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |

| ADR-tartály |                            | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                       |
|-------------|----------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások       |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4               | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                                      |
| (12)        | (13)                       | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BN        |                            | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 2826    | ETIL-KLÓR-TIOFORMIÁT                       |
| L4BN        |                            | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2829    | KAPRONSAV                                  |
| SGAN        |                            | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  | CV23   |  | 423                    | 2830    | LÍTÍUM-FERROSZILÍCIUM                      |
| L4BH        | TU15<br>TE19               | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2831    | 1,1,1-TRIKLÓR-ETÁN                         |
| SGAV        |                            | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 2834    | FOSZFOROSSAV                               |
| SGAN        |                            | AT                             | 2<br>(D/E)   | V1  |  | CV23   |  | 423                    | 2835    | NÁTRIUM-ALUMÍNIUM-HIDRID                   |
| L4BN        |                            | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 2837    | BISZULFÁTOK VIZES OLDATAI                  |
| L4BN        |                            | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2837    | BISZULFÁTOK VIZES OLDATAI                  |
| LGBF        |                            | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 2838    | VINIL-BUTIRÁT, STABILIZÁLT                 |
| L4BH        | TU15<br>TE19               | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2839    | ALDOL                                      |
| LGBF        |                            | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2840    | BUTIRALDOXIM                               |
| L4BH        | TU15                       | FL                             | 3<br>(D/E)   |   |  | CV13<br>CV28   | S2   | 36                     | 2841    | DI-n-AMIL-AMIN                             |
| LGBF        |                            | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2842    | NITRO-ETÁN                                 |
| SGAN        |                            | AT                             | 3<br>(E)   | V1  | VV5<br>VV7                                     | CV23   |  | 423                    | 2844    | KALCIUM-MANGÁN-SZILÍCIUM                   |
| L21DH       | TU14<br>TC1<br>TE21<br>TM1 | AT                             | 0<br>(B/E)   | V1  |  |  | S20  | 333                    | 2845    | PIROFOROS, SZERVES FOLYÉKONY ANYAG, M.N.N. |
|             |                            |                                | 0<br>(E)   | V1  |  |  | S20  |                        | 2846    | PIROFOROS, SZERVES SZILÁRD ANYAG, M.N.N.   |
| L4BH        | TU15<br>TE19               | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2849    | 3-KLÓR-1-PROPANOL                          |
| LGBF        |                            | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 2850    | TETRAPROPILÉN (PROPILÉN-TETRAMER)          |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|--|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------|
|            |  |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 2851       | BÓR-TRIFLUORID-DIHDRÁT   | 8       | C1                       | II                          | 8            |                                   | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 2852       | DIPIKRIL-SZULFID, legalább<br>10 tömeg% vízzel NEDVESÍTETT   | 4.1     | D                        | I                           | 4.1          | 545                               | LQ0                                       | E0      | P406                           | PP24  | MP2                                     |  |             |
| 2853       | MAGNÉZIUM-FLUORO-SZILIKÁT  | 6.1     | T5                       | III                         | 6.1          |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2854       | AMMÓNIUM-FLUORO-SZILIKÁT   | 6.1     | T5                       | III                         | 6.1          |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2855       | CINK-FLUORO-SZILIKÁT   | 6.1     | T5                       | III                         | 6.1          |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2856       | FLUORO-SZILIKÁTOK, M.N.N.  | 6.1     | T5                       | III                         | 6.1          | 274                               | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2857       | HÜTŐGÉPEK, nem gyúlékony,<br>nem mérgező gáz vagy ammónia oldat<br>(UN 2672) tartalommal   | 2       | 6A                       |                             | 2.2          | 119                               | LQ0                                       | E0      | P003                           | PP32  | MP9                                     |  |             |
| 2858       | SZÁRAZ CIRKÓNIUM, tekercselt<br>huzal, megmunkált lemezek, szalag<br>(254 mikronnál vékonyabb, de legalább<br>18 mikron vastag) formában | 4.1     | F3                       | III                         | 4.1          | 546                               | LQ9                                       | E1      | P002<br>LP02<br>R001           |   | MP11                                    |  |             |
| 2859       | AMMÓNIUM-METAVANADÁT   | 6.1     | T5                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 2861       | AMMÓNIUM-POLIVANADÁT   | 6.1     | T5                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 2862       | VANÁDIUM-PENTOXID,<br>nem olvasztott formában  | 6.1     | T5                       | III                         | 6.1          | 600                               | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2863       | NÁTRIUM-AMMÓNIUM-VANADÁT   | 6.1     | T5                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 2864       | KÁLIUM-METAVANADÁT   | 6.1     | T5                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 2865       | HIDROXIL-AMMÓNIUM-SZULFÁT  | 8       | C2                       | III                         | 8            |                                   | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2869       | TITÁN-TRIKLORID KEVERÉK  | 8       | C2                       | II                          | 8            |                                   | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 2869       | TITÁN-TRIKLORID KEVERÉK  | 8       | C2                       | III                         | 8            |                                   | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2870       | ALUMÍNÍUM-BÓR-HIDRID   | 4.2     | SW                       | I                           | 4.2 +<br>4.3 |                                   | LQ0                                       | E0      | P400                           |   | MP2                                     | T21  | TP7<br>TP33 |
| 2870       | ALUMÍNÍUM-BÓR-HIDRID<br>KÉSZÜLÉKEKBEN  | 4.2     | SW                       | I                           | 4.2 +<br>4.3 |                                   | LQ0                                       | E0      | P002                           | PP13  | MP2                                     |  |             |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BN        |                      | AT                             | 2 (E)  |   |  |  |  | 80                     | 2851    | BÓR-TRIFLUORID-DIHIDRÁT   |
|             |                      |                                | 1 (B)  |   |  |  | S14  |                        | 2852    | DIPIKRIL-SZULFID, legalább 10 tömeg% vízzel NEDVESÍTETT   |
| L4BH SGAH   | TU15 TE19            | AT                             | 2 (E)  |   | VV9  | CV13 CV28  | S9   | 60                     | 2853    | MAGNÉZIUM-FLUORO-SZILIKÁT   |
| L4BH SGAH   | TU15 TE19            | AT                             | 2 (E)  |   | VV9  | CV13 CV28  | S9   | 60                     | 2854    | AMMÓNIUM-FLUORO-SZILIKÁT  |
| L4BH SGAH   | TU15 TE19            | AT                             | 2 (E)  |   | VV9  | CV13 CV28  | S9   | 60                     | 2855    | CINK-FLUORO-SZILIKÁT  |
| L4BH SGAH   | TU15 TE19            | AT                             | 2 (E)  |   | VV9  | CV13 CV28  | S9   | 60                     | 2856    | FLUORO-SZILIKÁTOK, M.N.N.   |
|             |                      |                                | 3 (E)  |   |  | CV9  |  |                        | 2857    | HŰTŐGÉPEK, nem gyúlékony, nem mérgező gáz vagy ammónia oldat (UN 2672) tartalommal  |
|             |                      |                                | 3 (E)  |   | VV1  |  |  | 40                     | 2858    | SZÁRAZ CIRKÓNIUM, tekercselt huzal, megmunkált lemezek, szalag (254 mikronnál vékonyabb, de legalább 18 mikron vastag) formában |
| SGAH        | TU15 TE19            | AT                             | 2 (D/E)  | V11                                       |  | CV13 CV28  | S9 S19                                     | 60                     | 2859    | AMMÓNIUM-METAVANADÁT  |
| SGAH        | TU15 TE19            | AT                             | 2 (D/E)  | V11                                       |  | CV13 CV28  | S9 S19                                     | 60                     | 2861    | AMMÓNIUM-POLIVANADÁT  |
| SGAH        | TU15 TE19            | AT                             | 2 (E)  |   | VV9  | CV13 CV28  | S9   | 60                     | 2862    | VANÁDIUM-PENTOXID, nem olvasztott formában  |
| SGAH        | TU15 TE19            | AT                             | 2 (D/E)  | V11                                       |  | CV13 CV28  | S9 S19                                     | 60                     | 2863    | NÁTRIUM-AMMÓNIUM-VANADÁT  |
| SGAH        | TU15 TE19            | AT                             | 2 (D/E)  | V11                                       |  | CV13 CV28  | S9 S19                                     | 60                     | 2864    | KÁLIUM-METAVANADÁT  |
| SGAV        |                      | AT                             | 3 (E)  |   | VV9  |  |  | 80                     | 2865    | HIDROXIL-AMMÓNIUM-SZULFÁT   |
| SGAN        |                      | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 2869    | TITÁN-TRIKLORID KEVERÉK   |
| SGAV        |                      | AT                             | 3 (E)  |   | VV9  |  |  | 80                     | 2869    | TITÁN-TRIKLORID KEVERÉK   |
| L21DH       | TU14 TC1 TE21 TM1    | AT                             | 0 (E)  | V1  |  |  | S20  | X333                   | 2870    | ALUMÍNÍUM-BÓR-HIDRID  |
|             |                      |                                | 0 (E)  | V1  |  |  | S20  |                        | 2870    | ALUMÍNÍUM-BÓR-HIDRID KÉSZÜLÉKEKBEN  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |             |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------|
|            |   |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 2871       | ANTIMONPOR  | 6.1     | T5                       | III                         | 6.1     |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2872       | DIBRÓM-KLÓR-PROPÁNOK  | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2         |
| 2872       | DIBRÓM-KLÓR-PROPÁNOK  | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 2873       | DIBUTIL-AMINO-ETANOL  | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 2874       | FURFURIL-ALKOHOL  | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1         |
| 2875       | HEXAKLOROFÉN  | 6.1     | T2                       | III                         | 6.1     |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2876       | REZORCIN  | 6.1     | T2                       | III                         | 6.1     |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2878       | TITÁN SZIVACS SZEMCSÉK vagy<br>TITÁN SZIVACS POROK  | 4.1     | F3                       | III                         | 4.1     |                                   | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP11                                    | T1   | TP33        |
| 2879       | SZELÉN-OXIKLORID  | 8       | CT1                      | I                           | 8 + 6.1 |                                   | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             | T10  | TP2         |
| 2880       | KALCIUM-HIPOKLORIT,<br>HIDRATÁLT vagy<br>KALCIUM-HIPOKLORIT HIDRATÁLT<br>KEVERÉK<br>legalább 5,5%, de legfeljebb 16% vízzel | 5.1     | O2                       | II                          | 5.1     | 313<br>314<br>322                 | LQ11                                      | E2      | P002<br>IBC08                  | B4<br>B13                                     | MP10                                    |  |             |
| 2880       | KALCIUM-HIPOKLORIT,<br>HIDRATÁLT vagy<br>KALCIUM-HIPOKLORIT HIDRATÁLT<br>KEVERÉK<br>legalább 5,5%, de legfeljebb 16% vízzel | 5.1     | O2                       | III                         | 5.1     | 313<br>314                        | LQ12                                      | E1      | P002<br>IBC08<br>R001          | B4  | MP10                                    |  |             |
| 2881       | SZÁRAZ FÉM KATALIZÁTOR  | 4.2     | S4                       | I                           | 4.2     | 274                               | LQ0                                       | E0      | P404                           |   | MP13                                    | T21  | TP7<br>TP33 |
| 2881       | SZÁRAZ FÉM KATALIZÁTOR  | 4.2     | S4                       | II                          | 4.2     | 274                               | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33        |
| 2881       | SZÁRAZ FÉM KATALIZÁTOR  | 4.2     | S4                       | III                         | 4.2     | 274                               | LQ0                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                    | T1   | TP33        |
| 2900       | csak ÁLLATOKRA ÁRTALMAS<br>FERTŐZŐ ANYAG  | 6.2     | I2                       |                             | 6.2     | 318                               | LQ0                                       | E0      | P620                           |   | MP5                                     |  |             |

| ADR-tartály  |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód   | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2871    | ANTIMONPOR  |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2872    | DIBRÓM-KLÓR-PROPÁNOK  |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2872    | DIBRÓM-KLÓR-PROPÁNOK  |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2873    | DIBUTIL-AMINO-ETANOL  |
| L4BH         | TU15<br>TE19         | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2874    | FURFURIL-ALKOHOL  |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2875    | HEXAKLOROFÉN  |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 2876    | REZORCIN  |
| SGAV         |                      | AT                             | 3<br>(E)   |   | VV1  |  |  | 40                     | 2878    | TITÁN SZIVACS SZEMCSÉK vagy<br>TITÁN SZIVACS POROK  |
| L10BH        |                      | AT                             | 1<br>(C/D)   |   |  | CV13<br>CV28   | S14  | X886                   | 2879    | SZELÉN-OXIKLORID  |
| SGAN         | TU3                  | AT                             | 2<br>(E)   | V11                                       |  | CV24<br>CV35   |  | 50                     | 2880    | KALCIUM-HIPOKLORIT,<br>HIDRATÁLT vagy<br>KALCIUM-HIPOKLORIT HIDRATÁLT<br>KEVERÉK<br>legalább 5,5%, de legfeljebb 16% vízzel |
| SGAV         | TU3                  | AT                             | 3<br>(E)   |   | VV8  | CV24<br>CV35   |  | 50                     | 2880    | KALCIUM-HIPOKLORIT,<br>HIDRATÁLT vagy<br>KALCIUM-HIPOKLORIT HIDRATÁLT<br>KEVERÉK<br>legalább 5,5%, de legfeljebb 16% vízzel |
|              |                      | AT                             | 0<br>(B/E)   | V1  |  |  | S20  | 43                     | 2881    | SZÁRAZ FÉM KATALIZÁTOR  |
| SGAN         |                      | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  |  |  | 40                     | 2881    | SZÁRAZ FÉM KATALIZÁTOR  |
| SGAN         |                      | AT                             | 3<br>(E)   | V1  | VV4  |  |  | 40                     | 2881    | SZÁRAZ FÉM KATALIZÁTOR  |
|              |                      |                                | 0<br>(E)   |   |  | CV13<br>CV25<br>CV26<br>CV28                           | S3<br>S9<br>S15                            |                        | 2900    | csak ÁLLATOKRA ÁRTALMAS<br>FERTŐZŐ ANYAG  |

| UN<br>szám |   | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák           | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|---|---------|---------------------|------------------------|------------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------|
|            |   |         |                     |                        |                  |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2   | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2            | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)   | (3a)    | (3b)                | (4)                    | (5)              | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 2900       | csak ÁLLATOKRA ÁRTALMAS<br>FERTŐZŐ ANYAG mélyhűtött,<br>cseppfolyósított nitrogénben  | 6.2     | I2                  |                        | 6.2 +<br>2.2     | 318                               | LQ0                                       | E0      | P620                           |   | MP5                                     |  |             |
| 2900       | csak ÁLLATOKRA ÁRTALMAS<br>FERTŐZŐ ANYAG (csak állati eredetű<br>anyagok)   | 6.2     | I2                  |                        | 6.2              | 318                               | LQ0                                       | E0      | P620                           |   | MP5                                     | BK1<br>BK2                                     |             |
| 2901       | BRÓM-KLORID   | 2       | 2TOC                |                        | 2.3 +<br>5.1 + 8 |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |             |
| 2902       | FOLYÉKONY, MÉRGEZŐ<br>PESZTICID, M.N.N.   | 6.1     | T6                  | I                      | 6.1              | 61<br>274<br>648                  | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27 |
| 2902       | FOLYÉKONY, MÉRGEZŐ<br>PESZTICID, M.N.N.   | 6.1     | T6                  | II                     | 6.1              | 61<br>274<br>648                  | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27 |
| 2902       | FOLYÉKONY, MÉRGEZŐ<br>PESZTICID, M.N.N.   | 6.1     | T6                  | III                    | 6.1              | 61<br>274<br>648                  | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2<br>TP28 |
| 2903       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY PESZTICID, M.N.N.<br>(lobbanáspont legalább 23 °C)   | 6.1     | TF2                 | I                      | 6.1 + 3          | 61<br>274                         | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27 |
| 2903       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY PESZTICID, M.N.N.<br>(lobbanáspont legalább 23 °C)   | 6.1     | TF2                 | II                     | 6.1 + 3          | 61<br>274                         | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27 |
| 2903       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY PESZTICID, M.N.N.<br>(lobbanáspont legalább 23 °C)   | 6.1     | TF2                 | III                    | 6.1 + 3          | 61<br>274                         | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP2         |
| 2904       | FOLYÉKONY KLÓR-FENOLÁTOK<br>vagy FOLYÉKONY FENOLÁTOK  | 8       | C9                  | III                    | 8                |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    |  |             |
| 2905       | SZILÁRD KLÓR-FENOLÁTOK vagy<br>SZILÁRD FENOLÁTOK  | 8       | C10                 | III                    | 8                |                                   | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 2907       | IZOSZORBID-DINITRÁT KEVERÉK<br>legalább 60% laktózzal, mannózzal,<br>keményítővel vagy kalcium-hidrogén-<br>foszfáttal  | 4.1     | D                   | II                     | 4.1              | 127                               | LQ8                                       | E0      | P406<br>IBC06                  | PP26<br>PP80<br>B12                           | MP2                                     |  |             |
| 2908       | RADIOAKTÍV ANYAG,<br>ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN –<br>ÜRES CSOMAGOLÓESZKÖZ   | 7       |                     |                        |                  | 290                               | LQ0                                       | E0      | Lásd 1.7                       | Lásd<br>4.1.9.1.3                             |   |  |             |
| 2909       | RADIOAKTÍV ANYAG<br>ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN –<br>TERMÉSZETES URÁNBÓL vagy<br>SZEGÉNYÍTETT URÁNBÓL vagy<br>TERMÉSZETES TÓRIUMBÓL<br>KÉSZÜLT GYÁRTMÁNYOK | 7       |                     |                        |                  | 290                               | LQ0                                       | E0      | Lásd 1.7                       | Lásd<br>4.1.9.1.3                             |   |  |             |



| ADR-tartály  |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód   | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|              |                              |                                | 0<br>(E)   |   |  | CV13<br>CV25<br>CV26<br>CV28                           | S3<br>S9<br>S15                            |                        | 2900    | csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG mélyhűtött, cseppfolyósított nitrogénben  |
|              |                              |                                | 0<br>(E)   |   |  | CV13<br>CV25<br>CV26<br>CV28                           | S3<br>S9<br>S15                            | 606                    | 2900    | csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG (csak állati eredetű anyagok)   |
| P*BH(M)      | TA4<br>TT9                   | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 265                    | 2901    | BRÓM-KLORID   |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2902    | FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N.  |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2902    | FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N.  |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2902    | FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N.  |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2903    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PESZTICID, M.N.N. (lobbanáspont legalább 23 °C)   |
| L4BH         | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 2903    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PESZTICID, M.N.N. (lobbanáspont legalább 23 °C)   |
| L4BH         | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 2903    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PESZTICID, M.N.N. (lobbanáspont legalább 23 °C)   |
| L4BN         |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 2904    | FOLYÉKONY KLÓR-FENOLÁTOK vagy FOLYÉKONY FENOLÁTOK   |
| L4BN<br>SGAV |                              | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 2905    | SZILÁRD KLÓR-FENOLÁTOK vagy SZILÁRD FENOLÁTOK   |
|              |                              |                                | 2<br>(B)   | V11<br>V12                                |  |  | S14  |                        | 2907    | IZOSZORBID-DINITRÁT KEVERÉK legalább 60% laktózzal, mannózzal, keményítővel vagy kalcium-hidrogén-foszfáttal                                  |
|              |                              |                                | 4<br>(E)   |   |  | CV33   | S5<br>S13<br>S21                           |                        | 2908    | RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – ÜRES CSOMAGOLÓESZKÖZ  |
|              |                              |                                | 4<br>(E)   |   |  | CV33   | S5<br>S13<br>S21                           |                        | 2909    | RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN – TERMÉSZETES URÁNBÓL vagy SZEGÉNYÍTETT URÁNBÓL vagy TERMÉSZETES TÓRIUMBÓL KÉSZÜLT GYÁRTMÁNYOK |

| UN<br>szám |  | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák  | Különleges<br>előírások | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz           |  |                                    | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|--|---------|---------------------|------------------------|---------|-------------------------|--|---------|---------------------------|--|------------------------------------|--|-------------|
|            |  |         |                     |                        |         |                         |  |         | Csomagolási<br>utasítások | Különleges<br>csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások |  |             |
|            | 3.1.2  | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2   | 3.3                     | 3.4.6                                      | 3.5.1.2 | 4.1.4                     | 4.1.4                                  | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)  | (3a)    | (3b)                | (4)                    | (5)     | (6)                     | (7a)                                       | (7b)    | (8)                       | (9a)                                   | (9b)                               | (10)   | (11)        |
| 2910       | RADIOAKTÍV ANYAG<br>ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN –<br>KORLÁTOZOTT<br>ANYAGMENNYISÉG                            | 7       |                     |                        |         | 290                     | LQ0  | E0      | Lásd 1.7                  | Lásd<br>4.1.9.1.3                      |                                    |  |             |
| 2911       | RADIOAKTÍV ANYAG<br>ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN –<br>KÉSZÜLÉKEK vagy GYÁRTMÁNYOK                              | 7       |                     |                        |         | 290                     | LQ0  | E0      | Lásd 1.7                  | Lásd<br>4.1.9.1.3                      |                                    |  |             |
| 2912       | KIS FAJLAGOS AKTIVITÁSÚ<br>RADIOAKTÍV ANYAG (LSA-I),<br>nem hasadó vagy hasadó-engedményes                         | 7       |                     |                        | 7X      | 172<br>317<br>325       | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9 | Lásd<br>4.1.9.1.3                      |                                    | T5   | TP4         |
| 2913       | RADIOAKTÍV ANYAG,<br>SZENNYEZETT FELÜLETŰ<br>TÁRGYAK (SCO-I vagy SCO-II),<br>nem hasadó vagy hasadó-engedményes    | 7       |                     |                        | 7X      | 172<br>317<br>336       | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9 | Lásd<br>4.1.9.1.3                      |                                    |  |             |
| 2915       | RADIOAKTÍV ANYAG, A TÍPUSÚ<br>KÜLDEMÉNYDARABBAN,<br>nem különleges formában,<br>nem hasadó vagy hasadó-engedményes | 7       |                     |                        | 7X      | 172<br>317<br>325       | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9 | Lásd<br>4.1.9.1.3                      |                                    |  |             |
| 2916       | RADIOAKTÍV ANYAG, B(U) TÍPUSÚ<br>KÜLDEMÉNYDARABBAN,<br>nem hasadó vagy hasadó-engedményes                          | 7       |                     |                        | 7X      | 172<br>317<br>337       | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9 | Lásd<br>4.1.9.1.3                      |                                    |  |             |
| 2917       | RADIOAKTÍV ANYAG, B(M) TÍPUSÚ<br>KÜLDEMÉNYDARABBAN,<br>nem hasadó vagy hasadó-engedményes                          | 7       |                     |                        | 7X      | 172<br>317<br>337       | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9 | Lásd<br>4.1.9.1.3                      |                                    |  |             |
| 2919       | RADIOAKTÍV ANYAG,<br>KÜLÖN MEGEGYEZÉS ALAPJÁN<br>SZÁLLÍTOTT,<br>nem hasadó vagy hasadó-engedményes                 | 7       |                     |                        | 7X      | 172<br>317              | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9 | Lásd<br>4.1.9.1.3                      |                                    |  |             |
| 2920       | GYŰLÉKONY, MARÓ FOLYÉKONY<br>ANYAG, M.N.N.   | 8       | CF1                 | I                      | 8 + 3   | 274                     | LQ0  | E0      | P001                      |  | MP8<br>MP17                        | T14  | TP2<br>TP27 |
| 2920       | GYŰLÉKONY, MARÓ FOLYÉKONY<br>ANYAG, M.N.N.   | 8       | CF1                 | II                     | 8 + 3   | 274                     | LQ22                                       | E2      | P001<br>IBC02             |  | MP15                               | T11  | TP2<br>TP27 |
| 2921       | GYŰLÉKONY, MARÓ SZILÁRD<br>ANYAG, M.N.N.   | 8       | CF2                 | I                      | 8 + 4.1 | 274                     | LQ0  | E0      | P002<br>IBC05             |  | MP18                               | T6   | TP33        |
| 2921       | GYŰLÉKONY, MARÓ SZILÁRD<br>ANYAG, M.N.N.   | 8       | CF2                 | II                     | 8 + 4.1 | 274                     | LQ23                                       | E2      | P002<br>IBC08             | B4                                     | MP10                               | T3   | TP33        |
| 2922       | MÉRGEZŐ, MARÓ FOLYÉKONY<br>ANYAG, M.N.N.   | 8       | CT1                 | I                      | 8 + 6.1 | 274                     | LQ0  | E0      | P001                      |  | MP8<br>MP17                        | T14  | TP2<br>TP27 |
| 2922       | MÉRGEZŐ, MARÓ FOLYÉKONY<br>ANYAG, M.N.N.   | 8       | CT1                 | II                     | 8 + 6.1 | 274                     | LQ22                                       | E2      | P001<br>IBC02             |  | MP15                               | T7   | TP2         |
| 2922       | MÉRGEZŐ, MARÓ FOLYÉKONY<br>ANYAG, M.N.N.   | 8       | CT1                 | III                    | 8 + 6.1 | 274                     | LQ7  | E1      | P001<br>IBC03<br>R001     |  | MP19                               | T7   | TP1<br>TP28 |
| 2923       | MÉRGEZŐ, MARÓ SZILÁRD<br>ANYAG, M.N.N.   | 8       | CT2                 | I                      | 8 + 6.1 | 274                     | LQ0  | E0      | P002<br>IBC05             |  | MP18                               | T6   | TP33        |
| 2923       | MÉRGEZŐ, MARÓ SZILÁRD<br>ANYAG, M.N.N.   | 8       | CT2                 | II                     | 8 + 6.1 | 274                     | LQ23                                       | E2      | P002<br>IBC08             | B4                                     | MP10                               | T3   | TP33        |
| 2923       | MÉRGEZŐ, MARÓ SZILÁRD<br>ANYAG, M.N.N.   | 8       | CT2                 | III                    | 8 + 6.1 | 274                     | LQ24                                       | E1      | P002<br>IBC08<br>R001     | B3                                     | MP10                               | T1   | TP33        |
| 2924       | MARÓ, GYŰLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.   | 3       | FC                  | I                      | 3 + 8   | 274                     | LQ3  | E0      | P001                      |  | MP7<br>MP17                        | T14  | TP2         |

| ADR-tartály              |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|--------------------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód               | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3                      | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)                     | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|                          |                      |                                | 4<br>(E)   |   |  | CV33   | S5<br>S13<br>S21                           |                        | 2910    | RADIOAKTÍV ANYAG<br>ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN –<br>KORLÁTOZOTT<br>ANYAGMENNYISÉG                            |
|                          |                      |                                | 4<br>(E)   |   |  | CV33   | S5<br>S13<br>S21                           |                        | 2911    | RADIOAKTÍV ANYAG<br>ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN –<br>KÉSZÜLÉKEK vagy GYÁRTMÁNYOK                              |
| L2.65CN(+)<br>S2.65AN(+) | TU36<br>TT7<br>TM7   | AT                             | 0<br>(E)   |   | VV16   | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 2912    | KIS FAJLAGOS AKTIVITÁSÚ<br>RADIOAKTÍV ANYAG (LSA-I),<br>nem hasadó vagy hasadó-engedményes                         |
|                          |                      |                                | 0<br>(E)   |   | VV17   | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 2913    | RADIOAKTÍV ANYAG,<br>SZENNYEZETT FELÜLETŰ<br>TÁRGYAK (SCO-I vagy SCO-II),<br>nem hasadó vagy hasadó-engedményes    |
|                          |                      |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S12<br>S13<br>S21             | 70                     | 2915    | RADIOAKTÍV ANYAG, A TÍPUSÚ<br>KÜLDEMÉNYDARABBAN,<br>nem különleges formában,<br>nem hasadó vagy hasadó-engedményes |
|                          |                      |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 2916    | RADIOAKTÍV ANYAG, B(U) TÍPUSÚ<br>KÜLDEMÉNYDARABBAN,<br>nem hasadó vagy hasadó-engedményes                          |
|                          |                      |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 2917    | RADIOAKTÍV ANYAG, B(M) TÍPUSÚ<br>KÜLDEMÉNYDARABBAN,<br>nem hasadó vagy hasadó-engedményes                          |
|                          |                      |                                | 0<br>(–)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 2919    | RADIOAKTÍV ANYAG,<br>KÜLÖN MEGEGYEZÉS ALAPJÁN<br>SZÁLLÍTOTT,<br>nem hasadó vagy hasadó-engedményes                 |
| L10BH                    |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S14                                  | 883                    | 2920    | GYÚLÉKONY, MARÓ FOLYÉKONY<br>ANYAG, M.N.N.   |
| L4BN                     |                      | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 2920    | GYÚLÉKONY, MARÓ FOLYÉKONY<br>ANYAG, M.N.N.   |
| L10BH<br>S10AN           |                      | AT                             | 1<br>(E)   | V10                                       |  |  | S14  | 884                    | 2921    | GYÚLÉKONY, MARÓ SZILÁRD<br>ANYAG, M.N.N.   |
| L4BN<br>SGAN             |                      | AT                             | 2<br>(E)   | V11                                       |  |  |  | 84                     | 2921    | GYÚLÉKONY, MARÓ SZILÁRD<br>ANYAG, M.N.N.   |
| L10BH                    |                      | AT                             | 1<br>(C/D)   |   |  | CV13<br>CV28   | S14  | 886                    | 2922    | MÉRGEZŐ, MARÓ FOLYÉKONY<br>ANYAG, M.N.N.   |
| L4BN                     |                      | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   |  | 86                     | 2922    | MÉRGEZŐ, MARÓ FOLYÉKONY<br>ANYAG, M.N.N.   |
| L4BN                     |                      | AT                             | 3<br>(E)   |   |  | CV13<br>CV28   |  | 86                     | 2922    | MÉRGEZŐ, MARÓ FOLYÉKONY<br>ANYAG, M.N.N.   |
| L10BH<br>S10AN           |                      | AT                             | 1<br>(E)   | V10                                       |  | CV13<br>CV28   | S14  | 886                    | 2923    | MÉRGEZŐ, MARÓ SZILÁRD<br>ANYAG, M.N.N.   |
| L4BN<br>SGAN             |                      | AT                             | 2<br>(E)   | V11                                       |  | CV13<br>CV28   |  | 86                     | 2923    | MÉRGEZŐ, MARÓ SZILÁRD<br>ANYAG, M.N.N.   |
| L4BN<br>SGAV             |                      | AT                             | 3<br>(E)   |   | VV9  | CV13<br>CV28   |  | 86                     | 2923    | MÉRGEZŐ, MARÓ SZILÁRD<br>ANYAG, M.N.N.   |
| L10CH                    | TU14<br>TE21         | FL                             | 1<br>(C/E)   |   |  |  | S2<br>S20                                  | 338                    | 2924    | MARÓ, GYÚLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2924       | MARÓ, GYÚLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.                | 3       | FC                       | II                          | 3 + 8        | 274                               | LQ4                                       | E2      | P001<br>IBC02                  |   | MP19                                    | T11  | TP2<br>TP27             |
| 2924       | MARÓ, GYÚLÉKONY FOLYÉKONY<br>ANYAG, M.N.N.                | 3       | FC                       | III                         | 3 + 8        | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP1<br>TP28             |
| 2925       | MARÓ, SZERVES, GYÚLÉKONY<br>SZILÁRD ANYAG, M.N.N.         | 4.1     | FC1                      | II                          | 4.1 + 8      | 274                               | LQ0                                       | E2      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33                    |
| 2925       | MARÓ, SZERVES, GYÚLÉKONY<br>SZILÁRD ANYAG, M.N.N.         | 4.1     | FC1                      | III                         | 4.1 + 8      | 274                               | LQ0                                       | E1      | P002<br>IBC06<br>R001          |   | MP10                                    | T1   | TP33                    |
| 2926       | MÉRGEZŐ, SZERVES, GYÚLÉKONY<br>SZILÁRD ANYAG, M.N.N.      | 4.1     | FT1                      | II                          | 4.1 +<br>6.1 | 274                               | LQ0                                       | E2      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33                    |
| 2926       | MÉRGEZŐ, SZERVES, GYÚLÉKONY<br>SZILÁRD ANYAG, M.N.N.      | 4.1     | FT1                      | III                         | 4.1 +<br>6.1 | 274                               | LQ0                                       | E1      | P002<br>IBC06<br>R001          |   | MP10                                    | T1   | TP33                    |
| 2927       | MARÓ, SZERVES, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.         | 6.1     | TC1                      | I                           | 6.1 + 8      | 274<br>315                        | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 2927       | MARÓ, SZERVES, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.         | 6.1     | TC1                      | II                          | 6.1 + 8      | 274                               | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 2928       | MARÓ, SZERVES, MÉRGEZŐ<br>SZILÁRD ANYAG, M.N.N.           | 6.1     | TC2                      | I                           | 6.1 + 8      | 274                               | LQ0                                       | E5      | P002<br>IBC05                  |   | MP18                                    | T6   | TP33                    |
| 2928       | MARÓ, SZERVES, MÉRGEZŐ<br>SZILÁRD ANYAG, M.N.N.           | 6.1     | TC2                      | II                          | 6.1 + 8      | 274                               | LQ18                                      | E4      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33                    |
| 2929       | MÉRGEZŐ, FOLYÉKONY,<br>GYÚLÉKONY SZERVES ANYAG,<br>M.N.N. | 6.1     | TF1                      | I                           | 6.1 + 3      | 274<br>315                        | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 2929       | MÉRGEZŐ, FOLYÉKONY,<br>GYÚLÉKONY SZERVES ANYAG,<br>M.N.N. | 6.1     | TF1                      | II                          | 6.1 + 3      | 274                               | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 2930       | MÉRGEZŐ, SZILÁRD, GYÚLÉKONY<br>SZERVES ANYAG, M.N.N.      | 6.1     | TF3                      | I                           | 6.1 +<br>4.1 | 274                               | LQ0                                       | E5      | P002<br>IBC05                  |   | MP18                                    | T6   | TP33                    |
| 2930       | MÉRGEZŐ, SZILÁRD, GYÚLÉKONY<br>SZERVES ANYAG, M.N.N.      | 6.1     | TF3                      | II                          | 6.1 +<br>4.1 | 274                               | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2931       | VANADIL-SZULFÁT   | 6.1     | T5                       | II                          | 6.1          |                                   | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 2933       | METIL-2-KLÓR-PROPIONÁT                                    | 3       | F1                       | III                         | 3            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2934       | IZOPROPIL-2-KLÓR-PROPIONÁT                                | 3       | F1                       | III                         | 3            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2935       | ETIL-2-KLÓR-PROPIONÁT                                     | 3       | F1                       | III                         | 3            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2936       | TIOLAKTONSAV  | 6.1     | T1                       | II                          | 6.1          |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |

| ADR-tartály  |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyjelölő számok | UN szám | Megnevezés és leírás                                |
|--------------|------------------------------|--------------------------------|--|---|--|--|--|----------------------|---------|---|
| Tartánykód   | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                      |         |   |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3              |         | 3.1.2   |
| (12)         | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                 | (1)     | (2)   |
| L4BH         |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                  | 2924    | MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.             |
| L4BN         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 38                   | 2924    | MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.             |
| SGAN         |                              | AT                             | 2<br>(E)   | V11<br>V12                                |  |  |  | 48                   | 2925    | MARÓ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.      |
| SGAN         |                              | AT                             | 3<br>(E)   | V12                                       |  |  |  | 48                   | 2925    | MARÓ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.      |
| SGAN         |                              | AT                             | 2<br>(E)   | V11<br>V12                                |  | CV28   |  | 46                   | 2926    | MÉRGEZŐ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.   |
| SGAN         |                              | AT                             | 3<br>(E)   | V12                                       |  | CV28   |  | 46                   | 2926    | MÉRGEZŐ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.   |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 668                  | 2927    | MARÓ, SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.      |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 68                   | 2927    | MARÓ, SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.      |
| S10AH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10                                       |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 668                  | 2928    | MARÓ, SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.        |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11<br>V12                                |  | CV13<br>CV28   | S9<br>S19                                  | 68                   | 2928    | MARÓ, SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.        |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                  | 2929    | MÉRGEZŐ, FOLYÉKONY, GYÚLÉKONY SZERVES ANYAG, M.N.N. |
| L4BH         | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                   | 2929    | MÉRGEZŐ, FOLYÉKONY, GYÚLÉKONY SZERVES ANYAG, M.N.N. |
|              |                              | AT                             | 1<br>(C/E)   | V10                                       |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 664                  | 2930    | MÉRGEZŐ, SZILÁRD, GYÚLÉKONY SZERVES ANYAG, M.N.N.   |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 64                   | 2930    | MÉRGEZŐ, SZILÁRD, GYÚLÉKONY SZERVES ANYAG, M.N.N.   |
| SGAH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 2931    | VANADIL-SZULFÁT                                     |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                   | 2933    | METIL-2-KLÓR-PROPIONÁT                              |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                   | 2934    | IZOPROPIL-2-KLÓR-PROPIONÁT                          |
| LGBF         |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                   | 2935    | ETIL-2-KLÓR-PROPIONÁT                               |
| L4BH         | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 2936    | TIOLAKTONSAV  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztartá-<br>r-konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|----------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |                |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2937       | FOLYÉKONY alfa-METIL-BENZIL-<br>ALKOHOL  | 6.1     | T1                       | III                         | 6.1            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2940       | 9-FOSZFA-BICIKLONONÁKOK<br>(CIKLOOKTADIÉN-FOSZFINEK)                                     | 4.2     | S2                       | II                          | 4.2            |                                   | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33                    |
| 2941       | FLUOR-ANILINEK   | 6.1     | T1                       | III                         | 6.1            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2942       | 2-TRIFLUOR-METIL-ANILIN  | 6.1     | T1                       | III                         | 6.1            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    |  |                         |
| 2943       | TETRAHIDRO-FURFURIL-AMIN   | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2945       | N-METIL-BUTIL-AMIN   | 3       | FC                       | II                          | 3 + 8          |                                   | LQ4                                       | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP1                     |
| 2946       | 2-AMINO-5-DIETIL-AMINO-PENTÁN  | 6.1     | T1                       | III                         | 6.1            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 2947       | IZOPROPIL-KLÓR-ACETÁT  | 3       | F1                       | III                         | 3              |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1                     |
| 2948       | 3-TRIFLUOR-METIL-ANILIN  | 6.1     | T1                       | II                          | 6.1            |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2949       | HIDRATÁLT NÁTRIUM-HIDROGÉN-<br>SZULFID legalább 25% kristályvíz-<br>tartalommal          | 8       | C6                       | II                          | 8              | 523                               | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T7   | TP2                     |
| 2950       | BEVONT MAGNÉZIUM SZEMCSÉK<br>legalább 149 mikron szemcsemérettel                         | 4.3     | W2                       | III                         | 4.3            |                                   | LQ12                                      | E1      | P410<br>IBC08<br>R001          | B4  | MP14                                    | T1<br>BK2                                      | TP33                    |
| 2956       | 5-terc-BUTIL-2,4,6-TRINITRO-m-<br>XILOL (XILOLMÓSUSZ)                                    | 4.1     | SR1                      | III                         | 4.1            | 638                               | LQ0                                       | E1      | P409                           |   | MP2                                     |  |                         |
| 2965       | BŐR-TRIFLUORID-DIMETIL-ÉTER  | 4.3     | WFC                      | I                           | 4.3 + 3<br>+ 8 |                                   | LQ0                                       | E0      | P401                           |   | MP2                                     | T10  | TP2<br>TP7              |
| 2966       | TIOGLIKOL  | 6.1     | T1                       | II                          | 6.1            |                                   | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 2967       | SZULFAMINSÁV   | 8       | C2                       | III                         | 8              |                                   | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 2968       | MANEB vagy MANEB KÉSZÍTMÉNY,<br>önmelegedéssel szemben STABILIZÁLT                       | 4.3     | W2                       | III                         | 4.3            | 547                               | LQ12                                      | E1      | P002<br>IBC08<br>R001          | B4  | MP14                                    | T1   | TP33                    |
| 2969       | RICINUSMAG vagy<br>RICINUSMAG LISZT vagy<br>RICINUSMAG POGÁCSA vagy<br>RICINUSMAG PEHELY | 9       | M11                      | II                          | 9              | 141                               | LQ25                                      | E2      | P002<br>IBC08                  | PP34<br>B4                                    | MP10                                    | T3<br>BK1<br>BK2                               | TP33                    |

| ADR-tartály  |                                    | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                  |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------|------------------------------------|--------------------------------|--|--|--|--|--|------------------------|---------|---|
| Tartánykód   | Különleges előírások               |                                |  | Különleges előírások a küldemény-darabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4                       | 9.1.1.2                        | (8.6)  | 7.2.4                                      | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                               | (14)                           | (15)   | (16)                                       | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH         | TU15<br>TE19                       | AT                             | 2<br>(E)   |  |  | CV13<br>CV28   | S9   | 60                     | 2937    | FOLYÉKONY alfa-METIL-BENZIL-ALKOHOL   |
| SGAN         |                                    | AT                             | 2<br>(D/E)   | V1<br>V12                                  |  |  |  | 40                     | 2940    | 9-FOSZFA-BICIKLONONÁNOK (CIKLOOKTADIÉN-FOSZFINEK)                               |
| L4BH         | TU15<br>TE19                       | AT                             | 2<br>(E)   |  |  | CV13<br>CV28   | S9   | 60                     | 2941    | FLUOR-ANILINEK  |
| L4BH         | TU15<br>TE19                       | AT                             | 2<br>(E)   |  |  | CV13<br>CV28   | S9   | 60                     | 2942    | 2-TRIFLUOR-METIL-ANILIN   |
| LGBF         |                                    | FL                             | 3<br>(D/E)   |  |  |  | S2   | 30                     | 2943    | TETRAHIDRO-FURFURIL-AMIN  |
| L4BH         |                                    | FL                             | 2<br>(D/E)   |  |  |  | S2<br>S20                                  | 338                    | 2945    | N-METIL-BUTIL-AMIN  |
| L4BH         | TU15<br>TE19                       | AT                             | 2<br>(E)   |  |  | CV13<br>CV28   | S9   | 60                     | 2946    | 2-AMINO-5-DIETIL-AMINO-PENTÁN   |
| LGBF         |                                    | FL                             | 3<br>(D/E)   |  |  |  | S2   | 30                     | 2947    | IZOPROPIL-KLÓR-ACETÁT   |
| L4BH         | TU15<br>TE19                       | AT                             | 2<br>(D/E)   |  |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2948    | 3-TRIFLUOR-METIL-ANILIN   |
| L4BN<br>SGAN |                                    | AT                             | 2<br>(E)   | V11  |  |  |  | 80                     | 2949    | HIDRATÁLT NÁTRIUM-HIDROGÉN-SZULFID legalább 25% kristályvíz-tartalommal         |
| SGAN         |                                    | AT                             | 3<br>(E)   | V1   | VV5  | CV23   |  | 423                    | 2950    | BEVONT MAGNÉZIUM SZEMCSÉK legalább 149 mikron szemcsemérettel                   |
|              |                                    |                                | 3<br>(D)   |  |  | CV14   | S24  |                        | 2956    | 5-terc-BUTIL-2,4,6-TRINITRO-m-XILOL (XILOLMÓSZUSZ)                              |
| L10DH        | TU4<br>TU14<br>TU22<br>TE21<br>TM2 | FL                             | 0<br>(B/E)   | V1   |  | CV23   | S2<br>S20                                  | 382                    | 2965    | BÓR-TRIFLUORID-DIMETIL-ÉTER   |
| L4BH         | TU15<br>TE19                       | AT                             | 2<br>(D/E)   |  |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2966    | TIOGLIKOL   |
| SGAV         |                                    | AT                             | 3<br>(E)   |  | VV9  |  |  | 80                     | 2967    | SZULFAMINSAV  |
| SGAN         |                                    | AT                             | 0<br>(E)   | V1   | VV5  | CV23   |  | 423                    | 2968    | MANEB vagy MANEB KÉSZÍTMÉNY, önmelegedéssel szemben STABILIZÁLT                 |
| SGAV         |                                    | AT                             | 2<br>(E)   | V11  | VV3  |  |  | 90                     | 2969    | RICINUSMAG vagy RICINUSMAG LISZT vagy RICINUSMAG POGÁCSA vagy RICINUSMAG PEHELY |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                    |
|------------|--|---------|--------------------------|-----------------------------|----------------|-----------------------------------|--|---------|--------------------------------|---|---|--|--------------------|
|            |  |         |                          |                             |                |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |                    |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3            |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)               |
| 2977       | RADIOAKTÍV ANYAG,<br>HASADÓ URÁN- HEXAFLUORID  | 7       |                          |                             | 7X +<br>7E + 8 | 172                               | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                    |
| 2978       | RADIOAKTÍV ANYAG,<br>URÁN-HEXAFLUORID,<br>nem hasadó vagy hasadó-engedményes   | 7       |                          |                             | 7X + 8         | 172<br>317                        | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                    |
| 2983       | ETILÉN-OKSID ÉS PROPILÉN-OKSID<br>KEVERÉK legfeljebb 30% etilén-oxid<br>tartalommal  | 3       | FT1                      | I                           | 3 + 6.1        |                                   | LQ0  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP7         |
| 2984       | HIDROGÉN-PEROXID VIZES OLDAT<br>legalább 8%, de 20%-nál kevesebb<br>hidrogén-peroxid tartalommal<br>(szükség szerint stabilizálva) | 5.1     | O1                       | III                         | 5.1            | 65                                | LQ13                                       | E1      | P504<br>IBC02<br>R001          | PP10<br>B5                                    | MP15                                    | T4   | TP1<br>TP6<br>TP24 |
| 2985       | GYÚLÉKONY, MARÓ KLÓR-<br>SZILÁNOK, M.N.N.<br>(lobbanáspont 23 °C alatt)  | 3       | FC                       | II                          | 3 + 8          | 274<br>548                        | LQ4  | E2      | P010                           |   | MP19                                    | T14  | TP2<br>TP7<br>TP27 |
| 2986       | MARÓ, GYÚLÉKONY KLÓR-<br>SZILÁNOK, M.N.N.  | 8       | CF1                      | II                          | 8 + 3          | 274<br>548                        | LQ22                                       | E2      | P010                           |   | MP15                                    | T14  | TP2<br>TP7<br>TP27 |
| 2987       | MARÓ KLÓR-SZILÁNOK, M.N.N.   | 8       | C3                       | II                          | 8              | 274<br>548                        | LQ22                                       | E2      | P010                           |   | MP15                                    | T14  | TP2<br>TP7<br>TP27 |
| 2988       | VÍZZEL REAKTÍV, GYÚLÉKONY,<br>MARÓ KLÓR-SZILÁNOK, M.N.N.   | 4.3     | WFC                      | I                           | 4.3 + 3<br>+ 8 | 274<br>549                        | LQ0  | E0      | P401                           | RR7   | MP2                                     | T14  | TP2<br>TP7         |
| 2989       | DIBÁZIKUS ÓLOM-FOSZFIT   | 4.1     | F3                       | II                          | 4.1            |                                   | LQ8  | E2      | P002<br>IBC08                  | B4  | MP11                                    | T3   | TP33               |
| 2989       | DIBÁZIKUS ÓLOM-FOSZFIT   | 4.1     | F3                       | III                         | 4.1            |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP11                                    | T1   | TP33               |
| 2990       | ÖNFELFÚVÓ MENTŐESZKÖZ  | 9       | M5                       |                             | 9              | 296<br>635                        | LQ0  | E0      | P905                           |   |   |  |                    |
| 2991       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY KARBAMÁT<br>PESZTICID<br>(lobbanáspont legalább 23 °C)  | 6.1     | TF2                      | I                           | 6.1 + 3        | 61<br>274                         | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27        |
| 2991       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY KARBAMÁT<br>PESZTICID<br>(lobbanáspont legalább 23 °C)  | 6.1     | TF2                      | II                          | 6.1 + 3        | 61<br>274                         | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27        |
| 2991       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY KARBAMÁT<br>PESZTICID<br>(lobbanáspont legalább 23 °C)  | 6.1     | TF2                      | III                         | 6.1 + 3        | 61<br>274                         | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP2<br>TP28        |
| 2992       | FOLYÉKONY, MÉRGEZŐ<br>KARBAMÁT PESZTICID   | 6.1     | T6                       | I                           | 6.1            | 61<br>274<br>648                  | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27        |
| 2992       | FOLYÉKONY, MÉRGEZŐ<br>KARBAMÁT PESZTICID   | 6.1     | T6                       | II                          | 6.1            | 61<br>274<br>648                  | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27        |



| ADR-tartály |                                    | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|------------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások               |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                       | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                               | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |                                    |                                | 0<br>(C)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 78                     | 2977    | RADIOAKTÍV ANYAG,<br>HASADÓ URÁN- HEXAFLUORID  |
|             |                                    |                                | 0<br>(C)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 78                     | 2978    | RADIOAKTÍV ANYAG,<br>URÁN-HEXAFLUORID,<br>nem hasadó vagy hasadó-engedményes   |
| L10CH       | TU14<br>TU15<br>TE21               | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 2983    | ETILÉN-OXID ÉS PROPILÉN-OXID<br>KEVERÉK legfeljebb 30% etilén-oxid<br>tartalommal  |
| LGBV        | TU3<br>TC2<br>TE8<br>TE11<br>TT1   | AT                             | 3<br>(E)   |   |  | CV24   |  | 50                     | 2984    | HIDROGÉN-PEROXID VIZES OLDAT<br>legalább 8%, de 20%-nál kevesebb<br>hidrogén-peroxid tartalommal<br>(szükség szerint stabilizálva) |
| L4BH        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | X338                   | 2985    | GYÚLÉKONY, MARÓ KLÓR-<br>SZILÁNOK, M.N.N.<br>(lobbanáspont 23 °C alatt)  |
| L4BN        |                                    | FL                             | 2<br>(D/E)   |   |  |  | S2   | X83                    | 2986    | MARÓ, GYÚLÉKONY KLÓR-<br>SZILÁNOK, M.N.N.  |
| L4BN        |                                    | AT                             | 2<br>(E)   |   |  |  |  | X80                    | 2987    | MARÓ KLÓR-SZILÁNOK, M.N.N.   |
| L10DH       | TU14<br>TU26<br>TE21<br>TM2<br>TM3 | FL                             | 0<br>(B/E)   | V1  |  | CV23   | S2<br>S20                                  | X338                   | 2988    | VÍZZEL REAKTÍV, GYÚLÉKONY,<br>MARÓ KLÓR-SZILÁNOK, M.N.N.   |
| SGAN        |                                    | AT                             | 2<br>(E)   | V11                                       |  |  |  | 40                     | 2989    | DIBÁZIKUS ÓLOM-FOSZFIT   |
| SGAV        |                                    | AT                             | 3<br>(E)   |   | VV1  |  |  | 40                     | 2989    | DIBÁZIKUS ÓLOM-FOSZFIT   |
|             |                                    |                                | 3<br>(E)   |   |  |  |  |                        | 2990    | ÖNFELFÚVÓ MENTŐESZKÖZ  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21       | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2991    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY KARBAMÁT<br>PESZTICID<br>(lobbanáspont legalább 23 °C)  |
| L4BH        | TU15<br>TE19                       | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 2991    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY KARBAMÁT<br>PESZTICID<br>(lobbanáspont legalább 23 °C)  |
| L4BH        | TU15<br>TE19                       | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 2991    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY KARBAMÁT<br>PESZTICID<br>(lobbanáspont legalább 23 °C)  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21       | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2992    | FOLYÉKONY, MÉRGEZŐ<br>KARBAMÁT PESZTICID   |
| L4BH        | TU15<br>TE19                       | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2992    | FOLYÉKONY, MÉRGEZŐ<br>KARBAMÁT PESZTICID   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 2992       | FOLYÉKONY, MÉRGEZŐ<br>KARBAMÁT PESZTICID  | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2<br>TP28             |
| 2993       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY ARZÉN PESZTICID<br>(lobbanáspont legalább 23 °C)                   | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 2993       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY ARZÉN PESZTICID<br>(lobbanáspont legalább 23 °C)                   | 6.1     | TF2                      | II                          | 6.1 + 3 | 61<br>274                         | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 2993       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY ARZÉN PESZTICID<br>(lobbanáspont legalább 23 °C)                   | 6.1     | TF2                      | III                         | 6.1 + 3 | 61<br>274                         | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP2<br>TP28             |
| 2994       | FOLYÉKONY, MÉRGEZŐ ARZÉN<br>PESZTICID   | 6.1     | T6                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 2994       | FOLYÉKONY, MÉRGEZŐ ARZÉN<br>PESZTICID   | 6.1     | T6                       | II                          | 6.1     | 61<br>274<br>648                  | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 2994       | FOLYÉKONY, MÉRGEZŐ ARZÉN<br>PESZTICID   | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2<br>TP28             |
| 2995       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES<br>KLÓRTARTALMÚ PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 2995       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES<br>KLÓRTARTALMÚ PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | II                          | 6.1 + 3 | 61<br>274                         | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 2995       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES<br>KLÓRTARTALMÚ PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | III                         | 6.1 + 3 | 61<br>274                         | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP2<br>TP28             |
| 2996       | FOLYÉKONY, MÉRGEZŐ SZERVES<br>KLÓRTARTALMÚ PESZTICID  | 6.1     | T6                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 2996       | FOLYÉKONY, MÉRGEZŐ SZERVES<br>KLÓRTARTALMÚ PESZTICID  | 6.1     | T6                       | II                          | 6.1     | 61<br>274<br>648                  | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 2996       | FOLYÉKONY, MÉRGEZŐ SZERVES<br>KLÓRTARTALMÚ PESZTICID  | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2<br>TP28             |
| 2997       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY TRIAZIN PESZTICID<br>(lobbanáspont legalább 23 °C)                 | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 2997       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY TRIAZIN PESZTICID<br>(lobbanáspont legalább 23 °C)                 | 6.1     | TF2                      | II                          | 6.1 + 3 | 61<br>274                         | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 2997       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY TRIAZIN PESZTICID<br>(lobbanáspont legalább 23 °C)                 | 6.1     | TF2                      | III                         | 6.1 + 3 | 61<br>274                         | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP2<br>TP28             |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2992    | FOLYÉKONY, MÉRGEZŐ<br>KARBAMÁT PESZTICID  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2993    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY ARZÉN PESZTICID<br>(lobbanáspont legalább 23 °C)                   |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 2993    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY ARZÉN PESZTICID<br>(lobbanáspont legalább 23 °C)                   |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 2993    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY ARZÉN PESZTICID<br>(lobbanáspont legalább 23 °C)                   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2994    | FOLYÉKONY, MÉRGEZŐ ARZÉN<br>PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2994    | FOLYÉKONY, MÉRGEZŐ ARZÉN<br>PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2994    | FOLYÉKONY, MÉRGEZŐ ARZÉN<br>PESZTICID   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2995    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES<br>KLÓRTARTALMÚ PESZTICID<br>(lobbanáspont legalább 23 °C) |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 2995    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES<br>KLÓRTARTALMÚ PESZTICID<br>(lobbanáspont legalább 23 °C) |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 2995    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES<br>KLÓRTARTALMÚ PESZTICID<br>(lobbanáspont legalább 23 °C) |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2996    | FOLYÉKONY, MÉRGEZŐ SZERVES<br>KLÓRTARTALMÚ PESZTICID  |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2996    | FOLYÉKONY, MÉRGEZŐ SZERVES<br>KLÓRTARTALMÚ PESZTICID  |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2996    | FOLYÉKONY, MÉRGEZŐ SZERVES<br>KLÓRTARTALMÚ PESZTICID  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 2997    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY TRIAZIN PESZTICID<br>(lobbanáspont legalább 23 °C)                 |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 2997    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY TRIAZIN PESZTICID<br>(lobbanáspont legalább 23 °C)                 |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 2997    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY TRIAZIN PESZTICID<br>(lobbanáspont legalább 23 °C)                 |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |  | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|--|--|-------------------------|
|            |  |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csmago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                 | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                   | (10)   | (11)                    |
| 2998       | FOLYÉKONY, MÉRGEZŐ TRIAZIN<br>PESZTICID  | 6.1     | T6                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                            | T14  | TP2<br>TP27             |
| 2998       | FOLYÉKONY, MÉRGEZŐ TRIAZIN<br>PESZTICID  | 6.1     | T6                       | II                          | 6.1     | 61<br>274<br>648                  | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                   | T11  | TP2<br>TP27             |
| 2998       | FOLYÉKONY, MÉRGEZŐ TRIAZIN<br>PESZTICID  | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T7   | TP2<br>TP28             |
| 3005       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY TIOKARBAMÁT<br>PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                            | T14  | TP2                     |
| 3005       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY TIOKARBAMÁT<br>PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | II                          | 6.1 + 3 | 61<br>274                         | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                   | T11  | TP2<br>TP27             |
| 3005       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY TIOKARBAMÁT<br>PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | III                         | 6.1 + 3 | 61<br>274                         | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                   | T7   | TP2<br>TP28             |
| 3006       | FOLYÉKONY, MÉRGEZŐ<br>TIOKARBAMÁT PESZTICID  | 6.1     | T6                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                            | T14  | TP2                     |
| 3006       | FOLYÉKONY, MÉRGEZŐ<br>TIOKARBAMÁT PESZTICID  | 6.1     | T6                       | II                          | 6.1     | 61<br>274<br>648                  | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                   | T11  | TP2<br>TP27             |
| 3006       | FOLYÉKONY, MÉRGEZŐ<br>TIOKARBAMÁT PESZTICID  | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T7   | TP2<br>TP28             |
| 3009       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY RÉZ ALAPÚ<br>PESZTICID<br>(lobbanáspont legalább 23 °C)   | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                            | T14  | TP2<br>TP27             |
| 3009       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY RÉZ ALAPÚ<br>PESZTICID<br>(lobbanáspont legalább 23 °C)   | 6.1     | TF2                      | II                          | 6.1 + 3 | 61<br>274                         | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                   | T11  | TP2<br>TP27             |
| 3009       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY RÉZ ALAPÚ<br>PESZTICID<br>(lobbanáspont legalább 23 °C)   | 6.1     | TF2                      | III                         | 6.1 + 3 | 61<br>274                         | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                   | T7   | TP2<br>TP28             |
| 3010       | FOLYÉKONY, MÉRGEZŐ RÉZ<br>ALAPÚ PESZTICID  | 6.1     | T6                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                            | T14  | TP2<br>TP27             |
| 3010       | FOLYÉKONY, MÉRGEZŐ RÉZ<br>ALAPÚ PESZTICID  | 6.1     | T6                       | II                          | 6.1     | 61<br>274<br>648                  | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                   | T11  | TP2<br>TP27             |
| 3010       | FOLYÉKONY, MÉRGEZŐ RÉZ<br>ALAPÚ PESZTICID  | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T7   | TP2<br>TP28             |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 2998    | FOLYÉKONY, MÉRGEZŐ TRIAZIN PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 2998    | FOLYÉKONY, MÉRGEZŐ TRIAZIN PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 2998    | FOLYÉKONY, MÉRGEZŐ TRIAZIN PESZTICID   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3005    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TIOKARBAMÁT PESZTICID<br>(lobbanáspont legalább 23 °C) |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3005    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TIOKARBAMÁT PESZTICID<br>(lobbanáspont legalább 23 °C) |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 3005    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TIOKARBAMÁT PESZTICID<br>(lobbanáspont legalább 23 °C) |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3006    | FOLYÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3006    | FOLYÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3006    | FOLYÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3009    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY RÉZ ALAPÚ PESZTICID<br>(lobbanáspont legalább 23 °C)   |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3009    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY RÉZ ALAPÚ PESZTICID<br>(lobbanáspont legalább 23 °C)   |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 3009    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY RÉZ ALAPÚ PESZTICID<br>(lobbanáspont legalább 23 °C)   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3010    | FOLYÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3010    | FOLYÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3010    | FOLYÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID   |

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3011       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY HIGANY ALAPÚ<br>PESZTICID<br>(lobbanáspont legalább 23 °C)               | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3011       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY HIGANY ALAPÚ<br>PESZTICID<br>(lobbanáspont legalább 23 °C)               | 6.1     | TF2                      | II                          | 6.1 + 3 | 61<br>274                         | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3011       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY HIGANY ALAPÚ<br>PESZTICID<br>(lobbanáspont legalább 23 °C)               | 6.1     | TF2                      | III                         | 6.1 + 3 | 61<br>274                         | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP2<br>TP28             |
| 3012       | FOLYÉKONY, MÉRGEZŐ HIGANY<br>ALAPÚ PESZTICID  | 6.1     | T6                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3012       | FOLYÉKONY, MÉRGEZŐ HIGANY<br>ALAPÚ PESZTICID  | 6.1     | T6                       | II                          | 6.1     | 61<br>274<br>648                  | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3012       | FOLYÉKONY, MÉRGEZŐ HIGANY<br>ALAPÚ PESZTICID  | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2<br>TP28             |
| 3013       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY HELYETTESÍTETT<br>NITRO-FENOL PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3013       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY HELYETTESÍTETT<br>NITRO-FENOL PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | II                          | 6.1 + 3 | 61<br>274                         | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3013       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY HELYETTESÍTETT<br>NITRO-FENOL PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | III                         | 6.1 + 3 | 61<br>274                         | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP2<br>TP28             |
| 3014       | FOLYÉKONY, MÉRGEZŐ<br>HELYETTESÍTETT NITRO-FENOL<br>PESZTICID   | 6.1     | T6                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3014       | FOLYÉKONY, MÉRGEZŐ<br>HELYETTESÍTETT NITRO-FENOL<br>PESZTICID   | 6.1     | T6                       | II                          | 6.1     | 61<br>274<br>648                  | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3014       | FOLYÉKONY, MÉRGEZŐ<br>HELYETTESÍTETT NITRO-FENOL<br>PESZTICID   | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2<br>TP28             |
| 3015       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY BIPIRIDILIUM<br>PESZTICID<br>(lobbanáspont legalább 23 °C)               | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3015       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY BIPIRIDILIUM<br>PESZTICID<br>(lobbanáspont legalább 23 °C)               | 6.1     | TF2                      | II                          | 6.1 + 3 | 61<br>274                         | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3011    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY HIGANY ALAPÚ<br>PESZTICID<br>(lobbanáspont legalább 23 °C)               |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3011    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY HIGANY ALAPÚ<br>PESZTICID<br>(lobbanáspont legalább 23 °C)               |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 3011    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY HIGANY ALAPÚ<br>PESZTICID<br>(lobbanáspont legalább 23 °C)               |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3012    | FOLYÉKONY, MÉRGEZŐ HIGANY<br>ALAPÚ PESZTICID  |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3012    | FOLYÉKONY, MÉRGEZŐ HIGANY<br>ALAPÚ PESZTICID  |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3012    | FOLYÉKONY, MÉRGEZŐ HIGANY<br>ALAPÚ PESZTICID  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3013    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY HELYETTESÍTETT<br>NITRO-FENOL PESZTICID<br>(lobbanáspont legalább 23 °C) |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3013    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY HELYETTESÍTETT<br>NITRO-FENOL PESZTICID<br>(lobbanáspont legalább 23 °C) |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 3013    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY HELYETTESÍTETT<br>NITRO-FENOL PESZTICID<br>(lobbanáspont legalább 23 °C) |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3014    | FOLYÉKONY, MÉRGEZŐ<br>HELYETTESÍTETT NITRO-FENOL<br>PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3014    | FOLYÉKONY, MÉRGEZŐ<br>HELYETTESÍTETT NITRO-FENOL<br>PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3014    | FOLYÉKONY, MÉRGEZŐ<br>HELYETTESÍTETT NITRO-FENOL<br>PESZTICID   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3015    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY BIPRIDILIUM<br>PESZTICID<br>(lobbanáspont legalább 23 °C)                |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3015    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY BIPRIDILIUM<br>PESZTICID<br>(lobbanáspont legalább 23 °C)                |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztartá-<br>rkonténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|---|-------------------------|
|            |  |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                               | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                             | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)  | (11)                    |
| 3015       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY BIPIRIDILIUM<br>PESZTICID<br>(lobbanáspont legalább 23 °C)            | 6.1     | TF2                      | III                         | 6.1 + 3 | 61<br>274                         | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7  | TP2<br>TP28             |
| 3016       | FOLYÉKONY, MÉRGEZŐ<br>BIPIRIDILIUM PESZTICID   | 6.1     | T6                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14   | TP2<br>TP27             |
| 3016       | FOLYÉKONY, MÉRGEZŐ<br>BIPIRIDILIUM PESZTICID   | 6.1     | T6                       | II                          | 6.1     | 61<br>274<br>648                  | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11   | TP2<br>TP27             |
| 3016       | FOLYÉKONY, MÉRGEZŐ<br>BIPIRIDILIUM PESZTICID   | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7  | TP2<br>TP28             |
| 3017       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES<br>FOSZFORTARTALMÚ PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14   | TP2<br>TP27             |
| 3017       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES<br>FOSZFORTARTALMÚ PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | II                          | 6.1 + 3 | 61<br>274                         | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11   | TP2<br>TP27             |
| 3017       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES<br>FOSZFORTARTALMÚ PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | III                         | 6.1 + 3 | 61<br>274                         | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7  | TP2<br>TP28             |
| 3018       | FOLYÉKONY, MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID  | 6.1     | T6                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14   | TP2<br>TP27             |
| 3018       | FOLYÉKONY, MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID  | 6.1     | T6                       | II                          | 6.1     | 61<br>274<br>648                  | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11   | TP2<br>TP27             |
| 3018       | FOLYÉKONY, MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID  | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7  | TP2<br>TP28             |
| 3019       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES ÓN<br>PESZTICID<br>(lobbanáspont legalább 23 °C)              | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14   | TP2<br>TP27             |
| 3019       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES ÓN<br>PESZTICID<br>(lobbanáspont legalább 23 °C)              | 6.1     | TF2                      | II                          | 6.1 + 3 | 61<br>274                         | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11   | TP2<br>TP27             |
| 3019       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES ÓN<br>PESZTICID<br>(lobbanáspont legalább 23 °C)              | 6.1     | TF2                      | III                         | 6.1 + 3 | 61<br>274                         | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7  | TP2<br>TP28             |
| 3020       | FOLYÉKONY, MÉRGEZŐ SZERVES<br>ÓN PESZTICID   | 6.1     | T6                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14   | TP2<br>TP27             |
| 3020       | FOLYÉKONY, MÉRGEZŐ SZERVES<br>ÓN PESZTICID   | 6.1     | T6                       | II                          | 6.1     | 61<br>274<br>648                  | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11   | TP2<br>TP27             |



| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 3015    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY BIPIRIDILIUM<br>PESZTICID<br>(lobbanáspont legalább 23 °C)            |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3016    | FOLYÉKONY, MÉRGEZŐ<br>BIPIRIDILIUM PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3016    | FOLYÉKONY, MÉRGEZŐ<br>BIPIRIDILIUM PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3016    | FOLYÉKONY, MÉRGEZŐ<br>BIPIRIDILIUM PESZTICID   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3017    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES<br>FOSZFORTARTALMÚ PESZTICID<br>(lobbanáspont legalább 23 °C) |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3017    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES<br>FOSZFORTARTALMÚ PESZTICID<br>(lobbanáspont legalább 23 °C) |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 3017    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES<br>FOSZFORTARTALMÚ PESZTICID<br>(lobbanáspont legalább 23 °C) |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3018    | FOLYÉKONY, MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID  |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3018    | FOLYÉKONY, MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID  |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3018    | FOLYÉKONY, MÉRGEZŐ SZERVES<br>FOSZFORTARTALMÚ PESZTICID  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3019    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES ÓN<br>PESZTICID<br>(lobbanáspont legalább 23 °C)              |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3019    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES ÓN<br>PESZTICID<br>(lobbanáspont legalább 23 °C)              |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 3019    | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY SZERVES ÓN<br>PESZTICID<br>(lobbanáspont legalább 23 °C)              |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3020    | FOLYÉKONY, MÉRGEZŐ SZERVES<br>ÓN PESZTICID   |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3020    | FOLYÉKONY, MÉRGEZŐ SZERVES<br>ÓN PESZTICID   |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3020       | FOLYÉKONY, MÉRGEZŐ SZERVES<br>ÓN PESZTICID   | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2<br>TP28             |
| 3021       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ PESZTICID, M.N.N.<br>(lobbanáspont 23 °C alatt)                 | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 3021       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ PESZTICID, M.N.N.<br>(lobbanáspont 23 °C alatt)                 | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11  | TP2<br>TP27             |
| 3022       | 1,2-BUTILÉN-OXID, STABILIZÁLT  | 3       | F1                       | II                          | 3       |                                   | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                     |
| 3023       | 2-METIL-2-HEPTÁNTIOL   | 6.1     | TF1                      | I                           | 6.1 + 3 |                                   | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T20  | TP2<br>TP35             |
| 3024       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ KUMARIN SZÁRMAZÉK<br>PESZTICID<br>(lobbanáspont 23 °C alatt)    | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 3024       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ KUMARIN SZÁRMAZÉK<br>PESZTICID<br>(lobbanáspont 23 °C alatt)    | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4  | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11  | TP2<br>TP27             |
| 3025       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY KUMARIN<br>SZÁRMAZÉK PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3025       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY KUMARIN<br>SZÁRMAZÉK PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | II                          | 6.1 + 3 | 61<br>274                         | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3025       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY KUMARIN<br>SZÁRMAZÉK PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | III                         | 6.1 + 3 | 61<br>274                         | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP1<br>TP28             |
| 3026       | FOLYÉKONY, MÉRGEZŐ KUMARIN<br>SZÁRMAZÉK PESZTICID  | 6.1     | T6                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3026       | FOLYÉKONY, MÉRGEZŐ KUMARIN<br>SZÁRMAZÉK PESZTICID  | 6.1     | T6                       | II                          | 6.1     | 61<br>274<br>648                  | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3026       | FOLYÉKONY, MÉRGEZŐ KUMARIN<br>SZÁRMAZÉK PESZTICID  | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |
| 3027       | SZILÁRD, MÉRGEZŐ KUMARIN<br>SZÁRMAZÉK PESZTICID  | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 3027       | SZILÁRD, MÉRGEZŐ KUMARIN<br>SZÁRMAZÉK PESZTICID  | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3020    | FOLYÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID   |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 3021    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PESZTICID, M.N.N. (lobbanáspont 23 °C alatt)              |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 3021    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PESZTICID, M.N.N. (lobbanáspont 23 °C alatt)              |
| LGBF           |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 339                    | 3022    | 1,2-BUTILÉN-OXID, STABILIZÁLT   |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3023    | 2-METIL-2-HEPTÁNTIOL  |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 3024    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont 23 °C alatt)    |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 3024    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont 23 °C alatt)    |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3025    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C) |
| L4BH           | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3025    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C) |
| L4BH           | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 3025    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C) |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3026    | FOLYÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3026    | FOLYÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3026    | FOLYÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID  |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3027    | SZILÁRD, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3027    | SZILÁRD, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID  |

| UN<br>szám |   | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák  | Különleges<br>előírások | Korlátozott és<br>engedélyezett<br>mennyiség |         | Csomagolóeszköz               |  |                                    | Mobil tartály és<br>ömlesztettáru-<br>konténer |             |
|------------|---|---------|---------------------|------------------------|---------|-------------------------|--|---------|-------------------------------|--|------------------------------------|--|-------------|
|            |   |         |                     |                        |         |                         |  |         | Csomagolási<br>utasítások     | Különleges<br>csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások |  |             |
|            | 3.1.2   | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2   | 3.3                     | 3.4.6  | 3.5.1.2 | 4.1.4                         | 4.1.4                                  | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)   | (3a)    | (3b)                | (4)                    | (5)     | (6)                     | (7a)   | (7b)    | (8)                           | (9a)                                   | (9b)                               | (10)   | (11)        |
| 3027       | SZILÁRD, MÉRGEZŐ KUMARIN<br>SZÁRMAZÉK PESZTICID   | 6.1     | T7                  | III                    | 6.1     | 61<br>274<br>648        | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001 | B3                                     | MP10                               | T1   | TP33        |
| 3028       | SZILÁRD KÁLIUM-HIDROXID<br>TARTALMÚ SZÁRAZ<br>AKKUMULÁTORTÉLEPEK<br>elektromosság tárolására  | 8       | C11                 |                        | 8       | 295<br>304<br>598       | LQ0  | E0      | P801<br>P801a                 |  |                                    |  |             |
| 3048       | ALUMÍNÍUM-FOSZFID PESZTICID   | 6.1     | T7                  | I                      | 6.1     | 153<br>648              | LQ0  | E5      | P002<br>IBC07                 |  | MP18                               | T6   | TP33        |
| 3054       | CIKLOHEXIL-MERKAPTÁN  | 3       | F1                  | III                    | 3       |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1         |
| 3055       | 2-(2-AMINO-ETOXI)-ETANOL  | 8       | C7                  | III                    | 8       |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T4   | TP1         |
| 3056       | n-HEPTALDEHID   | 3       | F1                  | III                    | 3       |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T2   | TP1         |
| 3057       | TRIFLUOR-ACETIL-KLORID  | 2       | 2TC                 |                        | 2.3 + 8 |                         | LQ0  | E0      | P200                          |  | MP9                                | T50  | TP21        |
| 3064       | NITROGLICERIN ALKOHOLOS<br>OLDATBAN 1%-nál több, de legfeljebb<br>5% nitroglicerintartalommal   | 3       | D                   | II                     | 3       |                         | LQ0  | E0      | P300                          |  | MP2                                |  |             |
| 3065       | ALKOHOLOS ITALOK, 70 tf. %-nál<br>több alkoholtartalommal   | 3       | F1                  | II                     | 3       |                         | LQ5  | E2      | P001<br>IBC02<br>R001         | PP2                                    | MP19                               | T4   | TP1         |
| 3065       | ALKOHOLOS ITALOK, 24 tf. %-nál<br>több, de legfeljebb 70 tf. %<br>alkoholtartalommal  | 3       | F1                  | III                    | 3       | 144<br>145<br>247       | LQ7  | E1      | P001<br>IBC03<br>R001         | PP2                                    | MP19                               | T2   | TP1         |
| 3066       | FESTÉK (beleértve a festéket, lakkot,<br>zománcot, sellakot, kencét, polírozót,<br>folyékony töltőanyagot és folyékony<br>lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a<br>festékhígítót vagy oldószert) | 8       | C9                  | II                     | 8       | 163                     | LQ22   | E2      | P001<br>IBC02                 |  | MP15                               | T7   | TP2<br>TP28 |
| 3066       | FESTÉK (beleértve a festéket, lakkot,<br>zománcot, sellakot, kencét, polírozót,<br>folyékony töltőanyagot és folyékony<br>lakkbázist) vagy<br>FESTÉK SEGÉDANYAG (beleértve a<br>festékhígítót vagy oldószert) | 8       | C9                  | III                    | 8       | 163                     | LQ7  | E1      | P001<br>IBC03<br>R001         |  | MP19                               | T4   | TP1<br>TP29 |
| 3070       | ETILÉN-OXID ÉS DIKLÓR-DIFLUOR-<br>METÁN KEVERÉK legfeljebb 12,5%<br>etilén-oxiddal  | 2       | 2A                  |                        | 2.2     |                         | LQ1  | E1      | P200                          |  | MP9                                | T50<br>(M)                                     |             |
| 3071       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY MERKAPTÁNOK,<br>M.N.N. vagy FOLYÉKONY,<br>MÉRGEZŐ, GYÚLÉKONY<br>MERKAPTÁN KEVERÉK, M.N.N.  | 6.1     | TF1                 | II                     | 6.1 + 3 | 274                     | LQ17   | E4      | P001<br>IBC02                 |  | MP15                               | T11  | TP2<br>TP27 |

| ADR-tartály  |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód   | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH<br>SGAH | TU15<br>TE19         | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3027    | SZILÁRD, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID  |
|              |                      |                                | 3<br>(E)   |   | VV14   |  |  | 80                     | 3028    | SZILÁRD KÁLIUM-HIDROXID TARTALMÚ SZÁRAZ AKKUMULÁTORTELEPEK elektromosság tárolására   |
| S10AH        | TU15<br>TE19         | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 642                    | 3048    | ALUMÍNIUM-FOSZFID PESZTICID   |
| LGBF         |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 3054    | CIKLOHEXIL-MERKAPTÁN  |
| L4BN         |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 3055    | 2-(2-AMINO-ETOXI)-ETANOL  |
| LGBF         |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 3056    | n-HEPTALDEHID   |
| P*BH(M)      | TA4<br>TT9           | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                    | 3057    | TRIFLUOR-ACETIL-KLORID  |
|              |                      |                                | 2<br>(B)   |   |  |  | S2<br>S14                                  |                        | 3064    | NITROGLICERIN ALKOHOLOS OLDATBAN 1%-nál több, de legfeljebb 5% nitroglicerintartalommal   |
| LGBF         |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 3065    | ALKOHOLOS ITALOK, 70 tf.-%-nál több alkoholtartalommal  |
| LGBF         |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 3065    | ALKOHOLOS ITALOK, 24 tf.-%-nál több, de legfeljebb 70 tf.-% alkoholtartalommal  |
| L4BN         |                      | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 3066    | FESTÉK (beleértve a festéket, lakkot, zománct, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert) |
| L4BN         |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 3066    | FESTÉK (beleértve a festéket, lakkot, zománct, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert) |
| P*BN(M)      | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 3070    | ETILÉN-OXID ÉS DIKLÓR-DIFLUOR-METÁN KEVERÉK legfeljebb 12,5% etilén-oxiddal   |
| L4BH         | TU15<br>TE19         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3071    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N.  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|---|---------|--------------------------|-----------------------------|----------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------|
|            |   |         |                          |                             |                |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 3072       | NEM ÖNFELFÚVÓ MENTŐESZKÖZ,<br>mely tartozékként veszélyes anyagokat<br>tartalmaz                | 9       | M5                       |                             | 9              | 296<br>635                        | LQ0  | E0      | P905                           |   |   |  |             |
| 3073       | VINIL-PIRIDINEK, STABILIZÁLT  | 6.1     | TFC                      | II                          | 6.1 + 3<br>+ 8 |                                   | LQ17                                       | E4      | P001<br>IBC01                  |   | MP15                                    | T7   | TP2         |
| 3077       | KÖRNYEZETRE VESZÉLYES<br>SZILÁRD ANYAG, M.N.N.  | 9       | M7                       | III                         | 9              | 274<br>335<br>601                 | LQ27                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | PP12<br>B3                                    | MP10                                    | T1<br>BK1<br>BK2                               | TP33        |
| 3078       | CÉRIUM, forgács vagy homokkal<br>szennyezett por  | 4.3     | W2                       | II                          | 4.3            | 550                               | LQ11                                       | E2      | P410<br>IBC07                  |   | MP14                                    | T3   | TP33        |
| 3079       | METAKRILNITRIL, STABILIZÁLT   | 3       | FT1                      | I                           | 3 + 6.1        |                                   | LQ0  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2         |
| 3080       | MÉRGEZŐ, GYÚLÉKONY<br>IZOCIANÁTOK, M.N.N. vagy<br>MÉRGEZŐ, GYÚLÉKONY<br>IZOCIANÁT OLDAT, M.N.N. | 6.1     | TF1                      | II                          | 6.1 + 3        | 274<br>551                        | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27 |
| 3082       | KÖRNYEZETRE VESZÉLYES<br>FOLYÉKONY ANYAG, M.N.N.  | 9       | M6                       | III                         | 9              | 274<br>335<br>601                 | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  | PP1   | MP19                                    | T4   | TP1<br>TP29 |
| 3083       | PERKLORIL-FLUORID   | 2       | 2TO                      |                             | 2.3 +<br>5.1   |                                   | LQ0  | E0      | P200                           |   | MP9                                     | (M)  |             |
| 3084       | GYÚJTÓ HATÁSÚ, MARÓ SZILÁRD<br>ANYAG, M.N.N.  | 8       | CO2                      | I                           | 8 + 5.1        | 274                               | LQ0  | E0      | P002                           |   | MP18                                    | T6   | TP33        |
| 3084       | GYÚJTÓ HATÁSÚ, MARÓ SZILÁRD<br>ANYAG, M.N.N.  | 8       | CO2                      | II                          | 8 + 5.1        | 274                               | LQ23                                       | E2      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33        |
| 3085       | SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ<br>ANYAG, M.N.N.   | 5.1     | OC2                      | I                           | 5.1 + 8        | 274                               | LQ0  | E0      | P503                           |   | MP2                                     |  |             |
| 3085       | SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ<br>ANYAG, M.N.N.   | 5.1     | OC2                      | II                          | 5.1 + 8        | 274                               | LQ11                                       | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33        |
| 3085       | SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ<br>ANYAG, M.N.N.   | 5.1     | OC2                      | III                         | 5.1 + 8        | 274                               | LQ12                                       | E1      | P002<br>IBC08<br>R001          | B3  | MP2                                     | T1   | TP33        |
| 3086       | GYÚJTÓ HATÁSÚ, MÉRGEZŐ<br>SZILÁRD ANYAG, M.N.N.   | 6.1     | TO2                      | I                           | 6.1 +<br>5.1   | 274                               | LQ0  | E5      | P002                           |   | MP18                                    | T6   | TP33        |
| 3086       | GYÚJTÓ HATÁSÚ, MÉRGEZŐ<br>SZILÁRD ANYAG, M.N.N.   | 6.1     | TO2                      | II                          | 6.1 +<br>5.1   | 274                               | LQ18                                       | E4      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33        |
| 3087       | SZILÁRD, MÉRGEZŐ, GYÚJTÓ<br>HATÁSÚ ANYAG, M.N.N.  | 5.1     | OT2                      | I                           | 5.1 +<br>6.1   | 274                               | LQ0  | E0      | P503                           |   | MP2                                     |  |             |
| 3087       | SZILÁRD, MÉRGEZŐ, GYÚJTÓ<br>HATÁSÚ ANYAG, M.N.N.  | 5.1     | OT2                      | II                          | 5.1 +<br>6.1   | 274                               | LQ11                                       | E2      | P002<br>IBC06                  |   | MP2                                     | T3   | TP33        |
| 3087       | SZILÁRD, MÉRGEZŐ, GYÚJTÓ<br>HATÁSÚ ANYAG, M.N.N.  | 5.1     | OT2                      | III                         | 5.1 +<br>6.1   | 274                               | LQ12                                       | E1      | P002<br>IBC08<br>R001          | B3  | MP2                                     | T1   | TP33        |
| 3088       | ÖNMELEGEDŐ, SZERVES SZILÁRD<br>ANYAG, M.N.N.  | 4.2     | S2                       | II                          | 4.2            | 274                               | LQ0  | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33        |
| 3088       | ÖNMELEGEDŐ, SZERVES SZILÁRD<br>ANYAG, M.N.N.  | 4.2     | S2                       | III                         | 4.2            | 274                               | LQ0  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                    | T1   | TP33        |
| 3089       | GYÚLÉKONY FÉMPOR, M.N.N.  | 4.1     | F3                       | II                          | 4.1            | 274<br>552                        | LQ8  | E2      | P002<br>IBC08                  | B4  | MP11                                    | T3   | TP33        |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |                      |                                | 3 (E)  |   |  |  |  |                        | 3072    | NEM ÖNFELFÚVÓ MENTŐESZKÖZ, mely tartozékként veszélyes anyagokat tartalmaz             |
| L4BH        | TU15 TE19            | FL                             | 2 (D/E)  |   |  | CV13 CV28  | S2 S9 S19                                  | 638                    | 3073    | VINIL-PIRIDINEK, STABILIZÁLT   |
| LGBV SGAV   |                      | AT                             | 3 (E)  | V13                                       | VV1  | CV13   |  | 90                     | 3077    | KÖRNYEZETRE VESZÉLYES SZILÁRD ANYAG, M.N.N.  |
| SGAN        |                      | AT                             | 2 (D/E)  | V1 V12                                    |  | CV23   |  | 423                    | 3078    | CÉRIUM, forgács vagy homokkal szennyezett por  |
| L10CH       | TU14 TU15 TE21       | FL                             | 1 (C/E)  |   |  | CV13 CV28  | S2 S22                                     | 336                    | 3079    | METAKRILNITRIL, STABILIZÁLT  |
| L4BH        | TU15 TE19            | FL                             | 2 (D/E)  |   |  | CV13 CV28  | S2 S9 S19                                  | 63                     | 3080    | MÉRGEZŐ, GYÚLÉKONY IZOCIANÁTOK, M.N.N. vagy MÉRGEZŐ, GYÚLÉKONY IZOCIANÁT OLDAT, M.N.N. |
| LGBV        |                      | AT                             | 3 (E)  |   |  | CV13   |  | 90                     | 3082    | KÖRNYEZETRE VESZÉLYES FOLYÉKONY ANYAG, M.N.N.  |
| P*BH(M)     | TA4 TT9              | AT                             | 1 (C/D)  |   |  | CV9 CV10 CV36  | S14  | 265                    | 3083    | PERKLORIL-FLUORID  |
| L10BH S10AN |                      | AT                             | 1 (E)  |   |  | CV24   | S14  | 885                    | 3084    | GYÚJTÓ HATÁSÚ, MARÓ SZILÁRD ANYAG, M.N.N.  |
| L4BN SGAN   |                      | AT                             | 2 (E)  | V11 V12                                   |  | CV24   |  | 85                     | 3084    | GYÚJTÓ HATÁSÚ, MARÓ SZILÁRD ANYAG, M.N.N.  |
|             |                      |                                | 1 (E)  |   |  | CV24   | S20  |                        | 3085    | SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11 V12                                   |  | CV24   |  | 58                     | 3085    | SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   |
| SGAN        | TU3                  | AT                             | 3 (E)  |   |  | CV24   |  | 58                     | 3085    | SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   |
| L10CH S10AH | TU14 TU15 TE19 TE21  | AT                             | 1 (C/E)  |   |  | CV1 CV13 CV28  | S9 S14                                     | 665                    | 3086    | GYÚJTÓ HATÁSÚ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
| L4BH SGAH   | TU15 TE19            | AT                             | 2 (D/E)  | V11 V12                                   |  | CV13 CV28  | S9 S19                                     | 65                     | 3086    | GYÚJTÓ HATÁSÚ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
|             |                      |                                | 1 (E)  |   |  | CV24 CV28  | S20  |                        | 3087    | SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.  |
| SGAN        | TU3                  | AT                             | 2 (E)  | V11 V12                                   |  | CV24 CV28  |  | 56                     | 3087    | SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.  |
| SGAN        | TU3                  | AT                             | 3 (E)  |   |  | CV24 CV28  |  | 56                     | 3087    | SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.  |
| SGAV        |                      | AT                             | 2 (D/E)  | V1 V12                                    |  |  |  | 40                     | 3088    | ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.  |
| SGAV        |                      | AT                             | 3 (E)  | V1  |  |  |  | 40                     | 3088    | ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.  |
| SGAN        |                      | AT                             | 2 (E)  | V11                                       |  |  |  | 40                     | 3089    | GYÚLÉKONY FÉMPOR, M.N.N.   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztartá-<br>r-konténer |         |
|------------|---|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|---------|
|            |   |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 3089       | GYÚLÉKONY FÉMPOR, M.N.N.  | 4.1     | F3                       | III                         | 4.1          | 274<br>552                        | LQ9                                       | E1      | P002<br>IBC06<br>R001          |   | MP11                                    | T1   | TP33    |
| 3090       | FÉMLÍTIUM AKKUMULÁTOROK<br>(beleértve a lítiumötvözet<br>akkumulátorokat is)  | 9       | M4                       | II                          | 9            | 188<br>230<br>310<br>636          | LQ0                                       | E0      | P903<br>P903a<br>P903b         |   |   |  |         |
| 3091       | FÉMLÍTIUM AKKUMULÁTOROK<br>KÉSZÜLÉKBEN vagy FÉMLÍTIUM<br>AKKUMULÁTOROK KÉSZÜLÉKKEL<br>EGYBECSOMAGOLVA (beleértve a<br>lítiumötvözet akkumulátorokat is) | 9       | M4                       | II                          | 9            | 188<br>230<br>636                 | LQ0                                       | E0      | P903<br>P903a<br>P903b         |   |   |  |         |
| 3092       | 1-METOXI-2-PROPANOL   | 3       | F1                       | III                         | 3            |                                   | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T2   | TP1     |
| 3093       | GYÚJTÓ HATÁSÚ, MARÓ<br>FOLYÉKONY ANYAG, M.N.N.  | 8       | CO1                      | I                           | 8 + 5.1      | 274                               | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             |  |         |
| 3093       | GYÚJTÓ HATÁSÚ, MARÓ<br>FOLYÉKONY ANYAG, M.N.N.  | 8       | CO1                      | II                          | 8 + 5.1      | 274                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    |  |         |
| 3094       | VÍZZEL REAKTÍV, MARÓ<br>FOLYÉKONY ANYAG, M.N.N.   | 8       | CW1                      | I                           | 8 + 4.3      | 274                               | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             |  |         |
| 3094       | VÍZZEL REAKTÍV, MARÓ<br>FOLYÉKONY ANYAG, M.N.N.   | 8       | CW1                      | II                          | 8 + 4.3      | 274                               | LQ22                                      | E2      | P001                           |   | MP15                                    |  |         |
| 3095       | ÖNMELEGEDŐ, MARÓ SZILÁRD<br>ANYAG, M.N.N.   | 8       | CS2                      | I                           | 8 + 4.2      | 274                               | LQ0                                       | E0      | P002                           |   | MP18                                    | T6   | TP33    |
| 3095       | ÖNMELEGEDŐ, MARÓ SZILÁRD<br>ANYAG, M.N.N.   | 8       | CS2                      | II                          | 8 + 4.2      | 274                               | LQ23                                      | E2      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33    |
| 3096       | VÍZZEL REAKTÍV, MARÓ SZILÁRD<br>ANYAG, M.N.N.   | 8       | CW2                      | I                           | 8 + 4.3      | 274                               | LQ0                                       | E0      | P002                           |   | MP18                                    | T6   | TP33    |
| 3096       | VÍZZEL REAKTÍV, MARÓ SZILÁRD<br>ANYAG, M.N.N.   | 8       | CW2                      | II                          | 8 + 4.3      | 274                               | LQ23                                      | E2      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33    |
| 3097       | GYÚJTÓ HATÁSÚ, GYÚLÉKONY<br>SZILÁRD ANYAG, M.N.N.   | 4.1     | FO                       | A szállításból ki van zárva |              |                                   |   |         |                                |   |   |  |         |
| 3098       | FOLYÉKONY, MARÓ, GYÚJTÓ<br>HATÁSÚ ANYAG, M.N.N.   | 5.1     | OC1                      | I                           | 5.1 + 8      | 274                               | LQ0                                       | E0      | P502                           |   | MP2                                     |  |         |
| 3098       | FOLYÉKONY, MARÓ, GYÚJTÓ<br>HATÁSÚ ANYAG, M.N.N.   | 5.1     | OC1                      | II                          | 5.1 + 8      | 274                               | LQ10                                      | E2      | P504<br>IBC01                  |   | MP2                                     |  |         |
| 3098       | FOLYÉKONY, MARÓ, GYÚJTÓ<br>HATÁSÚ ANYAG, M.N.N.   | 5.1     | OC1                      | III                         | 5.1 + 8      | 274                               | LQ13                                      | E1      | P504<br>IBC02<br>R001          |   | MP2                                     |  |         |
| 3099       | FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ<br>HATÁSÚ ANYAG, M.N.N.  | 5.1     | OT1                      | I                           | 5.1 +<br>6.1 | 274                               | LQ0                                       | E0      | P502                           |   | MP2                                     |  |         |
| 3099       | FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ<br>HATÁSÚ ANYAG, M.N.N.  | 5.1     | OT1                      | II                          | 5.1 +<br>6.1 | 274                               | LQ10                                      | E2      | P504<br>IBC01                  |   | MP2                                     |  |         |
| 3099       | FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ<br>HATÁSÚ ANYAG, M.N.N.  | 5.1     | OT1                      | III                         | 5.1 +<br>6.1 | 274                               | LQ13                                      | E1      | P504<br>IBC02<br>R001          |   | MP2                                     |  |         |
| 3100       | ÖNMELEGEDŐ, GYÚJTÓ HATÁSÚ<br>SZILÁRD ANYAG, M.N.N.  | 5.1     | OS                       | A szállításból ki van zárva |              |                                   |   |         |                                |   |   |  |         |
| 3101       | B TÍPUSÚ, FOLYÉKONY SZERVES<br>PEROXID  | 5.2     | P1                       |                             | 5.2 + 1      | 122<br>181<br>274                 | LQ14                                      | E0      | P520                           |   | MP4                                     |  |         |



| ADR-tartály                 |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-----------------------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód                  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| SGAV                        |                      | AT                             | 3 (E)  | V12                                       | VV1  |  |  | 40                     | 3089    | GYÚLÉKONY FÉMPOR, M.N.N.  |
|                             |                      |                                | 2 (E)  |   |  |  |  |                        | 3090    | FÉMLÍTIUM AKKUMULÁTOROK (beleértve a lítiumötvözet akkumulátorokat is)  |
|                             |                      |                                | 2 (E)  |   |  |  |  |                        | 3091    | FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKBEN vagy FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECSOMAGOLVA (beleértve a lítiumötvözet akkumulátorokat is) |
| LGBF                        |                      | FL                             | 3 (D/E)  |   |  |  | S2   | 30                     | 3092    | 1-METOXI-2-PROPANOL   |
| L10BH                       |                      | AT                             | 1 (E)  |   |  | CV24   | S14  | 885                    | 3093    | GYÚJTÓ HATÁSÚ, MARÓ FOLYÉKONY ANYAG, M.N.N.   |
| L4BN                        |                      | AT                             | 2 (E)  |   |  | CV24   |  | 85                     | 3093    | GYÚJTÓ HATÁSÚ, MARÓ FOLYÉKONY ANYAG, M.N.N.   |
| L10BH                       |                      | AT                             | 1 (D/E)  |   |  |  | S14  | 823                    | 3094    | VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.  |
| L4BN                        |                      | AT                             | 2 (E)  |   |  |  |  | 823                    | 3094    | VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.  |
| S10AN                       |                      | AT                             | 1 (E)  |   |  |  | S14  | 884                    | 3095    | ÖNMELEGEDŐ, MARÓ SZILÁRD ANYAG, M.N.N.  |
| SGAN                        |                      | AT                             | 2 (E)  | V11<br>V12                                |  |  |  | 84                     | 3095    | ÖNMELEGEDŐ, MARÓ SZILÁRD ANYAG, M.N.N.  |
| L10BH<br>S10AN              |                      | AT                             | 1 (E)  |   |  |  | S14  | 842                    | 3096    | VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.  |
| L4BN<br>SGAN                |                      | AT                             | 2 (E)  | V11<br>V12                                |  |  |  | 842                    | 3096    | VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.  |
| A szállításból ki van zárva |                      |                                |  |   |  |  |  |                        | 3097    | GYÚJTÓ HATÁSÚ, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.  |
|                             |                      |                                | 1 (E)  |   |  | CV24   | S20  |                        | 3098    | FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.  |
|                             |                      |                                | 2 (E)  |   |  | CV24   |  |                        | 3098    | FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.  |
|                             |                      |                                | 3 (E)  |   |  | CV24   |  |                        | 3098    | FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.  |
|                             |                      |                                | 1 (E)  |   |  | CV24<br>CV28   | S20  |                        | 3099    | FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   |
|                             |                      |                                | 2 (E)  |   |  | CV24<br>CV28   |  |                        | 3099    | FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   |
|                             |                      |                                | 3 (E)  |   |  | CV24<br>CV28   |  |                        | 3099    | FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   |
| A szállításból ki van zárva |                      |                                |  |   |  |  |  |                        | 3100    | ÖNMELEGEDŐ, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.   |
|                             |                      |                                | 1 (B)  | V1<br>V5                                  |  | CV15<br>CV20<br>CV22<br>CV24                           | S9<br>S17                                  |                        | 3101    | B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|---------|
|            |   |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 3102       | B TÍPUSÚ, SZILÁRD SZERVES<br>PEROXID                                  | 5.2     | P1                       |                             | 5.2 + 1 | 122<br>181<br>274                 | LQ15                                       | E0      | P520                           |   | MP4                                     |  |         |
| 3103       | C TÍPUSÚ, FOLYÉKONY SZERVES<br>PEROXID                                | 5.2     | P1                       |                             | 5.2     | 122<br>274                        | LQ14                                       | E0      | P520                           |   | MP4                                     |  |         |
| 3104       | C TÍPUSÚ, SZILÁRD SZERVES<br>PEROXID                                  | 5.2     | P1                       |                             | 5.2     | 122<br>274                        | LQ15                                       | E0      | P520                           |   | MP4                                     |  |         |
| 3105       | D TÍPUSÚ, FOLYÉKONY SZERVES<br>PEROXID                                | 5.2     | P1                       |                             | 5.2     | 122<br>274                        | LQ16                                       | E0      | P520                           |   | MP4                                     |  |         |
| 3106       | D TÍPUSÚ, SZILÁRD SZERVES<br>PEROXID                                  | 5.2     | P1                       |                             | 5.2     | 122<br>274                        | LQ11                                       | E0      | P520                           |   | MP4                                     |  |         |
| 3107       | E TÍPUSÚ, FOLYÉKONY SZERVES<br>PEROXID                                | 5.2     | P1                       |                             | 5.2     | 122<br>274                        | LQ16                                       | E0      | P520                           |   | MP4                                     |  |         |
| 3108       | E TÍPUSÚ, SZILÁRD SZERVES<br>PEROXID                                  | 5.2     | P1                       |                             | 5.2     | 122<br>274                        | LQ11                                       | E0      | P520                           |   | MP4                                     |  |         |
| 3109       | F TÍPUSÚ, FOLYÉKONY SZERVES<br>PEROXID                                | 5.2     | P1                       |                             | 5.2     | 122<br>274                        | LQ16                                       | E0      | P520<br>IBC520                 |   | MP4                                     | T23  |         |
| 3110       | F TÍPUSÚ, SZILÁRD SZERVES<br>PEROXID                                  | 5.2     | P1                       |                             | 5.2     | 122<br>274                        | LQ11                                       | E0      | P520<br>IBC520                 |   | MP4                                     | T23  | TP33    |
| 3111       | B TÍPUSÚ, FOLYÉKONY SZERVES<br>PEROXID HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL | 5.2     | P2                       |                             | 5.2 + 1 | 122<br>181<br>274                 | LQ0  | E0      | P520                           |   | MP4                                     |  |         |
| 3112       | B TÍPUSÚ, SZILÁRD SZERVES<br>PEROXID HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL   | 5.2     | P2                       |                             | 5.2 + 1 | 122<br>181<br>274                 | LQ0  | E0      | P520                           |   | MP4                                     |  |         |
| 3113       | C TÍPUSÚ, FOLYÉKONY SZERVES<br>PEROXID HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL | 5.2     | P2                       |                             | 5.2     | 122<br>274                        | LQ0  | E0      | P520                           |   | MP4                                     |  |         |
| 3114       | C TÍPUSÚ, SZILÁRD SZERVES<br>PEROXID HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL   | 5.2     | P2                       |                             | 5.2     | 122<br>274                        | LQ0  | E0      | P520                           |   | MP4                                     |  |         |

| ADR-tartály |   | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|---|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások                      |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                              | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                                      | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |   |                                | 1<br>(B)   | V1<br>V5                                  |  | CV15<br>CV20<br>CV22<br>CV24                           | S9<br>S17                                  |                        | 3102    | B TÍPUSÚ, SZILÁRD SZERVES PEROXID                              |
|             |   |                                | 1<br>(D)   | V1  |  | CV15<br>CV20<br>CV22<br>CV24                           | S8<br>S18                                  |                        | 3103    | C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID                            |
|             |   |                                | 1<br>(D)   | V1  |  | CV15<br>CV20<br>CV22<br>CV24                           | S8<br>S18                                  |                        | 3104    | C TÍPUSÚ, SZILÁRD SZERVES PEROXID                              |
|             |   |                                | 2<br>(D)   | V1  |  | CV15<br>CV22<br>CV24                                   | S19  |                        | 3105    | D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID                            |
|             |   |                                | 2<br>(D)   | V1  |  | CV15<br>CV22<br>CV24                                   | S19  |                        | 3106    | D TÍPUSÚ, SZILÁRD SZERVES PEROXID                              |
|             |   |                                | 2<br>(D)   | V1  |  | CV15<br>CV22<br>CV24                                   |  |                        | 3107    | E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID                            |
|             |   |                                | 2<br>(D)   | V1  |  | CV15<br>CV22<br>CV24                                   |  |                        | 3108    | E TÍPUSÚ, SZILÁRD SZERVES PEROXID                              |
| L4BN(+)     | TU3<br>TU13<br>TU30<br>TE12<br>TA2<br>TM4 | AT                             | 2<br>(D)   | V1  |  | CV15<br>CV22<br>CV24                                   |  | 539                    | 3109    | F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID                            |
| S4AN(+)     | TU3<br>TU13<br>TU30<br>TE12<br>TA2<br>TM4 | AT                             | 2<br>(D)   | V1  |  | CV15<br>CV22<br>CV24                                   |  | 539                    | 3110    | F TÍPUSÚ, SZILÁRD SZERVES PEROXID                              |
|             |   |                                | 1<br>(B)   | V8  |  | CV15<br>CV20<br>CV21<br>CV22<br>CV24                   | S4<br>S9<br>S16                            |                        | 3111    | B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|             |   |                                | 1<br>(B)   | V8  |  | CV15<br>CV20<br>CV21<br>CV22<br>CV24                   | S4<br>S9<br>S16                            |                        | 3112    | B TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
|             |   |                                | 1<br>(D)   | V8  |  | CV15<br>CV20<br>CV21<br>CV22<br>CV24                   | S4<br>S8<br>S17                            |                        | 3113    | C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|             |   |                                | 1<br>(D)   | V8  |  | CV15<br>CV20<br>CV21<br>CV22<br>CV24                   | S4<br>S8<br>S17                            |                        | 3114    | C TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |              |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3115       | D TÍPUSÚ, FOLYÉKONY SZERVES<br>PEROXID HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL | 5.2     | P2                       |                             | 5.2          | 122<br>274                        | LQ0  | E0      | P520                           |   | MP4                                     |  |                         |
| 3116       | D TÍPUSÚ, SZILÁRD SZERVES<br>PEROXID HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL   | 5.2     | P2                       |                             | 5.2          | 122<br>274                        | LQ0  | E0      | P520                           |   | MP4                                     |  |                         |
| 3117       | E TÍPUSÚ, FOLYÉKONY SZERVES<br>PEROXID HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL | 5.2     | P2                       |                             | 5.2          | 122<br>274                        | LQ0  | E0      | P520                           |   | MP4                                     |  |                         |
| 3118       | E TÍPUSÚ, SZILÁRD SZERVES<br>PEROXID HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL   | 5.2     | P2                       |                             | 5.2          | 122<br>274                        | LQ0  | E0      | P520                           |   | MP4                                     |  |                         |
| 3119       | F TÍPUSÚ, FOLYÉKONY SZERVES<br>PEROXID HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL | 5.2     | P2                       |                             | 5.2          | 122<br>274                        | LQ0  | E0      | P520<br>IBC520                 |   | MP4                                     | T23  |                         |
| 3120       | F TÍPUSÚ, SZILÁRD SZERVES<br>PEROXID HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL   | 5.2     | P2                       |                             | 5.2          | 122<br>274                        | LQ0  | E0      | P520<br>IBC520                 |   | MP4                                     | T23  | TP33                    |
| 3121       | VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ<br>SZILÁRD ANYAG, M.N.N.                | 5.1     | OW                       | A szállításból ki van zárva |              |                                   |  |         |                                |   |   |  |                         |
| 3122       | GYÚJTÓ HATÁSÚ, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.                     | 6.1     | TO1                      | I                           | 6.1 +<br>5.1 | 274<br>315                        | LQ0  | E5      | P001                           |   | MP8<br>MP17                             |  |                         |
| 3122       | GYÚJTÓ HATÁSÚ, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.                     | 6.1     | TO1                      | II                          | 6.1 +<br>5.1 | 274                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    |  |                         |
| 3123       | VÍZZEL REAKTÍV, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.                    | 6.1     | TW1                      | I                           | 6.1 +<br>4.3 | 274<br>315                        | LQ0  | E5      | P099                           |   | MP8<br>MP17                             |  |                         |
| 3123       | VÍZZEL REAKTÍV, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.                    | 6.1     | TW1                      | II                          | 6.1 +<br>4.3 | 274                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    |  |                         |
| 3124       | ÖNMELEGEDŐ, MÉRGEZŐ SZILÁRD<br>ANYAG, M.N.N.                          | 6.1     | TS                       | I                           | 6.1 +<br>4.2 | 274                               | LQ0  | E5      | P002                           |   | MP18                                    | T6   | TP33                    |
| 3124       | ÖNMELEGEDŐ, MÉRGEZŐ SZILÁRD<br>ANYAG, M.N.N.                          | 6.1     | TS                       | II                          | 6.1 +<br>4.2 | 274                               | LQ18                                       | E4      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33                    |
| 3125       | VÍZZEL REAKTÍV, MÉRGEZŐ<br>SZILÁRD ANYAG, M.N.N.                      | 6.1     | TW2                      | I                           | 6.1 +<br>4.3 | 274                               | LQ0  | E5      | P099                           |   | MP18                                    | T6   | TP33                    |
| 3125       | VÍZZEL REAKTÍV, MÉRGEZŐ<br>SZILÁRD ANYAG, M.N.N.                      | 6.1     | TW2                      | II                          | 6.1 +<br>4.3 | 274                               | LQ18                                       | E4      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33                    |
| 3126       | MARÓ, ÖNMELEGEDŐ, SZERVES<br>SZILÁRD ANYAG, M.N.N.                    | 4.2     | SC2                      | II                          | 4.2 + 8      | 274                               | LQ0  | E2      | P410<br>IBC05                  |   | MP14                                    | T3   | TP33                    |

| ADR-tartály                 |   | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-----------------------------|---|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód                  | Különleges előírások                      |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3                         | 4.3.5, 6.8.4                              | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)                        | (13)                                      | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|                             |   |                                | 1<br>(D)   | V8  |  | CV15<br>CV21<br>CV22<br>CV24                           | S4<br>S18                                  |                        | 3115    | D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|                             |   |                                | 1<br>(D)   | V8  |  | CV15<br>CV21<br>CV22<br>CV24                           | S4<br>S18                                  |                        | 3116    | D TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
|                             |   |                                | 1<br>(D)   | V8  |  | CV15<br>CV21<br>CV22<br>CV24                           | S4<br>S19                                  |                        | 3117    | E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|                             |   |                                | 1<br>(D)   | V8  |  | CV15<br>CV21<br>CV22<br>CV24                           | S4<br>S19                                  |                        | 3118    | E TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
| L4BN(+)                     | TU3<br>TU13<br>TU30<br>TE12<br>TA2<br>TM4 | AT                             | 1<br>(D)   | V8  |  | CV15<br>CV21<br>CV22<br>CV24                           | S4   | 539                    | 3119    | F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
| S4AN(+)                     | TU3<br>TU13<br>TU30<br>TE12<br>TA2<br>TM4 | AT                             | 1<br>(D)   | V8  |  | CV15<br>CV21<br>CV22<br>CV24                           | S4   | 539                    | 3120    | F TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
| A szállításból ki van zárva |   |                                |  |   |  |  |  |                        | 3121    | VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.            |
| L10CH                       | TU14<br>TU15<br>TE19<br>TE21              | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 665                    | 3122    | GYÚJTÓ HATÁSÚ, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.                 |
| L4BH                        | TU15<br>TE19                              | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 65                     | 3122    | GYÚJTÓ HATÁSÚ, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.                 |
| L10CH                       | TU14<br>TU15<br>TE19<br>TE21              | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 623                    | 3123    | VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.                |
| L4BH                        | TU15<br>TE19                              | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 623                    | 3123    | VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.                |
| L10CH<br>S10AH              | TU14<br>TU15<br>TE19<br>TE21              | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 664                    | 3124    | ÖNMELEGEDŐ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.                      |
| L4BH<br>SGAH                | TU15<br>TE19                              | AT                             | 2<br>(D/E)   | V11<br>V12                                |  | CV13<br>CV28   | S9<br>S19                                  | 64                     | 3124    | ÖNMELEGEDŐ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.                      |
| L10CH<br>S10AH              | TU14<br>TU15<br>TE19<br>TE21              | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 642                    | 3125    | VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.                  |
| L4BH<br>SGAH                | TU15<br>TE19                              | AT                             | 2<br>(D/E)   | V11<br>V12                                |  | CV13<br>CV28   | S9<br>S19                                  | 642                    | 3125    | VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.                  |
| SGAN                        |   | AT                             | 2<br>(D/E)   | V1  |  |  |  | 48                     | 3126    | MARÓ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.                |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|--------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |              |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3126       | MARÓ, ÖNMELEGEDŐ, SZERVES<br>SZILÁRD ANYAG, M.N.N.     | 4.2     | SC2                      | III                         | 4.2 + 8      | 274                               | LQ0  | E1      | P002<br>IBC08<br>R001          | B3  | MP14                                    | T1   | TP33                    |
| 3127       | GYÚJTÓ HATÁSÚ, ÖNMELEGEDŐ<br>SZILÁRD ANYAG, M.N.N.     | 4.2     | SO                       | A szállításból ki van zárva |              |                                   |  |         |                                |   |   |  |                         |
| 3128       | MÉRGEZŐ, ÖNMELEGEDŐ,<br>SZERVES SZILÁRD ANYAG, M.N.N.  | 4.2     | ST2                      | II                          | 4.2 +<br>6.1 | 274                               | LQ0  | E2      | P410<br>IBC05                  |   | MP14                                    | T3   | TP33                    |
| 3128       | MÉRGEZŐ, ÖNMELEGEDŐ,<br>SZERVES SZILÁRD ANYAG, M.N.N.  | 4.2     | ST2                      | III                         | 4.2 +<br>6.1 | 274                               | LQ0  | E1      | P002<br>IBC08<br>R001          | B3  | MP14                                    | T1   | TP33                    |
| 3129       | VÍZZEL REAKTÍV, MARÓ<br>FOLYÉKONY ANYAG, M.N.N.        | 4.3     | WC1                      | I                           | 4.3 + 8      | 274                               | LQ0  | E0      | P402                           | RR7<br>RR8                                    | MP2                                     | T14  | TP2<br>TP7              |
| 3129       | VÍZZEL REAKTÍV, MARÓ,<br>FOLYÉKONY ANYAG, M.N.N.       | 4.3     | WC1                      | II                          | 4.3 + 8      | 274                               | LQ10                                       | E2      | P402<br>IBC01                  | RR7<br>RR8                                    | MP15                                    | T11  | TP2                     |
| 3129       | VÍZZEL REAKTÍV, MARÓ,<br>FOLYÉKONY ANYAG, M.N.N.       | 4.3     | WC1                      | III                         | 4.3 + 8      | 274                               | LQ13                                       | E1      | P001<br>IBC02<br>R001          |   | MP15                                    | T7   | TP1                     |
| 3130       | VÍZZEL REAKTÍV, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.     | 4.3     | WT1                      | I                           | 4.3 +<br>6.1 | 274                               | LQ0  | E0      | P402                           | RR4<br>RR8                                    | MP2                                     |  |                         |
| 3130       | VÍZZEL REAKTÍV, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.     | 4.3     | WT1                      | II                          | 4.3 +<br>6.1 | 274                               | LQ10                                       | E2      | P402<br>IBC01                  | RR4<br>RR8<br>BB1                             | MP15                                    |  |                         |
| 3130       | VÍZZEL REAKTÍV, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.     | 4.3     | WT1                      | III                         | 4.3 +<br>6.1 | 274                               | LQ13                                       | E1      | P001<br>IBC02<br>R001          |   | MP15                                    |  |                         |
| 3131       | VÍZZEL REAKTÍV, MARÓ SZILÁRD<br>ANYAG, M.N.N.          | 4.3     | WC2                      | I                           | 4.3 + 8      | 274                               | LQ0  | E0      | P403                           |   | MP2                                     | T9   | TP7<br>TP33             |
| 3131       | VÍZZEL REAKTÍV, MARÓ SZILÁRD<br>ANYAG, M.N.N.          | 4.3     | WC2                      | II                          | 4.3 + 8      | 274                               | LQ11                                       | E2      | P410<br>IBC06                  |   | MP14                                    | T3   | TP33                    |
| 3131       | VÍZZEL REAKTÍV, MARÓ SZILÁRD<br>ANYAG, M.N.N.          | 4.3     | WC2                      | III                         | 4.3 + 8      | 274                               | LQ12                                       | E1      | P410<br>IBC08<br>R001          | B4  | MP14                                    | T1   | TP33                    |
| 3132       | VÍZZEL REAKTÍV, GYÚLÉKONY<br>SZILÁRD ANYAG, M.N.N.     | 4.3     | WF2                      | I                           | 4.3 +<br>4.1 | 274                               | LQ0  | E0      | P403<br>IBC99                  |   | MP2                                     |  |                         |
| 3132       | VÍZZEL REAKTÍV, GYÚLÉKONY<br>SZILÁRD ANYAG, M.N.N.     | 4.3     | WF2                      | II                          | 4.3 +<br>4.1 | 274                               | LQ11                                       | E2      | P410<br>IBC04                  |   | MP14                                    | T3   | TP33                    |
| 3132       | VÍZZEL REAKTÍV, GYÚLÉKONY<br>SZILÁRD ANYAG, M.N.N.     | 4.3     | WF2                      | III                         | 4.3 +<br>4.1 | 274                               | LQ12                                       | E1      | P410<br>IBC06                  |   | MP14                                    | T1   | TP33                    |
| 3133       | VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ<br>SZILÁRD ANYAG, M.N.N. | 4.3     | WO                       | A szállításból ki van zárva |              |                                   |  |         |                                |   |   |  |                         |
| 3134       | VÍZZEL REAKTÍV, MÉRGEZŐ<br>SZILÁRD ANYAG, M.N.N.       | 4.3     | WT2                      | I                           | 4.3 +<br>6.1 | 274                               | LQ0  | E0      | P403                           |   | MP2                                     |  |                         |
| 3134       | VÍZZEL REAKTÍV, MÉRGEZŐ<br>SZILÁRD ANYAG, M.N.N.       | 4.3     | WT2                      | II                          | 4.3 +<br>6.1 | 274                               | LQ11                                       | E2      | P410<br>IBC05                  |   | MP14                                    | T3   | TP33                    |
| 3134       | VÍZZEL REAKTÍV, MÉRGEZŐ<br>SZILÁRD ANYAG, M.N.N.       | 4.3     | WT2                      | III                         | 4.3 +<br>6.1 | 274                               | LQ12                                       | E1      | P410<br>IBC08<br>R001          | B4  | MP14                                    | T1   | TP33                    |
| 3135       | VÍZZEL REAKTÍV, ÖNMELEGEDŐ<br>SZILÁRD ANYAG, M.N.N.    | 4.3     | WS                       | I                           | 4.3 +<br>4.2 | 274                               | LQ0  | E0      | P403                           |   | MP2                                     |  |                         |

| ADR-tartály                 |                                    | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                |
|-----------------------------|------------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód                  | Különleges előírások               |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                         | 4.3.5, 6.8.4                       | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                        | (13)                               | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| SGAN                        |                                    | AT                             | 3<br>(E)   | V1  |  |  |  | 48                     | 3126    | MARÓ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.     |
| A szállításból ki van zárva |                                    |                                |  |   |  |  |  |                        | 3127    | GYÚJTÓ HATÁSÚ, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.     |
| SGAN                        |                                    | AT                             | 2<br>(D/E)   | V1  |  | CV28   |  | 46                     | 3128    | MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.  |
| SGAN                        |                                    | AT                             | 3<br>(E)   | V1  |  | CV28   |  | 46                     | 3128    | MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.  |
| L10DH                       | TU14<br>TE21<br>TM2                | AT                             | 0<br>(B/E)   | V1  |  | CV23   | S20  | X382                   | 3129    | VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.        |
| L4DH                        | TU14<br>TE21<br>TM2                | AT                             | 0<br>(D/E)   | V1  |  | CV23   |  | 382                    | 3129    | VÍZZEL REAKTÍV, MARÓ, FOLYÉKONY ANYAG, M.N.N.       |
| L4DH                        | TU14<br>TE21<br>TM2                | AT                             | 0<br>(E)   | V1  |  | CV23   |  | 382                    | 3129    | VÍZZEL REAKTÍV, MARÓ, FOLYÉKONY ANYAG, M.N.N.       |
| L10DH                       | TU14<br>TE21<br>TM2                | AT                             | 0<br>(B/E)   | V1  |  | CV23<br>CV28   | S20  | X362                   | 3130    | VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.     |
| L4DH                        | TU14<br>TE21<br>TM2                | AT                             | 0<br>(D/E)   | V1  |  | CV23<br>CV28   |  | 362                    | 3130    | VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.     |
| L4DH                        | TU14<br>TE21<br>TM2                | AT                             | 0<br>(E)   | V1  |  | CV23<br>CV28   |  | 362                    | 3130    | VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.     |
| L10DH<br>S10AN              | TU4<br>TU14<br>TU22<br>TE21<br>TM2 | AT                             | 0<br>(E)   | V1  |  | CV23   | S20  | X482                   | 3131    | VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.          |
| SGAN                        |                                    | AT                             | 0<br>(D/E)   | V1<br>V12                                 |  | CV23   |  | 482                    | 3131    | VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.          |
| SGAN                        |                                    | AT                             | 0<br>(E)   | V1  |  | CV23   |  | 482                    | 3131    | VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.          |
|                             |                                    |                                | 0<br>(B/E)   | V1  |  | CV23   | S20  |                        | 3132    | VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.     |
| L4DH<br>SGAN                | TU14<br>TE21<br>TM2                | AT                             | 0<br>(D/E)   | V1  |  | CV23   |  | 423                    | 3132    | VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.     |
| L4DH<br>SGAN                | TU14<br>TE21<br>TM2                | AT                             | 0<br>(E)   | V1  |  | CV23   |  | 423                    | 3132    | VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.     |
| A szállításból ki van zárva |                                    |                                |  |   |  |  |  |                        | 3133    | VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N. |
|                             |                                    |                                | 0<br>(E)   | V1  |  | CV23<br>CV28   | S20  |                        | 3134    | VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.       |
| SGAN                        |                                    | AT                             | 0<br>(D/E)   | V1  |  | CV23<br>CV28   |  | 462                    | 3134    | VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.       |
| SGAN                        |                                    | AT                             | 0<br>(E)   | V1  |  | CV23<br>CV28   |  | 462                    | 3134    | VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.       |
|                             |                                    |                                | 1<br>(B/E)   | V1  |  | CV23   | S20  |                        | 3135    | VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.    |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|---------|
|            |  |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 3135       | VÍZZEL REAKTÍV, ÖNMELEGEDŐ<br>SZILÁRD ANYAG, M.N.N.  | 4.3     | WS                       | II                          | 4.3 +<br>4.2 | 274                               | LQ11                                      | E2      | P410<br>IBC05                  |   | MP14                                    | T3   | TP33    |
| 3135       | VÍZZEL REAKTÍV, ÖNMELEGEDŐ<br>SZILÁRD ANYAG, M.N.N.  | 4.3     | WS                       | III                         | 4.3 +<br>4.2 | 274                               | LQ12                                      | E1      | P410<br>IBC08                  | B4  | MP14                                    | T1   | TP33    |
| 3136       | TRIFLUOR-METÁN, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT  | 2       | 3A                       |                             | 2.2          | 593                               | LQ1                                       | E1      | P203                           |   | MP9                                     | T75  | TP5     |
| 3137       | GYÚLÉKONY, GYÚJTÓ HATÁSÚ<br>SZILÁRD ANYAG, M.N.N.  | 5.1     | OF                       | A szállításból ki van zárva |              |                                   |   |         |                                |   |   |  |         |
| 3138       | ETILÉN, ACETILÉN ÉS PROPILÉN<br>KEVERÉK, MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT, legalább 71,5%<br>etilén-, legfeljebb 22,5% acetilén- és<br>legfeljebb 6% propilén-tartalommal | 2       | 3F                       |                             | 2.1          |                                   | LQ0                                       | E0      | P203                           |   | MP9                                     | T75  | TP5     |
| 3139       | FOLYÉKONY, GYÚJTÓ HATÁSÚ<br>ANYAG, M.N.N.  | 5.1     | O1                       | I                           | 5.1          | 274                               | LQ0                                       | E0      | P502                           |   | MP2                                     |  |         |
| 3139       | FOLYÉKONY, GYÚJTÓ HATÁSÚ<br>ANYAG, M.N.N.  | 5.1     | O1                       | II                          | 5.1          | 274                               | LQ10                                      | E2      | P504<br>IBC02                  |   | MP2                                     |  |         |
| 3139       | FOLYÉKONY, GYÚJTÓ HATÁSÚ<br>ANYAG, M.N.N.  | 5.1     | O1                       | III                         | 5.1          | 274                               | LQ13                                      | E1      | P504<br>IBC02<br>R001          |   | MP2                                     |  |         |
| 3140       | FOLYÉKONY ALKALOIDOK, M.N.N.<br>vagy FOLYÉKONY ALKALOIDA SÓK<br>M.N.N.   | 6.1     | T1                       | I                           | 6.1          | 43<br>274                         | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             |  |         |
| 3140       | FOLYÉKONY ALKALOIDOK, M.N.N.<br>vagy FOLYÉKONY ALKALOIDA SÓK<br>M.N.N.   | 6.1     | T1                       | II                          | 6.1          | 43<br>274                         | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    |  |         |
| 3140       | FOLYÉKONY ALKALOIDOK, M.N.N.<br>vagy FOLYÉKONY ALKALOIDA SÓK<br>M.N.N.   | 6.1     | T1                       | III                         | 6.1          | 43<br>274                         | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    |  |         |
| 3141       | SZERVETLEN, FOLYÉKONY<br>ANTIMONVEGYÜLET, M.N.N.   | 6.1     | T4                       | III                         | 6.1          | 45<br>274<br>512                  | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    |  |         |
| 3142       | MÉRGEZŐ, FOLYÉKONY<br>FERTŐTLENÍTŐSZER, M.N.N.   | 6.1     | T1                       | I                           | 6.1          | 274                               | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             |  |         |
| 3142       | MÉRGEZŐ, FOLYÉKONY<br>FERTŐTLENÍTŐSZER, M.N.N.   | 6.1     | T1                       | II                          | 6.1          | 274                               | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    |  |         |
| 3142       | MÉRGEZŐ, FOLYÉKONY<br>FERTŐTLENÍTŐSZER, M.N.N.   | 6.1     | T1                       | III                         | 6.1          | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    |  |         |
| 3143       | MÉRGEZŐ, SZILÁRD SZÍNEZÉK,<br>M.N.N. vagy MÉRGEZŐ, SZILÁRD<br>SZÍNEZÉK INTERMEDIER, M.N.N.   | 6.1     | T2                       | I                           | 6.1          | 274                               | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33    |
| 3143       | MÉRGEZŐ, SZILÁRD SZÍNEZÉK,<br>M.N.N. vagy MÉRGEZŐ, SZILÁRD<br>SZÍNEZÉK INTERMEDIER, M.N.N.   | 6.1     | T2                       | II                          | 6.1          | 274                               | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |



| ADR-tartály                 |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-----------------------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód                  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3                         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)                        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4DH<br>SGAN                | TU14<br>TE21<br>TM2          | AT                             | 2<br>(D/E)   | V1  |  | CV23   |  | 423                    | 3135    | VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.   |
| L4DH<br>SGAN                | TU14<br>TE21<br>TM2          | AT                             | 3<br>(E)   | V1  |  | CV23   |  | 423                    | 3135    | VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.   |
| R*BN<br>TA4<br>TT9          | TU19                         | AT                             | 3<br>(C/E)   | V5  |  | CV9<br>CV11<br>CV36                                    | S20  | 22                     | 3136    | TRIFLUOR-METÁN, MÉLYHÚTÓTT, CSEPPFOLYÓSÍTOTT   |
| A szállításból ki van zárva |                              |                                |  |   |  |  |  |                        | 3137    | GYÚLÉKONY, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.   |
| R*BN                        | TU18<br>TA4<br>TT9           | FL                             | 2<br>(B/D)   | V5  |  | CV9<br>CV11<br>CV36                                    | S2<br>S17                                  | 223                    | 3138    | ETILÉN, ACETILÉN ÉS PROPILÉN KEVERÉK, MÉLYHÚTÓTT, CSEPPFOLYÓSÍTOTT, legalább 71,5% etilén-, legfeljebb 22,5% acetilén- és legfeljebb 6% propilén-tartalommal |
|                             |                              |                                | 1<br>(E)   |   |  | CV24   | S20  |                        | 3139    | FOLYÉKONY, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   |
|                             |                              |                                | 2<br>(E)   |   |  | CV24   |  |                        | 3139    | FOLYÉKONY, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   |
|                             |                              |                                | 3<br>(E)   |   |  | CV24   |  |                        | 3139    | FOLYÉKONY, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   |
| L10CH                       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3140    | FOLYÉKONY ALKALOIDOK, M.N.N. vagy FOLYÉKONY ALKALOIDA SÓK M.N.N.   |
| L4BH                        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3140    | FOLYÉKONY ALKALOIDOK, M.N.N. vagy FOLYÉKONY ALKALOIDA SÓK M.N.N.   |
| L4BH                        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3140    | FOLYÉKONY ALKALOIDOK, M.N.N. vagy FOLYÉKONY ALKALOIDA SÓK M.N.N.   |
| L4BH                        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3141    | SZERVETLEN, FOLYÉKONY ANTIMONVEGYÜLET, M.N.N.  |
| L10CH                       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3142    | MÉRGEZŐ, FOLYÉKONY FERTŐTLENÍTŐSZER, M.N.N.  |
| L4BH                        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3142    | MÉRGEZŐ, FOLYÉKONY FERTŐTLENÍTŐSZER, M.N.N.  |
| L4BH                        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3142    | MÉRGEZŐ, FOLYÉKONY FERTŐTLENÍTŐSZER, M.N.N.  |
| L10CH<br>S10AH              | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3143    | MÉRGEZŐ, SZILÁRD SZÍNEZÉK, M.N.N. vagy MÉRGEZŐ, SZILÁRD SZÍNEZÉK INTERMEDIER, M.N.N.   |
| L4BH<br>SGAH                | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3143    | MÉRGEZŐ, SZILÁRD SZÍNEZÉK, M.N.N. vagy MÉRGEZŐ, SZILÁRD SZÍNEZÉK INTERMEDIER, M.N.N.   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |  | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|--------|-----------------------------------|---|---------|--------------------------------|---|--|--|-------------------------|
|            |   |         |                          |                             |        |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csmago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                 | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                   | (10)   | (11)                    |
| 3143       | MÉRGEZŐ, SZILÁRD SZÍNEZÉK,<br>M.N.N. vagy MÉRGEZŐ, SZILÁRD<br>SZÍNEZÉK INTERMEDIER, M.N.N.      | 6.1     | T2                       | III                         | 6.1    | 274                               | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                   | T1   | TP33                    |
| 3144       | FOLYÉKONY NIKOTIN-VEGYÜLET,<br>M.N.N. vagy FOLYÉKONY NIKOTIN-<br>KÉSZÍTMÉNY, M.N.N.             | 6.1     | T1                       | I                           | 6.1    | 43<br>274                         | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                            |  |                         |
| 3144       | FOLYÉKONY NIKOTIN-VEGYÜLET,<br>M.N.N. vagy FOLYÉKONY NIKOTIN-<br>KÉSZÍTMÉNY, M.N.N.             | 6.1     | T1                       | II                          | 6.1    | 43<br>274                         | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                   |  |                         |
| 3144       | FOLYÉKONY NIKOTIN-VEGYÜLET,<br>M.N.N. vagy FOLYÉKONY NIKOTIN-<br>KÉSZÍTMÉNY, M.N.N.             | 6.1     | T1                       | III                         | 6.1    | 43<br>274                         | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   |  |                         |
| 3145       | FOLYÉKONY ALKIL-FENOLOK,<br>M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat<br>beleértve) | 8       | C3                       | I                           | 8      | 274                               | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                            | T14  | TP2                     |
| 3145       | FOLYÉKONY ALKIL-FENOLOK,<br>M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat<br>beleértve) | 8       | C3                       | II                          | 8      | 274                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                   | T11  | TP2<br>TP27             |
| 3145       | FOLYÉKONY ALKIL-FENOLOK,<br>M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat<br>beleértve) | 8       | C3                       | III                         | 8      | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T7   | TP1<br>TP28             |
| 3146       | SZILÁRD, SZERVES ÓNVEGYÜLET,<br>M.N.N.  | 6.1     | T3                       | I                           | 6.1    | 43<br>274                         | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                   | T6   | TP33                    |
| 3146       | SZILÁRD, SZERVES ÓNVEGYÜLET,<br>M.N.N.  | 6.1     | T3                       | II                          | 6.1    | 43<br>274                         | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                   | T3   | TP33                    |
| 3146       | SZILÁRD, SZERVES ÓNVEGYÜLET,<br>M.N.N.  | 6.1     | T3                       | III                         | 6.1    | 43<br>274                         | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                   | T1   | TP33                    |
| 3147       | SZILÁRD, MARÓ SZÍNEZÉK, M.N.N.<br>vagy SZILÁRD, MARÓ SZÍNEZÉK<br>INTERMEDIER, M.N.N.            | 8       | C10                      | I                           | 8      | 274                               | LQ0                                       | E0      | P002<br>IBC07                  |   | MP18                                   | T6   | TP33                    |
| 3147       | SZILÁRD, MARÓ SZÍNEZÉK, M.N.N.<br>vagy SZILÁRD, MARÓ SZÍNEZÉK<br>INTERMEDIER, M.N.N.            | 8       | C10                      | II                          | 8      | 274                               | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                   | T3   | TP33                    |
| 3147       | SZILÁRD, MARÓ SZÍNEZÉK, M.N.N.<br>vagy SZILÁRD, MARÓ SZÍNEZÉK<br>INTERMEDIER, M.N.N.            | 8       | C10                      | III                         | 8      | 274                               | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                   | T1   | TP33                    |
| 3148       | VÍZZEL REAKTÍV FOLYÉKONY<br>ANYAG, M.N.N.   | 4.3     | W1                       | I                           | 4.3    | 274                               | LQ0                                       | E0      | P402                           | RR8   | MP2                                    | T9   | TP2<br>TP7              |
| 3148       | VÍZZEL REAKTÍV FOLYÉKONY<br>ANYAG, M.N.N.   | 4.3     | W1                       | II                          | 4.3    | 274                               | LQ10                                      | E2      | P402<br>IBC01                  | RR8   | MP15                                   | T7   | TP2                     |
| 3148       | VÍZZEL REAKTÍV FOLYÉKONY<br>ANYAG, M.N.N.   | 4.3     | W1                       | III                         | 4.3    | 274                               | LQ13                                      | E1      | P001<br>IBC02<br>R001          |   | MP15                                   | T7   | TP1                     |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3143    | MÉRGEZŐ, SZILÁRD SZÍNEZÉK, M.N.N. vagy MÉRGEZŐ, SZILÁRD SZÍNEZÉK INTERMEDIER, M.N.N.      |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3144    | FOLYÉKONY NIKOTIN-VEGYÜLET, M.N.N. vagy FOLYÉKONY NIKOTIN-KÉSZÍTMÉNY, M.N.N.              |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3144    | FOLYÉKONY NIKOTIN-VEGYÜLET, M.N.N. vagy FOLYÉKONY NIKOTIN-KÉSZÍTMÉNY, M.N.N.              |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3144    | FOLYÉKONY NIKOTIN-VEGYÜLET, M.N.N. vagy FOLYÉKONY NIKOTIN-KÉSZÍTMÉNY, M.N.N.              |
| L10BH          |                              | AT                             | 1<br>(E)   |   |  |  | S20  | 88                     | 3145    | FOLYÉKONY ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve) |
| L4BN           |                              | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 3145    | FOLYÉKONY ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve) |
| L4BN           |                              | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 3145    | FOLYÉKONY ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve) |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3146    | SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N.   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3146    | SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N.   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3146    | SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N.   |
| L10BH<br>S10AN |                              | AT                             | 1<br>(E)   | V10<br>V12                                |  |  | S20  | 88                     | 3147    | SZILÁRD, MARÓ SZÍNEZÉK, M.N.N. vagy SZILÁRD, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.            |
| L4BN<br>SGAN   |                              | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 3147    | SZILÁRD, MARÓ SZÍNEZÉK, M.N.N. vagy SZILÁRD, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.            |
| L4BN SGAV      |                              | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 3147    | SZILÁRD, MARÓ SZÍNEZÉK, M.N.N. vagy SZILÁRD, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.            |
| L10DH          | TU14<br>TE21<br>TM2          | AT                             | 0<br>(B/E)   | V1  |  | CV23   | S20  | X323                   | 3148    | VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.  |
| L4DH           | TU14<br>TE21<br>TM2          | AT                             | 0<br>(D/E)   | V1  |  | CV23   |  | 323                    | 3148    | VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.  |
| L4DH           | TU14<br>TE21<br>TM2          | AT                             | 0<br>(E)   | V1  |  | CV23   |  | 323                    | 3148    | VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                    |
|------------|--|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|--------------------|
|            |  |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |                    |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3            |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)               |
| 3149       | HIDROGÉN-PEROXID ÉS PEROXI-<br>ECETSAV KEVERÉK savakkal, vízzel<br>és legfeljebb 5% peroxi-ecetsavval,<br>STABILIZÁLT                          | 5.1     | OC1                      | II                          | 5.1 + 8      | 196<br>553                        | LQ10                                      | E2      | P504<br>IBC02                  | PP10<br>B5                                    | MP15                                    | T7   | TP2<br>TP6<br>TP24 |
| 3150       | KISMÉRETŰ ESZKÖZÖK<br>SZÉNHDROGÉN-GÁZ TÖLTETTEL<br>vagy SZÉNHDROGÉN-GÁZ<br>UTÁNTÖLTŐ PATRONOK<br>KISMÉRETŰ ESZKÖZÖKHÖZ,<br>adagolószerkezettel | 2       | 6F                       |                             | 2.1          |                                   | LQ0                                       | E0      | P206                           |   | MP9                                     |  |                    |
| 3151       | FOLYÉKONY POLIHALOGÉNEZETT<br>BIFENILEK vagy FOLYÉKONY<br>POLIHALOGÉNEZETT TERFENILEK  | 9       | M2                       | II                          | 9            | 203<br>305                        | LQ26                                      | E2      | P906<br>IBC02                  |   | MP15                                    |  |                    |
| 3152       | SZILÁRD POLIHALOGÉNEZETT<br>BIFENILEK vagy SZILÁRD<br>POLIHALOGÉNEZETT TERFENILEK  | 9       | M2                       | II                          | 9            | 203<br>305                        | LQ25                                      | E2      | P906<br>IBC08                  | B4  | MP10                                    | T3   | TP33               |
| 3153       | PERFLUOR-(METIL-VINIL-ÉTER)  | 2       | 2F                       |                             | 2.1          |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                    |
| 3154       | PERFLUOR-(ETIL-VINIL-ÉTER)   | 2       | 2F                       |                             | 2.1          |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                    |
| 3155       | PENTAKLÓR-FENOL  | 6.1     | T2                       | II                          | 6.1          | 43                                | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33               |
| 3156       | SŰRÍTETT GÁZ, GYÚJTÓ HATÁSÚ,<br>M.N.N.   | 2       | 1O                       |                             | 2.2 +<br>5.1 | 274                               | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                    |
| 3157       | CSEPPFOLYÓSÍTOTT GÁZ, GYÚJTÓ<br>HATÁSÚ, M.N.N.   | 2       | 2O                       |                             | 2.2 +<br>5.1 | 274                               | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                    |
| 3158       | MÉLYHŰTÖTT,<br>CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.  | 2       | 3A                       |                             | 2.2          | 274<br>593                        | LQ1                                       | E1      | P203                           |   | MP9                                     | T75  | TP5                |
| 3159       | 1,1,1,2-TETRAFLUOR-ETÁN<br>(R 134a HŰTŐGÁZ)  | 2       | 2A                       |                             | 2.2          |                                   | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                    |
| 3160       | CSEPPFOLYÓSÍTOTT GÁZ,<br>MÉRGEZŐ, GYÚLÉKONY, M.N.N.  | 2       | 2TF                      |                             | 2.3 +<br>2.1 | 274                               | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                    |
| 3161       | CSEPPFOLYÓSÍTOTT GÁZ,<br>GYÚLÉKONY, M.N.N.   | 2       | 2F                       |                             | 2.1          | 274                               | LQ0                                       | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                    |
| 3162       | CSEPPFOLYÓSÍTOTT GÁZ,<br>MÉRGEZŐ, M.N.N.   | 2       | 2T                       |                             | 2.3          | 274                               | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                    |
| 3163       | CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.   | 2       | 2A                       |                             | 2.2          | 274                               | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                    |

| ADR-tartály  |                                  | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------|----------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód   | Különleges előírások             |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4                     | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                             | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BV(+)      | TU3<br>TC2<br>TE8<br>TE11<br>TT1 | AT                             | 2<br>(E)   |   |  | CV24   |  | 58                     | 3149    | HIDROGÉN-PEROXID ÉS PEROXI-ECETSAV KEVERÉK savakkal, vízzel és legfeljebb 5% peroxi-ecetsavval, STABILIZÁLT                       |
|              |                                  |                                | 2<br>(D)   |   |  | CV9  | S2   |                        | 3150    | KISMÉRETŰ ESZKÖZÖK SZÉNHIDROGÉN-GÁZ TÖLTETTEL vagy SZÉNHIDROGÉN-GÁZ UTÁNTÖLTŐ PATRONOK KISMÉRETŰ ESZKÖZÖKHÖZ, adagolószerkezettel |
| L4BH         | TU15                             | AT                             | 0<br>(D/E)   |   | VV15   | CV1<br>CV13<br>CV28                                    | S19  | 90                     | 3151    | FOLYÉKONY POLIHALOGÉNEZETT BIFENILEK vagy FOLYÉKONY POLIHALOGÉNEZETT TERFENILEK   |
| L4BH<br>S4AH | TU15                             | AT                             | 0<br>(D/E)   | V11                                       | VV15   | CV1<br>CV13<br>CV28                                    | S19  | 90                     | 3152    | SZILÁRD POLIHALOGÉNEZETT BIFENILEK vagy SZILÁRD POLIHALOGÉNEZETT TERFENILEK   |
| P*BN(M)      | TA4<br>TT9                       | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 3153    | PERFLUOR-(METIL-VINIL-ÉTER)   |
| P*BN(M)      | TA4<br>TT9                       | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 3154    | PERFLUOR-(ETIL-VINIL-ÉTER)  |
| SGAH         | TU15<br>TE19                     | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3155    | PENTAKLÓR-FENOL   |
| C*BN(M)      | TA4<br>TT9                       | AT                             | 3<br>(E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 25                     | 3156    | SŰRÍTETT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.   |
| P*BN(M)      | TA4<br>TT9                       | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 25                     | 3157    | CSEPPFOLYÓSÍTOTT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.   |
| R*BN         | TU19<br>TA4<br>TT9               | AT                             | 3<br>(C/E)   | V5  |  | CV9<br>CV11<br>CV36                                    | S20  | 22                     | 3158    | MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.  |
| P*BN(M)      | TA4<br>TT9                       | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 3159    | 1,1,1,2-TETRAFLUOR-ETÁN (R 134a HŰTŐGÁZ)  |
| P*BH(M)      | TU6<br>TA4<br>TT9                | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 3160    | CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.  |
| P*BN(M)      | TA4<br>TT9                       | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 3161    | CSEPPFOLYÓSÍTOTT GÁZ, GYÚLÉKONY, M.N.N.   |
| P*BH(M)      | TU6<br>TA4<br>TT9                | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 26                     | 3162    | CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, M.N.N.   |
| P*BN(M)      | TA4<br>TT9                       | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 3163    | CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport     | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|---|---------|--------------------------|---------------------------------|----------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------|
|            |   |         |                          |                                 |                |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                         | 5.2.2          | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                             | (5)            | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 3164       | PNEUMATIKUS NYOMÁS ALATTI<br>TÁRGYAK vagy HIDRAULIKUS<br>NYOMÁS ALATTI TÁRGYAK (nem<br>gyúlékony gáz tartalommal)                                     | 2       | 6A                       |                                 | 2.2            | 283<br>594                        | LQ0  | E0      | P003                           |   | MP9                                     |  |             |
| 3165       | REPÜLŐGÉP HIDRAULIKA<br>FOLYADÉK TARTÁLY (vízmentes<br>hidrazin és metil-hidrazin keveréket<br>tartalmazó) (M86 tüzelőanyag)                          | 3       | FTC                      | I                               | 3 + 6.1<br>+ 8 |                                   | LQ0  | E0      | P301                           |   | MP7                                     |  |             |
| 3166       | BELSOÉGÉSŰ MOTOR vagy<br>GYÚLÉKONY GÁZ ÜZEMŰ JÁRMŰ<br>vagy GYÚLÉKONY FOLYADÉK<br>ÜZEMŰ JÁRMŰ  | 9       | M11                      | Nem tartozik az ADR hatálya alá |                |                                   |  |         |                                |   |   |  |             |
| 3167       | TÚLNYOMÁS NÉLKÜLI,<br>GYÚLÉKONY GÁZMINTA, M.N.N.,<br>nem mélyhűtött, nem cseppfolyósított   | 2       | 7F                       |                                 | 2.1            | 274                               | LQ0  | E0      | P201                           |   | MP9                                     |  |             |
| 3168       | TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ,<br>GYÚLÉKONY GÁZMINTA, M.N.N.,<br>nem mélyhűtött, nem cseppfolyósított  | 2       | 7TF                      |                                 | 2.3 +<br>2.1   | 274                               | LQ0  | E0      | P201                           |   | MP9                                     |  |             |
| 3169       | TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ<br>GÁZMINTA, M.N.N., nem mélyhűtött,<br>nem cseppfolyósított   | 2       | 7T                       |                                 | 2.3            | 274                               | LQ0  | E0      | P201                           |   | MP9                                     |  |             |
| 3170       | ALUMÍNIUMFELDOLGOZÁSI<br>MELLÉKTERMÉKEK vagy<br>ALUMÍNIUM ÚJRAOLVASZTÁSI<br>MELLÉKTERMÉKEK  | 4.3     | W2                       | II                              | 4.3            | 244                               | LQ11                                       | E2      | P410<br>IBC07                  |   | MP14                                    | T3<br>BK1<br>BK2                               | TP33        |
| 3170       | ALUMÍNIUMFELDOLGOZÁSI<br>MELLÉKTERMÉKEK vagy<br>ALUMÍNIUM ÚJRAOLVASZTÁSI<br>MELLÉKTERMÉKEK  | 4.3     | W2                       | III                             | 4.3            | 244                               | LQ12                                       | E1      | P002<br>IBC08<br>R001          | B4  | MP14                                    | T1<br>BK1<br>BK2                               | TP33        |
| 3171       | AKKUMULÁTORRAL HAJTOTT<br>JÁRMŰ vagy AKKUMULÁTORRAL<br>HAJTOTT KÉSZÜLÉK   | 9       | M11                      | Nem tartozik az ADR hatálya alá |                |                                   |  |         |                                |   |   |  |             |
| 3172       | ÉLŐ SZERVEZETEKBŐL KIVONT<br>FOLYÉKONY TOXINOK, M.N.N.  | 6.1     | T1                       | I                               | 6.1            | 210<br>274                        | LQ0  | E5      | P001                           |   | MP8<br>MP17                             |  |             |
| 3172       | ÉLŐ SZERVEZETEKBŐL KIVONT<br>FOLYÉKONY TOXINOK, M.N.N.  | 6.1     | T1                       | II                              | 6.1            | 210<br>274                        | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    |  |             |
| 3172       | ÉLŐ SZERVEZETEKBŐL KIVONT<br>FOLYÉKONY TOXINOK, M.N.N.  | 6.1     | T1                       | III                             | 6.1            | 210<br>274                        | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    |  |             |
| 3174       | TITÁN-DISZULFID   | 4.2     | S4                       | III                             | 4.2            |                                   | LQ0  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                    | T1   | TP33        |
| 3175       | GYÚLÉKONY FOLYADÉK<br>TARTALMÚ SZILÁRD ANYAGOK<br>vagy keverékeik (készítmények és<br>hulladékok), M.N.N., amelyek<br>lobbanáspontja legfeljebb 60 °C | 4.1     | F1                       | II                              | 4.1            | 216<br>274                        | LQ8  | E2      | P002<br>IBC06<br>R001          | PP9   | MP11                                    | T3<br>BK1<br>BK2                               | TP33        |
| 3176       | SZERVES, GYÚLÉKONY SZILÁRD<br>ANYAG OLVASZTOTT<br>ÁLLAPOTBAN, M.N.N.  | 4.1     | F2                       | II                              | 4.1            | 274                               | LQ0  | E0      |                                |   |   | T3   | TP3<br>TP26 |
| 3176       | SZERVES, GYÚLÉKONY SZILÁRD<br>ANYAG OLVASZTOTT<br>ÁLLAPOTBAN, M.N.N.  | 4.1     | F2                       | III                             | 4.1            | 274                               | LQ0  | E0      |                                |   |   | T1   | TP3<br>TP26 |

| ADR-tartály                     |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|---------------------------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód                      | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                             | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                            | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|                                 |                              |                                | 3 (E)  |   |  | CV9  |  |                        | 3164    | PNEUMATIKUS NYOMÁS ALATTI TÁRGYAK vagy HIDRAULIKUS NYOMÁS ALATTI TÁRGYAK (nem gyúlékony gáz tartalommal)                                  |
|                                 |                              |                                | 1 (E)  |   |  | CV13<br>CV28   | S2<br>S19                                  |                        | 3165    | REPÜLŐGÉP HIDRAULIKA FOLYADÉK TARTÁLY (vízmentes hidrazin és metil-hidrazin keveréket tartalmazó) (M86 tüzelőanyag)                       |
| Nem tartozik az ADR hatálya alá |                              |                                |  |   |  |  |  |                        | 3166    | BELSŐÉGÉSŰ MOTOR vagy GYÚLÉKONY GÁZ ÜZEMŰ JÁRMŰ vagy GYÚLÉKONY FOLYADÉK ÜZEMŰ JÁRMŰ   |
|                                 |                              |                                | 2 (D)  |   |  | CV9  | S2   |                        | 3167    | TÚLNYOMÁS NÉLKÜLI, GYÚLÉKONY GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított   |
|                                 |                              |                                | 1 (D)  |   |  | CV9  | S2   |                        | 3168    | TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ, GYÚLÉKONY GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított  |
|                                 |                              |                                | 1 (D)  |   |  | CV9  |  |                        | 3169    | TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított   |
| SGAN                            |                              | AT                             | 2 (D/E)  | V1<br>V12                                 | VV3  | CV23   |  | 423                    | 3170    | ALUMÍNÍUMFELDOLGOZÁSI MELLÉKTERMÉKEK vagy ALUMÍNÍUM ÚJRAOLVASZTÁSI MELLÉKTERMÉKEK   |
| SGAN                            |                              | AT                             | 3 (E)  | V1  | VV1<br>VV5                                     | CV23   |  | 423                    | 3170    | ALUMÍNÍUMFELDOLGOZÁSI MELLÉKTERMÉKEK vagy ALUMÍNÍUM ÚJRAOLVASZTÁSI MELLÉKTERMÉKEK   |
| Nem tartozik az ADR hatálya alá |                              |                                |  |   |  |  |  |                        | 3171    | AKKUMULÁTORRAL HAJTOTT JÁRMŰ vagy AKKUMULÁTORRAL HAJTOTT KÉSZÜLÉK   |
| L10CH                           | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1 (C/E)  |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3172    | ÉLŐ SZERVEZETEKBŐL KIVONT FOLYÉKONY TOXINOK, M.N.N.   |
| L4BH                            | TU15<br>TE19                 | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3172    | ÉLŐ SZERVEZETEKBŐL KIVONT FOLYÉKONY TOXINOK, M.N.N.   |
| L4BH                            | TU15<br>TE19                 | AT                             | 2 (E)  |   |  | CV13<br>CV28   | S9   | 60                     | 3172    | ÉLŐ SZERVEZETEKBŐL KIVONT FOLYÉKONY TOXINOK, M.N.N.   |
| SGAN                            |                              | AT                             | 3 (E)  | V1  |  |  |  | 40                     | 3174    | TITÁN-DISZULFID   |
|                                 |                              |                                | 2 (E)  | V11<br>V12                                | VV3  |  |  | 40                     | 3175    | GYÚLÉKONY FOLYADÉK TARTALMÚ SZILÁRD ANYAGOK vagy keverékeik (készítmények és hulladékok), M.N.N., amelyek lobbanáspontja legfeljebb 60 °C |
| LGBV                            | TU27<br>TE4<br>TE6           | AT                             | 2 (E)  |   |  |  |  | 44                     | 3176    | SZERVES, GYÚLÉKONY SZILÁRD ANYAG OLVASZTOTT ÁLLAPOTBAN, M.N.N.  |
| LGBV                            | TU27<br>TE4<br>TE6           | AT                             | 3 (E)  |   |  |  |  | 44                     | 3176    | SZERVES, GYÚLÉKONY SZILÁRD ANYAG OLVASZTOTT ÁLLAPOTBAN, M.N.N.  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|---|---------|--------------------------|-----------------------------|--------------|-----------------------------------|--|---------|--------------------------------|---|---|--|---------|
|            |   |         |                          |                             |              |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 3178       | SZERVETLEN, GYÚLÉKONY<br>SZILÁRD ANYAG, M.N.N.                | 4.1     | F3                       | II                          | 4.1          | 274                               | LQ8  | E2      | P002<br>IBC08                  | B4  | MP11                                    | T3   | TP33    |
| 3178       | SZERVETLEN, GYÚLÉKONY<br>SZILÁRD ANYAG, M.N.N.                | 4.1     | F3                       | III                         | 4.1          | 274                               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP11                                    | T1   | TP33    |
| 3179       | MÉRGEZŐ, SZERVETLEN,<br>GYÚLÉKONY SZILÁRD ANYAG,<br>M.N.N.    | 4.1     | FT2                      | II                          | 4.1 +<br>6.1 | 274                               | LQ0  | E2      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33    |
| 3179       | MÉRGEZŐ, SZERVETLEN,<br>GYÚLÉKONY SZILÁRD ANYAG,<br>M.N.N.    | 4.1     | FT2                      | III                         | 4.1 +<br>6.1 | 274                               | LQ0  | E1      | P002<br>IBC06<br>R001          |   | MP10                                    | T1   | TP33    |
| 3180       | MARÓ, SZERVETLEN, GYÚLÉKONY<br>SZILÁRD ANYAG, M.N.N.          | 4.1     | FC2                      | II                          | 4.1 + 8      | 274                               | LQ0  | E2      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33    |
| 3180       | MARÓ, SZERVETLEN, GYÚLÉKONY<br>SZILÁRD ANYAG, M.N.N.          | 4.1     | FC2                      | III                         | 4.1 + 8      | 274                               | LQ0  | E1      | P002<br>IBC06<br>R001          |   | MP10                                    | T1   | TP33    |
| 3181       | SZERVES VEGYÜLETEK<br>GYÚLÉKONY FÉMSÓI, M.N.N.                | 4.1     | F3                       | II                          | 4.1          | 274                               | LQ8  | E2      | P002<br>IBC08                  | B4  | MP11                                    | T3   | TP33    |
| 3181       | SZERVES VEGYÜLETEK<br>GYÚLÉKONY FÉMSÓI, M.N.N.                | 4.1     | F3                       | III                         | 4.1          | 274                               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP11                                    | T1   | TP33    |
| 3182       | GYÚLÉKONY FÉMHIIDRIK, M.N.N.                                  | 4.1     | F3                       | II                          | 4.1          | 274<br>554                        | LQ8  | E2      | P410<br>IBC04                  | PP40  | MP11                                    | T3   | TP33    |
| 3182       | GYÚLÉKONY FÉMHIIDRIK, M.N.N.                                  | 4.1     | F3                       | III                         | 4.1          | 274<br>554                        | LQ9  | E1      | P002<br>IBC04<br>R001          |   | MP11                                    | T1   | TP33    |
| 3183       | ÖNMELEGEDŐ, SZERVES<br>FOLYÉKONY ANYAG, M.N.N.                | 4.2     | S1                       | II                          | 4.2          | 274                               | LQ0  | E2      | P001<br>IBC02                  |   | MP15                                    |  |         |
| 3183       | ÖNMELEGEDŐ, SZERVES<br>FOLYÉKONY ANYAG, M.N.N.                | 4.2     | S1                       | III                         | 4.2          | 274                               | LQ0  | E1      | P001<br>IBC02<br>R001          |   | MP15                                    |  |         |
| 3184       | MÉRGEZŐ, ÖNMELEGEDŐ,<br>SZERVES FOLYÉKONY ANYAG,<br>M.N.N.    | 4.2     | ST1                      | II                          | 4.2 +<br>6.1 | 274                               | LQ0  | E2      | P402<br>IBC02                  |   | MP15                                    |  |         |
| 3184       | MÉRGEZŐ, ÖNMELEGEDŐ,<br>SZERVES FOLYÉKONY ANYAG,<br>M.N.N.    | 4.2     | ST1                      | III                         | 4.2 +<br>6.1 | 274                               | LQ0  | E1      | P001<br>IBC02<br>R001          |   | MP15                                    |  |         |
| 3185       | MARÓ, ÖNMELEGEDŐ, SZERVES<br>FOLYÉKONY ANYAG, M.N.N.          | 4.2     | SC1                      | II                          | 4.2 + 8      | 274                               | LQ0  | E2      | P402<br>IBC02                  |   | MP15                                    |  |         |
| 3185       | MARÓ, ÖNMELEGEDŐ, SZERVES<br>FOLYÉKONY ANYAG, M.N.N.          | 4.2     | SC1                      | III                         | 4.2 + 8      | 274                               | LQ0  | E1      | P001<br>IBC02<br>R001          |   | MP15                                    |  |         |
| 3186       | ÖNMELEGEDŐ, SZERVETLEN<br>FOLYÉKONY ANYAG, M.N.N.             | 4.2     | S3                       | II                          | 4.2          | 274                               | LQ0  | E2      | P001<br>IBC02                  |   | MP15                                    |  |         |
| 3186       | ÖNMELEGEDŐ, SZERVETLEN<br>FOLYÉKONY ANYAG, M.N.N.             | 4.2     | S3                       | III                         | 4.2          | 274                               | LQ0  | E1      | P001<br>IBC02<br>R001          |   | MP15                                    |  |         |
| 3187       | MÉRGEZŐ, ÖNMELEGEDŐ,<br>SZERVETLEN FOLYÉKONY ANYAG,<br>M.N.N. | 4.2     | ST3                      | II                          | 4.2 +<br>6.1 | 274                               | LQ0  | E2      | P402<br>IBC02                  |   | MP15                                    |  |         |
| 3187       | MÉRGEZŐ, ÖNMELEGEDŐ,<br>SZERVETLEN FOLYÉKONY ANYAG,<br>M.N.N. | 4.2     | ST3                      | III                         | 4.2 +<br>6.1 | 274                               | LQ0  | E1      | P001<br>IBC02<br>R001          |   | MP15                                    |  |         |
| 3188       | MARÓ, ÖNMELEGEDŐ,<br>SZERVETLEN FOLYÉKONY ANYAG,<br>M.N.N.    | 4.2     | SC3                      | II                          | 4.2 + 8      | 274                               | LQ0  | E2      | P402<br>IBC02                  |   | MP15                                    |  |         |



| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                    |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| SGAN        |                      | AT                             | 2 (E)  | V11                                       |  |  |  | 40                     | 3178    | SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.             |
| SGAV        |                      | AT                             | 3 (E)  |   | VV1  |  |  | 40                     | 3178    | SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.             |
| SGAN        |                      | AT                             | 2 (E)  | V11<br>V12                                |  | CV28   |  | 46                     | 3179    | MÉRGEZŐ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.    |
| SGAN        |                      | AT                             | 3 (E)  | V12                                       |  | CV28   |  | 46                     | 3179    | MÉRGEZŐ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.    |
| SGAN        |                      | AT                             | 2 (E)  | V11<br>V12                                |  |  |  | 48                     | 3180    | MARÓ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.       |
| SGAN        |                      | AT                             | 3 (E)  | V12                                       |  |  |  | 48                     | 3180    | MARÓ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.       |
| SGAN        |                      | AT                             | 2 (E)  | V11                                       |  |  |  | 40                     | 3181    | SZERVES VEGYÜLETEK GYÚLÉKONY FÉMSÓI, M.N.N.             |
| SGAV        |                      | AT                             | 3 (E)  |   | VV1  |  |  | 40                     | 3181    | SZERVES VEGYÜLETEK GYÚLÉKONY FÉMSÓI, M.N.N.             |
| SGAN        |                      | AT                             | 2 (E)  |   |  |  |  | 40                     | 3182    | GYÚLÉKONY FÉMHIIDRIDEK, M.N.N.                          |
| SGAV        |                      | AT                             | 3 (E)  |   | VV1  |  |  | 40                     | 3182    | GYÚLÉKONY FÉMHIIDRIDEK, M.N.N.                          |
| L4DH        | TU14<br>TE21         | AT                             | 2 (D/E)  | V1  |  |  |  | 30                     | 3183    | ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.             |
| L4DH        | TU14<br>TE21         | AT                             | 3 (E)  | V1  |  |  |  | 30                     | 3183    | ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.             |
| L4DH        | TU14<br>TE21         | AT                             | 2 (D/E)  | V1  |  | CV28   |  | 36                     | 3184    | MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.    |
| L4DH        | TU14<br>TE21         | AT                             | 3 (E)  | V1  |  | CV28   |  | 36                     | 3184    | MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.    |
| L4DH        | TU14<br>TE21         | AT                             | 2 (D/E)  | V1  |  |  |  | 38                     | 3185    | MARÓ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.       |
| L4DH        | TU14<br>TE21         | AT                             | 3 (E)  | V1  |  |  |  | 38                     | 3185    | MARÓ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.       |
| L4DH        | TU14<br>TE21         | AT                             | 2 (D/E)  | V1  |  |  |  | 30                     | 3186    | ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.          |
| L4DH        | TU14<br>TE21         | AT                             | 3 (E)  | V1  |  |  |  | 30                     | 3186    | ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.          |
| L4DH        | TU14<br>TE21         | AT                             | 2 (D/E)  | V1  |  | CV28   |  | 36                     | 3187    | MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N. |
| L4DH        | TU14<br>TE21         | AT                             | 3 (E)  | V1  |  | CV28   |  | 36                     | 3187    | MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N. |
| L4DH        | TU14<br>TE21         | AT                             | 2 (D/E)  | V1  |  |  |  | 38                     | 3188    | MARÓ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.    |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |  | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|---|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|--|--|-------------|
|            |   |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csmago-<br>lási<br>előírások |  |             |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                 | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                   | (10)   | (11)        |
| 3188       | MARÓ, ÖNMELEGEDŐ,<br>SZERVETLEN FOLYÉKONY ANYAG,<br>M.N.N.  | 4.2     | SC3                      | III                         | 4.2 + 8      | 274                               | LQ0                                       | E1      | P001<br>IBC02<br>R001          |   | MP15                                   |  |             |
| 3189       | ÖNMELEGEDŐ FÉMPOR, M.N.N.                                   | 4.2     | S4                       | II                          | 4.2          | 274<br>555                        | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                   | T3   | TP33        |
| 3189       | ÖNMELEGEDŐ FÉMPOR, M.N.N.                                   | 4.2     | S4                       | III                         | 4.2          | 274<br>555                        | LQ0                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                   | T1   | TP33        |
| 3190       | ÖNMELEGEDŐ, SZERVETLEN<br>SZILÁRD ANYAG, M.N.N.             | 4.2     | S4                       | II                          | 4.2          | 274                               | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                   | T3   | TP33        |
| 3190       | ÖNMELEGEDŐ, SZERVETLEN<br>SZILÁRD ANYAG, M.N.N.             | 4.2     | S4                       | III                         | 4.2          | 274                               | LQ0                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                   | T1   | TP33        |
| 3191       | MÉRGEZŐ, ÖNMELEGEDŐ,<br>SZERVETLEN SZILÁRD ANYAG,<br>M.N.N. | 4.2     | ST4                      | II                          | 4.2 +<br>6.1 | 274                               | LQ0                                       | E2      | P410<br>IBC05                  |   | MP14                                   | T3   | TP33        |
| 3191       | MÉRGEZŐ, ÖNMELEGEDŐ,<br>SZERVETLEN SZILÁRD ANYAG,<br>M.N.N. | 4.2     | ST4                      | III                         | 4.2 +<br>6.1 | 274                               | LQ0                                       | E1      | P002<br>IBC08<br>R001          | B3  | MP14                                   | T1   | TP33        |
| 3192       | MARÓ, ÖNMELEGEDŐ,<br>SZERVETLEN SZILÁRD ANYAG,<br>M.N.N.    | 4.2     | SC4                      | II                          | 4.2 + 8      | 274                               | LQ0                                       | E2      | P410<br>IBC05                  |   | MP14                                   | T3   | TP33        |
| 3192       | MARÓ, ÖNMELEGEDŐ,<br>SZERVETLEN SZILÁRD ANYAG,<br>M.N.N.    | 4.2     | SC4                      | III                         | 4.2 + 8      | 274                               | LQ0                                       | E1      | P002<br>IBC08<br>R001          | B3  | MP14                                   | T1   | TP33        |
| 3194       | PIROFOROS, SZERVETLEN<br>FOLYÉKONY ANYAG, M.N.N.            | 4.2     | S3                       | I                           | 4.2          | 274                               | LQ0                                       | E0      | P400                           |   | MP2                                    |  |             |
| 3200       | PIROFOROS, SZERVETLEN SZILÁRD<br>ANYAG, M.N.N.              | 4.2     | S4                       | I                           | 4.2          | 274                               | LQ0                                       | E0      | P404                           |   | MP13                                   | T21  | TP7<br>TP33 |
| 3205       | ALKÁLIFÖLDFÉM-ALKOHOLÁTOK,<br>M.N.N.                        | 4.2     | S4                       | II                          | 4.2          | 183<br>274                        | LQ0                                       | E2      | P410<br>IBC06                  |   | MP14                                   | T3   | TP33        |
| 3205       | ALKÁLIFÖLDFÉM-ALKOHOLÁTOK,<br>M.N.N.                        | 4.2     | S4                       | III                         | 4.2          | 183<br>274                        | LQ0                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                   | T1   | TP33        |
| 3206       | MARÓ, ÖNMELEGEDŐ ALKÁLIFÉM-<br>ALKOHOLÁTOK, M.N.N.          | 4.2     | SC4                      | II                          | 4.2 + 8      | 182<br>274                        | LQ0                                       | E2      | P410<br>IBC05                  |   | MP14                                   | T3   | TP33        |
| 3206       | MARÓ, ÖNMELEGEDŐ ALKÁLIFÉM-<br>ALKOHOLÁTOK, M.N.N.          | 4.2     | SC4                      | III                         | 4.2 + 8      | 182<br>274                        | LQ0                                       | E1      | P002<br>IBC08<br>R001          | B3  | MP14                                   | T1   | TP33        |
| 3208       | VÍZZEL REAKTÍV FÉMES ANYAG,<br>M.N.N.                       | 4.3     | W2                       | I                           | 4.3          | 274<br>557                        | LQ0                                       | E0      | P403<br>IBC99                  |   | MP2                                    |  |             |
| 3208       | VÍZZEL REAKTÍV FÉMES ANYAG,<br>M.N.N.                       | 4.3     | W2                       | II                          | 4.3          | 274<br>557                        | LQ11                                      | E2      | P410<br>IBC07                  |   | MP14                                   | T3   | TP33        |
| 3208       | VÍZZEL REAKTÍV FÉMES ANYAG,<br>M.N.N.                       | 4.3     | W2                       | III                         | 4.3          | 274<br>557                        | LQ12                                      | E1      | P410<br>IBC08<br>R001          | B4  | MP14                                   | T1   | TP33        |
| 3209       | VÍZZEL REAKTÍV, ÖNMELEGEDŐ<br>FÉMES ANYAG, M.N.N.           | 4.3     | WS                       | I                           | 4.3 +<br>4.2 | 274<br>558                        | LQ0                                       | E0      | P403                           |   | MP2                                    |  |             |
| 3209       | VÍZZEL REAKTÍV, ÖNMELEGEDŐ<br>FÉMES ANYAG, M.N.N.           | 4.3     | WS                       | II                          | 4.3 +<br>4.2 | 274<br>558                        | LQ11                                      | E2      | P410<br>IBC05                  |   | MP14                                   | T3   | TP33        |

| ADR-tartály |                            | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                  |
|-------------|----------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások       |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4               | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                       | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4DH        | TU14<br>TE21               | AT                             | 3<br>(E)   | V1  |  |  |  | 38                     | 3188    | MARÓ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.  |
| SGAN        |                            | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  |  |  | 40                     | 3189    | ÖNMELEGEDŐ FÉMPOR, M.N.N.                             |
| SGAN        |                            | AT                             | 3<br>(E)   | V1  | VV4  |  |  | 40                     | 3189    | ÖNMELEGEDŐ FÉMPOR, M.N.N.                             |
| SGAN        |                            | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  |  |  | 40                     | 3190    | ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.          |
| SGAN        |                            | AT                             | 3<br>(E)   | V1  | VV4  |  |  | 40                     | 3190    | ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.          |
| SGAN        |                            | AT                             | 2<br>(D/E)   | V1  |  | CV28   |  | 46                     | 3191    | MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N. |
| SGAN        |                            | AT                             | 3<br>(E)   | V1  |  | CV28   |  | 46                     | 3191    | MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N. |
| SGAN        |                            | AT                             | 2<br>(D/E)   | V1  |  |  |  | 48                     | 3192    | MARÓ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.    |
| SGAN        |                            | AT                             | 3<br>(E)   | V1  |  |  |  | 48                     | 3192    | MARÓ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.    |
| L21DH       | TU14<br>TC1<br>TE21<br>TM1 | AT                             | 0<br>(B/E)   | V1  |  |  | S20  | 333                    | 3194    | PIROFOROS, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.         |
|             |                            | AT                             | 0<br>(B/E)   | V1  |  |  | S20  | 43                     | 3200    | PIROFOROS, SZERVETLEN SZILÁRD ANYAG, M.N.N.           |
| SGAN        |                            | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  |  |  | 40                     | 3205    | ALKÁLIFÖLDFÉM-ALKOHOLÁTOK, M.N.N.                     |
| SGAN        |                            | AT                             | 3<br>(E)   | V1  |  |  |  | 40                     | 3205    | ALKÁLIFÖLDFÉM-ALKOHOLÁTOK, M.N.N.                     |
| SGAN        |                            | AT                             | 2<br>(D/E)   | V1  |  |  |  | 48                     | 3206    | MARÓ, ÖNMELEGEDŐ ALKÁLIFÉM-ALKOHOLÁTOK, M.N.N.        |
| SGAN        |                            | AT                             | 3<br>(E)   | V1  |  |  |  | 48                     | 3206    | MARÓ, ÖNMELEGEDŐ ALKÁLIFÉM-ALKOHOLÁTOK, M.N.N.        |
|             |                            |                                | 1<br>(E)   | V1  |  | CV23   | S20  |                        | 3208    | VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N.                    |
| SGAN        |                            | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  | CV23   |  | 423                    | 3208    | VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N.                    |
| SGAN        |                            | AT                             | 3<br>(E)   | V1  | VV5  | CV23   |  | 423                    | 3208    | VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N.                    |
|             |                            |                                | 1<br>(E)   | V1  |  | CV23   | S20  |                        | 3209    | VÍZZEL REAKTÍV, ÖNMELEGEDŐ FÉMES ANYAG, M.N.N.        |
| SGAN        |                            | AT                             | 2<br>(D/E)   | V1  |  | CV23   |  | 423                    | 3209    | VÍZZEL REAKTÍV, ÖNMELEGEDŐ FÉMES ANYAG, M.N.N.        |

| UN<br>szám |   | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák       | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|---------------------|------------------------|--------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                     |                        |              |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2        | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                | (4)                    | (5)          | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3209       | VÍZZEL REAKTÍV, ÖNMELEGEDŐ<br>FÉMES ANYAG, M.N.N. | 4.3     | WS                  | III                    | 4.3 +<br>4.2 | 274<br>558                        | LQ12                                       | E1      | P410<br>IBC08<br>R001          | B4  | MP14                                    | T1   | TP33                    |
| 3210       | SZERVETLEN KLORÁTOK VIZES<br>OLDATA, M.N.N.       | 5.1     | O1                  | II                     | 5.1          | 274<br>605                        | LQ10                                       | E2      | P504<br>IBC02                  |   | MP2                                     | T4   | TP1                     |
| 3210       | SZERVETLEN KLORÁTOK VIZES<br>OLDATA, M.N.N.       | 5.1     | O1                  | III                    | 5.1          | 274<br>605                        | LQ13                                       | E1      | P504<br>IBC02<br>R001          |   | MP2                                     | T4   | TP1                     |
| 3211       | SZERVETLEN PERKLORÁTOK<br>VIZES OLDATA, M.N.N.    | 5.1     | O1                  | II                     | 5.1          | 274                               | LQ10                                       | E2      | P504<br>IBC02                  |   | MP2                                     | T4   | TP1                     |
| 3211       | SZERVETLEN PERKLORÁTOK<br>VIZES OLDATA, M.N.N.    | 5.1     | O1                  | III                    | 5.1          | 274                               | LQ13                                       | E1      | P504<br>IBC02<br>R001          |   | MP2                                     | T4   | TP1                     |
| 3212       | SZERVETLEN HIPOKLORITOK,<br>M.N.N.                | 5.1     | O2                  | II                     | 5.1          | 274<br>559                        | LQ11                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3213       | SZERVETLEN BROMÁTOK VIZES<br>OLDATA, M.N.N.       | 5.1     | O1                  | II                     | 5.1          | 274<br>604                        | LQ10                                       | E2      | P504<br>IBC02                  |   | MP2                                     | T4   | TP1                     |
| 3213       | SZERVETLEN BROMÁTOK VIZES<br>OLDATA, M.N.N.       | 5.1     | O1                  | III                    | 5.1          | 274<br>604                        | LQ13                                       | E1      | P504<br>IBC02<br>R001          |   | MP15                                    | T4   | TP1                     |
| 3214       | SZERVETLEN PERMANGANÁTOK<br>VIZES OLDATA, M.N.N.  | 5.1     | O1                  | II                     | 5.1          | 274<br>608                        | LQ10                                       | E2      | P504<br>IBC02                  |   | MP2                                     | T4   | TP1                     |
| 3215       | SZERVETLEN PERSZULFÁTOK,<br>M.N.N.                | 5.1     | O2                  | III                    | 5.1          | 274                               | LQ12                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 3216       | SZERVETLEN PERSZULFÁTOK<br>VIZES OLDATA, M.N.N.   | 5.1     | O1                  | III                    | 5.1          | 274                               | LQ13                                       | E1      | P504<br>IBC02<br>R001          |   | MP15                                    | T4   | TP1<br>TP29             |
| 3218       | SZERVETLEN NITRÁTOK VIZES<br>OLDATA, M.N.N.       | 5.1     | O1                  | II                     | 5.1          | 270<br>274<br>511                 | LQ10                                       | E2      | P504<br>IBC02                  |   | MP15                                    | T4   | TP1                     |
| 3218       | SZERVETLEN NITRÁTOK VIZES<br>OLDATA, M.N.N.       | 5.1     | O1                  | III                    | 5.1          | 270<br>274<br>511                 | LQ13                                       | E1      | P504<br>IBC02<br>R001          |   | MP15                                    | T4   | TP1                     |
| 3219       | SZERVETLEN NITRITEK VIZES<br>OLDATA, M.N.N.       | 5.1     | O1                  | II                     | 5.1          | 103<br>274                        | LQ10                                       | E2      | P504<br>IBC01                  |   | MP15                                    | T4   | TP1                     |
| 3219       | SZERVETLEN NITRITEK VIZES<br>OLDATA, M.N.N.       | 5.1     | O1                  | III                    | 5.1          | 103<br>274                        | LQ13                                       | E1      | P504<br>IBC02<br>R001          |   | MP15                                    | T4   | TP1                     |
| 3220       | PENTAFLUOR-ETÁN<br>(R 125 HŰTŐGÁZ)                | 2       | 2A                  |                        | 2.2          |                                   | LQ1  | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 3221       | B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG             | 4.1     | SR1                 |                        | 4.1 + 1      | 181<br>194<br>274                 | LQ14                                       | E0      | P520                           | PP21  | MP2                                     |  |                         |
| 3222       | B TÍPUSÚ ÖNREAKTÍV SZILÁRD<br>ANYAG               | 4.1     | SR1                 |                        | 4.1 + 1      | 181<br>194<br>274                 | LQ15                                       | E0      | P520                           | PP21  | MP2                                     |  |                         |
| 3223       | C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG             | 4.1     | SR1                 |                        | 4.1          | 194<br>274                        | LQ14                                       | E0      | P520                           | PP21  | MP2                                     |  |                         |
| 3224       | C TÍPUSÚ ÖNREAKTÍV SZILÁRD<br>ANYAG               | 4.1     | SR1                 |                        | 4.1          | 194<br>274                        | LQ15                                       | E0      | P520                           | PP21  | MP2                                     |  |                         |
| 3225       | D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG             | 4.1     | SR1                 |                        | 4.1          | 194<br>274                        | LQ16                                       | E0      | P520                           |   | MP2                                     |  |                         |

| ADR-tartály |                              | Jármű a<br>tartályos<br>szállítás-<br>hoz | Szállítási<br>kategória<br>1.1.3.6<br>(Alagútkorlá-<br>tozási kód) | Szállítás  |   |   |   | Veszélyt<br>jelölő<br>számok | UN szám | Megnevezés és leírás                              |
|-------------|------------------------------|---|--|--|---|---|---|------------------------------|---------|---|
| Tartálykód  | Külön-<br>leges<br>előírások |   |  | Különleges<br>előírások a<br>küldemény-<br>darabokra | Különleges<br>előírások az<br>ömlesztett<br>szállításra | Különleges<br>előírások az<br>árukezelésre,<br>be- és kirakásra | Különleges<br>előírások a<br>jármű üze-<br>meltetésre |                              |         |   |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                                   | (8.6)  | 7.2.4  | 7.3.3   | 7.5.11  | 8.5   | 5.3.2.3                      |         | 3.1.2   |
| (12)        | (13)                         | (14)                                      | (15)   | (16)   | (17)  | (18)  | (19)  | (20)                         | (1)     | (2)   |
| SGAN        |                              | AT  | 3<br>(E)   | V1   | VV5   | CV23  |   | 423                          | 3209    | VÍZZEL REAKTÍV, ÖNMELEGEDŐ<br>FÉMES ANYAG, M.N.N. |
| L4BN        | TU3                          | AT  | 2<br>(E)   |  |   | CV24  |   | 50                           | 3210    | SZERVETLEN KLOORÁTOK VIZES<br>OLDATA, M.N.N.      |
| LGBV        | TU3                          | AT  | 3<br>(E)   |  |   | CV24  |   | 50                           | 3210    | SZERVETLEN KLOORÁTOK VIZES<br>OLDATA, M.N.N.      |
| L4BN        | TU3                          | AT  | 2<br>(E)   |  |   | CV24  |   | 50                           | 3211    | SZERVETLEN PERKLOORÁTOK<br>VIZES OLDATA, M.N.N.   |
| LGBV        | TU3                          | AT  | 3<br>(E)   |  |   | CV24  |   | 50                           | 3211    | SZERVETLEN PERKLOORÁTOK<br>VIZES OLDATA, M.N.N.   |
| SGAN        | TU3                          | AT  | 2<br>(E)   | V11  |   | CV24  |   | 50                           | 3212    | SZERVETLEN HIPOKLOORITOK,<br>M.N.N.               |
| L4BN        | TU3                          | AT  | 2<br>(E)   |  |   | CV24  |   | 50                           | 3213    | SZERVETLEN BROMÁTOK VIZES<br>OLDATA, M.N.N.       |
| LGBV        | TU3                          | AT  | 3<br>(E)   |  |   | CV24  |   | 50                           | 3213    | SZERVETLEN BROMÁTOK VIZES<br>OLDATA, M.N.N.       |
| L4BN        | TU3                          | AT  | 2<br>(E)   |  |   | CV24  |   | 50                           | 3214    | SZERVETLEN PERMANGANÁTOK<br>VIZES OLDATA, M.N.N.  |
| SGAV        | TU3                          | AT  | 3<br>(E)   |  | VV8   | CV24  |   | 50                           | 3215    | SZERVETLEN PERSZULFÁTOK,<br>M.N.N.                |
| LGBV        | TU3                          | AT  | 3<br>(E)   |  |   | CV24  |   | 50                           | 3216    | SZERVETLEN PERSZULFÁTOK<br>VIZES OLDATA, M.N.N.   |
| L4BN        | TU3                          | AT  | 2<br>(E)   |  |   | CV24  |   | 50                           | 3218    | SZERVETLEN NITRÁTOK VIZES<br>OLDATA, M.N.N.       |
| LGBV        | TU3                          | AT  | 3<br>(E)   |  |   | CV24  |   | 50                           | 3218    | SZERVETLEN NITRÁTOK VIZES<br>OLDATA, M.N.N.       |
| L4BN        | TU3                          | AT  | 2<br>(E)   |  |   | CV24  |   | 50                           | 3219    | SZERVETLEN NITRITEK VIZES<br>OLDATA, M.N.N.       |
| LGBV        | TU3                          | AT  | 3<br>(E)   |  |   | CV24  |   | 50                           | 3219    | SZERVETLEN NITRITEK VIZES<br>OLDATA, M.N.N.       |
| P*BN(M)     | TA4<br>TT9                   | AT  | 3<br>(C/E)   |  |   | CV9<br>CV10<br>CV36   |   | 20                           | 3220    | PENTAFLUOR-ETÁN<br>(R 125 HŰTŐGÁZ)                |
|             |                              |   | 1<br>(B)   | V1   |   | CV15<br>CV20<br>CV22  | S9<br>S17   |                              | 3221    | B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG             |
|             |                              |   | 1<br>(B)   | V1   |   | CV15<br>CV20<br>CV22  | S9<br>S17   |                              | 3222    | B TÍPUSÚ ÖNREAKTÍV SZILÁRD<br>ANYAG               |
|             |                              |   | 1<br>(D)   | V1   |   | CV15<br>CV20<br>CV22  | S8<br>S18   |                              | 3223    | C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG             |
|             |                              |   | 1<br>(D)   | V1   |   | CV15<br>CV20<br>CV22  | S8<br>S18   |                              | 3224    | C TÍPUSÚ ÖNREAKTÍV SZILÁRD<br>ANYAG               |
|             |                              |   | 2<br>(D)   | V1   |   | CV15<br>CV22  | S19   |                              | 3225    | D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG             |

| UN<br>szám |  | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3226       | D TÍPUSÚ ÖNREAKTÍV SZILÁRD<br>ANYAG                                  | 4.1     | SR1                      |                             | 4.1     | 194<br>274                        | LQ11                                      | E0      | P520                           |   | MP2                                     |  |                         |
| 3227       | E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG                                | 4.1     | SR1                      |                             | 4.1     | 194<br>274                        | LQ16                                      | E0      | P520                           |   | MP2                                     |  |                         |
| 3228       | E TÍPUSÚ ÖNREAKTÍV SZILÁRD<br>ANYAG                                  | 4.1     | SR1                      |                             | 4.1     | 194<br>274                        | LQ11                                      | E0      | P520                           |   | MP2                                     |  |                         |
| 3229       | F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG                                | 4.1     | SR1                      |                             | 4.1     | 194<br>274                        | LQ16                                      | E0      | P520<br>IBC99                  |   | MP2                                     | T23  |                         |
| 3230       | F TÍPUSÚ ÖNREAKTÍV SZILÁRD<br>ANYAG                                  | 4.1     | SR1                      |                             | 4.1     | 194<br>274                        | LQ11                                      | E0      | P520<br>IBC99                  |   | MP2                                     | T23  |                         |
| 3231       | B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL | 4.1     | SR2                      |                             | 4.1 + 1 | 181<br>194<br>274                 | LQ0                                       | E0      | P520                           | PP21  | MP2                                     |  |                         |
| 3232       | B TÍPUSÚ ÖNREAKTÍV SZILÁRD<br>ANYAG HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL   | 4.1     | SR2                      |                             | 4.1 + 1 | 181<br>194<br>274                 | LQ0                                       | E0      | P520                           | PP21  | MP2                                     |  |                         |
| 3233       | C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL | 4.1     | SR2                      |                             | 4.1     | 194<br>274                        | LQ0                                       | E0      | P520                           | PP21  | MP2                                     |  |                         |
| 3234       | C TÍPUSÚ ÖNREAKTÍV SZILÁRD<br>ANYAG HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL   | 4.1     | SR2                      |                             | 4.1     | 194<br>274                        | LQ0                                       | E0      | P520                           | PP21  | MP2                                     |  |                         |
| 3235       | D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL | 4.1     | SR2                      |                             | 4.1     | 194<br>274                        | LQ0                                       | E0      | P520                           |   | MP2                                     |  |                         |
| 3236       | D TÍPUSÚ ÖNREAKTÍV SZILÁRD<br>ANYAG HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL   | 4.1     | SR2                      |                             | 4.1     | 194<br>274                        | LQ0                                       | E0      | P520                           |   | MP2                                     |  |                         |
| 3237       | E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL | 4.1     | SR2                      |                             | 4.1     | 194<br>274                        | LQ0                                       | E0      | P520                           |   | MP2                                     |  |                         |
| 3238       | E TÍPUSÚ ÖNREAKTÍV SZILÁRD<br>ANYAG HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL   | 4.1     | SR2                      |                             | 4.1     | 194<br>274                        | LQ0                                       | E0      | P520                           |   | MP2                                     |  |                         |
| 3239       | F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY<br>ANYAG HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL | 4.1     | SR2                      |                             | 4.1     | 194<br>274                        | LQ0                                       | E0      | P520                           |   | MP2                                     | T23  |                         |
| 3240       | F TÍPUSÚ ÖNREAKTÍV SZILÁRD<br>ANYAG HŐMÉRSÉKLET-<br>SZABÁLYOZÁSSAL   | 4.1     | SR2                      |                             | 4.1     | 194<br>274                        | LQ0                                       | E0      | P520                           |   | MP2                                     | T23  |                         |
| 3241       | 2-BRÓM-2-NITRO-1,3-PROPÁNDIOL  | 4.1     | SR1                      | III                         | 4.1     | 638                               | LQ0                                       | E1      | P520<br>IBC08                  | PP22<br>B3                                    | MP2                                     |  |                         |
| 3242       | AZO-DIKARBONAMID   | 4.1     | SR1                      | II                          | 4.1     | 215<br>638                        | LQ0                                       | E2      | P409                           |   | MP2                                     | T3   | TP33                    |
| 3243       | MÉRGEZŐ FOLYADÉK TARTALMÚ<br>SZILÁRD ANYAG, M.N.N.                   | 6.1     | T9                       | II                          | 6.1     | 217<br>274                        | LQ18                                      | E4      | P002<br>IBC02                  | PP9   | MP10                                    | T3<br>BK1<br>BK2                               | TP33                    |
| 3244       | MARÓ FOLYADÉK TARTALMÚ<br>SZILÁRD ANYAG, M.N.N.                      | 8       | C10                      | II                          | 8       | 218<br>274                        | LQ23                                      | E2      | P002<br>IBC05                  | PP9   | MP10                                    | T3<br>BK1<br>BK2                               | TP33                    |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|             |                      |                                | 2 (D)  | V1  |  | CV15<br>CV22   | S19  |                        | 3226    | D TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG                              |
|             |                      |                                | 2 (D)  | V1  |  | CV15<br>CV22   |  |                        | 3227    | E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG                            |
|             |                      |                                | 2 (D)  | V1  |  | CV15<br>CV22   |  |                        | 3228    | E TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG                              |
|             |                      | AT                             | 2 (D)  | V1  |  | CV15<br>CV22   |  | 40                     | 3229    | F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG                            |
|             |                      | AT                             | 2 (D)  | V1  |  | CV15<br>CV22   |  | 40                     | 3230    | F TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG                              |
|             |                      |                                | 1 (B)  | V8  |  | CV15<br>CV20<br>CV21<br>CV22                           | S4<br>S9<br>S16                            |                        | 3231    | B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|             |                      |                                | 1 (B)  | V8  |  | CV15<br>CV20<br>CV21<br>CV22                           | S4<br>S9<br>S16                            |                        | 3232    | B TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
|             |                      |                                | 1 (D)  | V8  |  | CV15<br>CV20<br>CV21<br>CV22                           | S4<br>S8<br>S17                            |                        | 3233    | C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|             |                      |                                | 1 (D)  | V8  |  | CV15<br>CV20<br>CV21<br>CV22                           | S4<br>S8<br>S17                            |                        | 3234    | C TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
|             |                      |                                | 1 (D)  | V8  |  | CV15<br>CV21<br>CV22                                   | S4<br>S18                                  |                        | 3235    | D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|             |                      |                                | 1 (D)  | V8  |  | CV15<br>CV21<br>CV22                                   | S4<br>S18                                  |                        | 3236    | D TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
|             |                      |                                | 1 (D)  | V8  |  | CV15<br>CV21<br>CV22                                   | S4<br>S19                                  |                        | 3237    | E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|             |                      |                                | 1 (D)  | V8  |  | CV15<br>CV21<br>CV22                                   | S4<br>S19                                  |                        | 3238    | E TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
|             |                      | AT                             | 1 (D)  | V8  |  | CV15<br>CV21<br>CV22                                   | S4   | 40                     | 3239    | F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL |
|             |                      | AT                             | 1 (D)  | V8  |  | CV15<br>CV21<br>CV22                                   | S4   | 40                     | 3240    | F TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   |
|             |                      |                                | 3 (D)  |   |  | CV14   | S24  |                        | 3241    | 2-BRÓM-2-NITRO-1,3-PROPÁNDIOL                                 |
|             |                      | AT                             | 2 (D)  |   |  | CV14   | S24  | 40                     | 3242    | AZO-DIKARBONAMID  |
| SGAH        | TU15<br>TE19         | AT                             | 2 (D/E)  |   | VV10   | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3243    | MÉRGEZŐ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N.               |
| SGAV        |                      | AT                             | 2 (E)  |   | VV10   |  |  | 80                     | 3244    | MARÓ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N.                  |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------|
|            |  |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 3245       | GÉNTÉCHNOLÓGIÁVAL<br>MÓDOSÍTOTT<br>MIKROORGANIZMUSOK vagy<br>GÉNTÉCHNOLÓGIÁVAL<br>MÓDOSÍTOTT ÉLŐ SZERVEZETEK   | 9       | M8                       |                             | 9       | 219<br>637                        | LQ0                                       | E0      | P904<br>IBC08                  |   | MP6                                     |  |             |
| 3245       | GÉNTÉCHNOLÓGIÁVAL<br>MÓDOSÍTOTT<br>MIKROORGANIZMUSOK vagy<br>GÉNTÉCHNOLÓGIÁVAL<br>MÓDOSÍTOTT ÉLŐ SZERVEZETEK<br>mélyhűtött, cseppfolyósított nitrogénben | 9       | M8                       |                             | 9 + 2.2 | 219<br>637                        | LQ0                                       | E0      | P904<br>IBC08                  |   | MP6                                     |  |             |
| 3246       | METÁN-SZULFONIL-KLORID   | 6.1     | TC1                      | I                           | 6.1 + 8 |                                   | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2         |
| 3247       | VÍZMENTES NÁTRIUM-PEROXO-<br>BORÁT   | 5.1     | O2                       | II                          | 5.1     |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP2                                     | T3   | TP33        |
| 3248       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ GYÓGYSZER, M.N.N.   | 3       | FT1                      | II                          | 3 + 6.1 | 220<br>221<br>274<br>601          | LQ0                                       | E2      | P001                           |   | MP19                                    |  |             |
| 3248       | FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ GYÓGYSZER, M.N.N.   | 3       | FT1                      | III                         | 3 + 6.1 | 220<br>221<br>274<br>601          | LQ7                                       | E1      | P001<br>R001                   |   | MP19                                    |  |             |
| 3249       | SZILÁRD, MÉRGEZŐ GYÓGYSZER,<br>M.N.N.  | 6.1     | T2                       | II                          | 6.1     | 221<br>274<br>601                 | LQ18                                      | E4      | P002                           |   | MP10                                    | T3   | TP33        |
| 3249       | SZILÁRD, MÉRGEZŐ GYÓGYSZER,<br>M.N.N.  | 6.1     | T2                       | III                         | 6.1     | 221<br>274<br>601                 | LQ9                                       | E1      | P002<br>LP02<br>R001           |   | MP10                                    | T1   | TP33        |
| 3250       | OLVASZTOTT KLÓR-ECETSAV  | 6.1     | TC1                      | II                          | 6.1 + 8 |                                   | LQ0                                       | E0      |                                |   |   | T7   | TP3<br>TP28 |
| 3251       | IZOSZORBID-5-MONONITRÁT  | 4.1     | SR1                      | III                         | 4.1     | 226<br>638                        | LQ0                                       | E1      | P409                           |   | MP2                                     |  |             |
| 3252       | DIFLUOR-METÁN (R 32 HŰTŐGÁZ)   | 2       | 2F                       |                             | 2.1     |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |             |
| 3253       | DINÁTRIUM-TRIOXO-SZILIKÁT  | 8       | C6                       | III                         | 8       |                                   | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 3254       | TRIBUTIL-FOSZFÁN   | 4.2     | S1                       | I                           | 4.2     |                                   | LQ0                                       | E0      | P400                           |   | MP2                                     | T21  | TP2<br>TP7  |
| 3255       | terc-BUTIL-HIPOKLORIT  | 4.2     | SC1                      | A szállításból ki van zárva |         |                                   |   |         |                                |   |   |  |             |
| 3256       | MAGAS HŐMÉRSÉKLETŰ,<br>GYÚLÉKONY FOLYÉKONY ANYAG,<br>M.N.N., 60 °C feletti lobbasponttal,<br>a lobbasponton vagy magasabb<br>hőmérsékleten               | 3       | F2                       | III                         | 3       | 274<br>560                        | LQ0                                       | E0      | P099<br>IBC99                  |   | MP2                                     | T3   | TP3<br>TP29 |



| ADR-tartály                 |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-----------------------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód                  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|                             |                              |                                | 2<br>(E)   |   |  | CV1<br>CV13<br>CV26<br>CV27<br>CV28                    | S17  |                        | 3245    | GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT MIKROORGANIZMUSOK vagy GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT ÉLŐ SZERVEZETEK  |
|                             |                              |                                | 2<br>(E)   |   |  | CV1<br>CV13<br>CV26<br>CV27<br>CV28                    | S17  |                        | 3245    | GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT MIKROORGANIZMUSOK vagy GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT ÉLŐ SZERVEZETEK mélyhűtött, cseppfolyósított nitrogénben |
| L10CH                       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 668                    | 3246    | METÁN-SZULFONIL-KLORID  |
| SGAN                        | TU3                          | AT                             | 2<br>(E)   | V11                                       |  | CV24   |  | 50                     | 3247    | VÍZMENTES NÁTRIUM-PEROXO-BORÁT  |
| L4BH                        | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S19                                  | 336                    | 3248    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.   |
| L4BH                        | TU15                         | FL                             | 3<br>(D/E)   |   |  | CV13<br>CV28   | S2   | 36                     | 3248    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.   |
| L4BH<br>SGAH                | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3249    | SZILÁRD, MÉRGEZŐ GYÓGYSZER, M.N.N.  |
| L4BH<br>SGAH                | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3249    | SZILÁRD, MÉRGEZŐ GYÓGYSZER, M.N.N.  |
| L4BH                        | TU15<br>TC4<br>TE19          | AT                             | 0<br>(D/E)   |   |  | CV13   | S9<br>S19                                  | 68                     | 3250    | OLVASZTOTT KLÓR-ECETSAV   |
|                             |                              |                                | 3<br>(D)   |   |  | CV14   | S24  |                        | 3251    | IZOSZORBID-5-MONONITRÁT   |
| P*BN(M)                     | TA4<br>TT9                   | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 3252    | DIFLUOR-METÁN (R 32 HŰTŐGÁZ)  |
| SGAV                        |                              | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 3253    | DINÁTRIUM-TRIOXO-SZILIKÁT   |
|                             |                              | AT                             | 0<br>(B/E)   | V1  |  |  | S20  | 333                    | 3254    | TRIBUTIL-FOSZFÁN  |
| A szállításból ki van zárva |                              |                                |  |   |  |  |  |                        | 3255    | terc-BUTIL-HIPOKLORIT   |
| LGAV                        | TU35<br>TE24                 | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 3256    | MAGAS HŐMÉRSÉKLETŰ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N., 60 °C feletti lobbanásponttal, a lobbanásponton vagy magasabb hőmérsékleten        |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|---|---------|--------------------------|-----------------------------|--------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------|
|            |   |         |                          |                             |        |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 3257       | MAGAS HŐMÉRSÉKLETŰ<br>FOLYÉKONY ANYAG, M.N., 100 °C-<br>on vagy magasabb hőmérsékleten, de a<br>lobbanáspont alatti hőmérsékleten<br>(beleértve az olvasztott fémeket,<br>olvasztott sókat stb.), 190 °C-nál<br>magasabb hőmérsékleten töltve | 9       | M9                       | III                         | 9      | 274<br>580<br>643                 | LQ0                                       | E0      | P099<br>IBC99                  |   |   | T3   | TP3<br>TP29 |
| 3257       | MAGAS HŐMÉRSÉKLETŰ<br>FOLYÉKONY ANYAG, M.N.N., 100<br>°C-on vagy magasabb hőmérsékleten, de<br>a lobbanáspont alatti hőmérsékleten<br>(beleértve az olvasztott fémeket,<br>olvasztott sókat stb.), legfeljebb 190 °C-<br>on töltve            | 9       | M9                       | III                         | 9      | 274<br>580<br>643                 | LQ0                                       | E0      | P099<br>IBC99                  |   |   | T3   | TP3<br>TP29 |
| 3258       | MAGAS HŐMÉRSÉKLETŰ SZILÁRD<br>ANYAG, M.N.N., 240 °C-on vagy<br>magasabb hőmérsékleten   | 9       | M10                      | III                         | 9      | 274<br>580<br>643                 | LQ0                                       | E0      | P099<br>IBC99                  |   |   |  |             |
| 3259       | SZILÁRD, MARÓ AMINOK, M.N.N.<br>vagy SZILÁRD, MARÓ POLIAMINOK,<br>M.N.N.  | 8       | C8                       | I                           | 8      | 274                               | LQ0                                       | E0      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33        |
| 3259       | SZILÁRD, MARÓ AMINOK, M.N.N.<br>vagy SZILÁRD, MARÓ POLIAMINOK,<br>M.N.N.  | 8       | C8                       | II                          | 8      | 274                               | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 3259       | SZILÁRD, MARÓ AMINOK, M.N.N.<br>vagy SZILÁRD, MARÓ POLIAMINOK,<br>M.N.N.  | 8       | C8                       | III                         | 8      | 274                               | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 3260       | MARÓ, SZILÁRD, SAVAS<br>SZERVETLEN ANYAG, M.N.N.  | 8       | C2                       | I                           | 8      | 274                               | LQ0                                       | E0      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33        |
| 3260       | MARÓ, SZILÁRD, SAVAS<br>SZERVETLEN ANYAG, M.N.N.  | 8       | C2                       | II                          | 8      | 274                               | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 3260       | MARÓ, SZILÁRD, SAVAS<br>SZERVETLEN ANYAG, M.N.N.  | 8       | C2                       | III                         | 8      | 274                               | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 3261       | MARÓ, SZILÁRD, SAVAS SZERVES<br>ANYAG, M.N.N.   | 8       | C4                       | I                           | 8      | 274                               | LQ0                                       | E0      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33        |
| 3261       | MARÓ, SZILÁRD, SAVAS SZERVES<br>ANYAG, M.N.N.   | 8       | C4                       | II                          | 8      | 274                               | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 3261       | MARÓ, SZILÁRD, SAVAS SZERVES<br>ANYAG, M.N.N.   | 8       | C4                       | III                         | 8      | 274                               | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 3262       | MARÓ, SZILÁRD, LÚGOS<br>SZERVETLEN ANYAG, M.N.N.  | 8       | C6                       | I                           | 8      | 274                               | LQ0                                       | E0      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33        |
| 3262       | MARÓ, SZILÁRD, LÚGOS<br>SZERVETLEN ANYAG, M.N.N.  | 8       | C6                       | II                          | 8      | 274                               | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |
| 3262       | MARÓ, SZILÁRD, LÚGOS<br>SZERVETLEN ANYAG, M.N.N.  | 8       | C6                       | III                         | 8      | 274                               | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33        |
| 3263       | MARÓ, SZILÁRD, LÚGOS SZERVES<br>ANYAG, M.N.N.   | 8       | C8                       | I                           | 8      | 274                               | LQ0                                       | E0      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33        |
| 3263       | MARÓ, SZILÁRD, LÚGOS SZERVES<br>ANYAG, M.N.N.   | 8       | C8                       | II                          | 8      | 274                               | LQ23                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33        |

| ADR-tartály    |  | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|----------------|--|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód     | Különleges előírások                       |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3            | 4.3.5, 6.8.4                               | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)           | (13)                                       | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| LGAV           | TU35<br>TC7<br>TE6<br>TE14<br>TE18<br>TE24 | AT                             | 3<br>(D)   |   | VV12   |  |  | 99                     | 3257    | MAGAS HŐMÉRSÉKLETŰ FOLYÉKONY ANYAG, M.N.N., 100 °C-on vagy magasabb hőmérsékleten, de a lobbanáspont alatti hőmérsékleten (beleértve az olvasztott fémeket, olvasztott sókat stb.), 190 °C-nál magasabb hőmérsékleten töltve |
| LGAV           | TU35<br>TC7<br>TE6<br>TE14<br>TE24         | AT                             | 3<br>(D)   |   | VV12   |  |  | 99                     | 3257    | MAGAS HŐMÉRSÉKLETŰ FOLYÉKONY ANYAG, M.N.N., 100 °C-on vagy magasabb hőmérsékleten, de a lobbanáspont alatti hőmérsékleten (beleértve az olvasztott fémeket, olvasztott sókat stb.), legfeljebb 190 °C-on töltve              |
|                |  |                                | 3<br>(D)   |   | VV13   |  |  | 99                     | 3258    | MAGAS HŐMÉRSÉKLETŰ SZILÁRD ANYAG, M.N.N., 240 °C-on vagy magasabb hőmérsékleten  |
| L10BH<br>S10AN |  | AT                             | 1<br>(E)   | V10<br>V12                                |  |  | S20  | 88                     | 3259    | SZILÁRD, MARÓ AMINOK, M.N.N. vagy SZILÁRD, MARÓ POLIAMINOK, M.N.N.   |
| L4BN<br>SGAN   |  | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 3259    | SZILÁRD, MARÓ AMINOK, M.N.N. vagy SZILÁRD, MARÓ POLIAMINOK, M.N.N.   |
| L4BN<br>SGAV   |  | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 3259    | SZILÁRD, MARÓ AMINOK, M.N.N. vagy SZILÁRD, MARÓ POLIAMINOK, M.N.N.   |
| S10AN          |  | AT                             | 1<br>(E)   | V10<br>V12                                |  |  | S20  | 88                     | 3260    | MARÓ, SZILÁRD, SAVAS SZERVETLEN ANYAG, M.N.N.  |
| SGAN           |  | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 3260    | MARÓ, SZILÁRD, SAVAS SZERVETLEN ANYAG, M.N.N.  |
| SGAV           |  | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 3260    | MARÓ, SZILÁRD, SAVAS SZERVETLEN ANYAG, M.N.N.  |
| L10BH<br>S10AN |  | AT                             | 1<br>(E)   | V10<br>V12                                |  |  | S20  | 88                     | 3261    | MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.   |
| L4BN<br>SGAN   |  | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 3261    | MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.   |
| L4BN<br>SGAV   |  | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 3261    | MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.   |
| L10BH<br>S10AN |  | AT                             | 1<br>(E)   | V10<br>V12                                |  |  | S20  | 88                     | 3262    | MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.  |
| L4BN<br>SGAN   |  | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 3262    | MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.  |
| L4BN<br>SGAV   |  | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 3262    | MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.  |
| L10BH<br>S10AN |  | AT                             | 1<br>(E)   | V10<br>V12                                |  |  | S20  | 88                     | 3263    | MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.   |
| L4BN<br>SGAN   |  | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                     | 3263    | MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.   |

| UN<br>szám |  | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|--------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |        |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3263       | MARÓ, SZILÁRD, LÚGOS SZERVES<br>ANYAG, M.N.N.  | 8       | C8                       | III                         | 8      | 274                               | LQ24                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 3264       | MARÓ, FOLYÉKONY, SAVAS<br>SZERVETLEN ANYAG, M.N.N.   | 8       | C1                       | I                           | 8      | 274                               | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3264       | MARÓ, FOLYÉKONY, SAVAS<br>SZERVETLEN ANYAG, M.N.N.   | 8       | C1                       | II                          | 8      | 274                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3264       | MARÓ, FOLYÉKONY, SAVAS<br>SZERVETLEN ANYAG, M.N.N.   | 8       | C1                       | III                         | 8      | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |
| 3265       | MARÓ, FOLYÉKONY, SAVAS<br>SZERVES ANYAG, M.N.N.  | 8       | C3                       | I                           | 8      | 274                               | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3265       | MARÓ, FOLYÉKONY, SAVAS<br>SZERVES ANYAG, M.N.N.  | 8       | C3                       | II                          | 8      | 274                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3265       | MARÓ, FOLYÉKONY, SAVAS<br>SZERVES ANYAG, M.N.N.  | 8       | C3                       | III                         | 8      | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |
| 3266       | MARÓ, FOLYÉKONY, LÚGOS<br>SZERVETLEN ANYAG, M.N.N.   | 8       | C5                       | I                           | 8      | 274                               | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3266       | MARÓ, FOLYÉKONY, LÚGOS<br>SZERVETLEN ANYAG, M.N.N.   | 8       | C5                       | II                          | 8      | 274                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3266       | MARÓ, FOLYÉKONY, LÚGOS<br>SZERVETLEN ANYAG, M.N.N.   | 8       | C5                       | III                         | 8      | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |
| 3267       | MARÓ, FOLYÉKONY, LÚGOS<br>SZERVES ANYAG, M.N.N.  | 8       | C7                       | I                           | 8      | 274                               | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3267       | MARÓ, FOLYÉKONY, LÚGOS<br>SZERVES ANYAG, M.N.N.  | 8       | C7                       | II                          | 8      | 274                               | LQ22                                      | E2      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3267       | MARÓ, FOLYÉKONY, LÚGOS<br>SZERVES ANYAG, M.N.N.  | 8       | C7                       | III                         | 8      | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |
| 3268       | LÉGZSÁK GÁZGENERÁTOR vagy<br>LÉGZSÁK MODUL vagy<br>BIZTONSÁGI ÖV ELŐFESZÍTŐ                        | 9       | M5                       | III                         | 9      | 280<br>289                        | LQ0                                       | E0      | P902<br>LP902                  |   |   |  |                         |
| 3269       | POLIÉSZTER-GYANTA KÉSZLET  | 3       | F1                       | II                          | 3      | 236<br>340                        | LQ6                                       | E0      | P302<br>R001                   |   |   |  |                         |
| 3269       | POLIÉSZTER-GYANTA KÉSZLET  | 3       | F1                       | III                         | 3      | 236<br>340                        | LQ7                                       | E0      | P302<br>R001                   |   |   |  |                         |
| 3270       | NITROCELLULÓZ<br>MEMBRÁNSZŰRŐK száraz tömegre<br>vetítve legfeljebb 12,6% nitrogén-<br>tartalommal | 4.1     | F1                       | II                          | 4.1    | 237<br>286                        | LQ8                                       | E2      | P411                           |   | MP11                                    |  |                         |
| 3271       | ÉTEREK, M.N.N.   | 3       | F1                       | II                          | 3      | 274                               | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1<br>TP8<br>TP28      |
| 3271       | ÉTEREK, M.N.N.   | 3       | F1                       | III                         | 3      | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1<br>TP29             |
| 3272       | ÉSZTEREK, M.N.N.   | 3       | F1                       | II                          | 3      | 274<br>601                        | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1<br>TP8<br>TP28      |

| ADR-tartály  |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód   | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L4BN<br>SGAV |                      | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 3263    | MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.  |
| L10BH        |                      | AT                             | 1<br>(E)   |   |  |  | S20  | 88                     | 3264    | MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.   |
| L4BN         |                      | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 3264    | MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.   |
| L4BN         |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 3264    | MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.   |
| L10BH        |                      | AT                             | 1<br>(E)   |   |  |  | S20  | 88                     | 3265    | MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.  |
| L4BN         |                      | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 3265    | MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.  |
| L4BN         |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 3265    | MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.  |
| L10BH        |                      | AT                             | 1<br>(E)   |   |  |  | S20  | 88                     | 3266    | MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.   |
| L4BN         |                      | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 3266    | MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.   |
| L4BN         |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 3266    | MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.   |
| L10BH        |                      | AT                             | 1<br>(E)   |   |  |  | S20  | 88                     | 3267    | MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.  |
| L4BN         |                      | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 3267    | MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.  |
| L4BN         |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 3267    | MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.  |
|              |                      |                                | 4<br>(E)   |   |  |  |  |                        | 3268    | LÉGZSÁK GÁZGENERÁTOR vagy LÉGZSÁK MODUL vagy BIZTONSÁGI ÖV ELŐFESZÍTŐ                   |
|              |                      |                                | 2<br>(E)   |   |  |  | S2<br>S20                                  |                        | 3269    | POLIÉSZTER-GYANTA KÉSZLET   |
|              |                      |                                | 3<br>(E)   |   |  |  | S2   |                        | 3269    | POLIÉSZTER-GYANTA KÉSZLET   |
|              |                      |                                | 2<br>(E)   |   |  |  |  |                        | 3270    | NITROCELLULÓZ MEMBRÁNSZŰRŐK száraz tömegre vetítve legfeljebb 12,6% nitrogéntartalommal |
| LGBF         |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 3271    | ÉTEREK, M.N.N.  |
| LGBF         |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 3271    | ÉTEREK, M.N.N.  |
| LGBF         |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 3272    | ÉSZTEREK, M.N.N.  |

| UN<br>szám |  | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírás-<br>ok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3272       | ÉSZTEREK, M.N.N.                                       | 3       | F1                       | III                         | 3       | 274<br>601                        | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1<br>TP29             |
| 3273       | GYÚLÉKONY, MÉRGEZŐ<br>NITRILEK, M.N.N.                 | 3       | FT1                      | I                           | 3 + 6.1 | 274                               | LQ0  | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 3273       | GYÚLÉKONY, MÉRGEZŐ<br>NITRILEK, M.N.N.                 | 3       | FT1                      | II                          | 3 + 6.1 | 274                               | LQ0  | E2      | P001<br>IBC02                  |   | MP19                                    | T11  | TP2<br>TP27             |
| 3274       | ALKOHOLÁTOK OLDATA, M.N.N.,<br>alkoholban              | 3       | FC                       | II                          | 3 + 8   | 274                               | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                    |  |                         |
| 3275       | MÉRGEZŐ, GYÚLÉKONY<br>NITRILEK, M.N.N.                 | 6.1     | TF1                      | I                           | 6.1 + 3 | 274<br>315                        | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3275       | MÉRGEZŐ, GYÚLÉKONY<br>NITRILEK, M.N.N.                 | 6.1     | TF1                      | II                          | 6.1 + 3 | 274                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3276       | MÉRGEZŐ, FOLYÉKONY<br>NITRILEK, M.N.N.                 | 6.1     | T1                       | I                           | 6.1     | 274<br>315                        | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3276       | MÉRGEZŐ, FOLYÉKONY<br>NITRILEK, M.N.N.                 | 6.1     | T1                       | II                          | 6.1     | 274                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3276       | MÉRGEZŐ, FOLYÉKONY<br>NITRILEK, M.N.N.                 | 6.1     | T1                       | III                         | 6.1     | 274                               | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |
| 3277       | MÉRGEZŐ, MARÓ, KLÓR-<br>FORMIÁTOK, M.N.N.              | 6.1     | TC1                      | II                          | 6.1 + 8 | 274<br>561                        | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T8   | TP2<br>TP28             |
| 3278       | MÉRGEZŐ, FOLYÉKONY, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. | 6.1     | T1                       | I                           | 6.1     | 43<br>274<br>315                  | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3278       | MÉRGEZŐ, FOLYÉKONY, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. | 6.1     | T1                       | II                          | 6.1     | 43<br>274                         | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3278       | MÉRGEZŐ, FOLYÉKONY, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. | 6.1     | T1                       | III                         | 6.1     | 43<br>274                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |
| 3279       | MÉRGEZŐ, GYÚLÉKONY, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. | 6.1     | TF1                      | I                           | 6.1 + 3 | 43<br>274<br>315                  | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3279       | MÉRGEZŐ, GYÚLÉKONY, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. | 6.1     | TF1                      | II                          | 6.1 + 3 | 43<br>274                         | LQ17                                       | E4      | P001                           |   | MP15                                    | T11  | TP2<br>TP27             |
| 3280       | FOLYÉKONY, SZERVES<br>ARZÉNEGYÜLET, M.N.N.             | 6.1     | T3                       | I                           | 6.1     | 274<br>315                        | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3280       | FOLYÉKONY, SZERVES<br>ARZÉNEGYÜLET, M.N.N.             | 6.1     | T3                       | II                          | 6.1     | 274                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3280       | FOLYÉKONY, SZERVES<br>ARZÉNEGYÜLET, M.N.N.             | 6.1     | T3                       | III                         | 6.1     | 274                               | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                   |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| LGBF        |                              | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 3272    | ÉSZTEREK, M.N.N.                                       |
| L10CH       | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 3273    | GYÚLÉKONY, MÉRGEZŐ<br>NITRILEK, M.N.N.                 |
| L4BH        | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 3273    | GYÚLÉKONY, MÉRGEZŐ<br>NITRILEK, M.N.N.                 |
| L4BH        |                              | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 3274    | ALKOHOLÁTOK OLDATA, M.N.N.,<br>alkoholban              |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3275    | MÉRGEZŐ, GYÚLÉKONY<br>NITRILEK, M.N.N.                 |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3275    | MÉRGEZŐ, GYÚLÉKONY<br>NITRILEK, M.N.N.                 |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3276    | MÉRGEZŐ, FOLYÉKONY<br>NITRILEK, M.N.N.                 |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3276    | MÉRGEZŐ, FOLYÉKONY<br>NITRILEK, M.N.N.                 |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3276    | MÉRGEZŐ, FOLYÉKONY<br>NITRILEK, M.N.N.                 |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 3277    | MÉRGEZŐ, MARÓ, KLÓR-<br>FORMIÁTOK, M.N.N.              |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3278    | MÉRGEZŐ, FOLYÉKONY, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3278    | MÉRGEZŐ, FOLYÉKONY, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3278    | MÉRGEZŐ, FOLYÉKONY, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3279    | MÉRGEZŐ, GYÚLÉKONY, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. |
| L4BH        | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3279    | MÉRGEZŐ, GYÚLÉKONY, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3280    | FOLYÉKONY, SZERVES<br>ARZÉNVEGYÜLET, M.N.N.            |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3280    | FOLYÉKONY, SZERVES<br>ARZÉNVEGYÜLET, M.N.N.            |
| L4BH        | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3280    | FOLYÉKONY, SZERVES<br>ARZÉNVEGYÜLET, M.N.N.            |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|----------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |                |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2          | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)            | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3281       | FOLYÉKONY FÉM-KARBONILOK,<br>M.N.N.                 | 6.1     | T3                       | I                           | 6.1            | 274<br>315<br>562                 | LQ0                                       | E5      | P601                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3281       | FOLYÉKONY FÉM-KARBONILOK,<br>M.N.N.                 | 6.1     | T3                       | II                          | 6.1            | 274<br>562                        | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3281       | FOLYÉKONY FÉM-KARBONILOK,<br>M.N.N.                 | 6.1     | T3                       | III                         | 6.1            | 274<br>562                        | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |
| 3282       | MÉRGEZŐ, FOLYÉKONY, SZERVES<br>FÉMVEGYÜLET, M.N.N.  | 6.1     | T3                       | I                           | 6.1            | 274<br>562                        | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3282       | MÉRGEZŐ, FOLYÉKONY, SZERVES<br>FÉMVEGYÜLET, M.N.N.  | 6.1     | T3                       | II                          | 6.1            | 274<br>562                        | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3282       | MÉRGEZŐ, FOLYÉKONY, SZERVES<br>FÉMVEGYÜLET, M.N.N.  | 6.1     | T3                       | III                         | 6.1            | 274<br>562                        | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28             |
| 3283       | SZILÁRD SZELÉNVEGYÜLET,<br>M.N.N.                   | 6.1     | T5                       | I                           | 6.1            | 274<br>563                        | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 3283       | SZILÁRD SZELÉNVEGYÜLET,<br>M.N.N.                   | 6.1     | T5                       | II                          | 6.1            | 274<br>563                        | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3283       | SZILÁRD SZELÉNVEGYÜLET,<br>M.N.N.                   | 6.1     | T5                       | III                         | 6.1            | 274<br>563                        | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 3284       | TELLÚRVEGYÜLET, M.N.N.                              | 6.1     | T5                       | I                           | 6.1            | 274                               | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 3284       | TELLÚRVEGYÜLET, M.N.N.                              | 6.1     | T5                       | II                          | 6.1            | 274                               | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3284       | TELLÚRVEGYÜLET, M.N.N.                              | 6.1     | T5                       | III                         | 6.1            | 274                               | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 3285       | VANÁDIUMVEGYÜLET, M.N.N.                            | 6.1     | T5                       | I                           | 6.1            | 274<br>564                        | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 3285       | VANÁDIUMVEGYÜLET, M.N.N.                            | 6.1     | T5                       | II                          | 6.1            | 274<br>564                        | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3285       | VANÁDIUMVEGYÜLET, M.N.N.                            | 6.1     | T5                       | III                         | 6.1            | 274<br>564                        | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 3286       | MÉRGEZŐ, MARÓ, GYÚLÉKONY<br>FOLYÉKONY ANYAG, M.N.N. | 3       | FTC                      | I                           | 3 + 6.1<br>+ 8 | 274                               | LQ0                                       | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 3286       | MÉRGEZŐ, MARÓ, GYÚLÉKONY<br>FOLYÉKONY ANYAG, M.N.N. | 3       | FTC                      | II                          | 3 + 6.1<br>+ 8 | 274                               | LQ0                                       | E2      | P001<br>IBC02                  |   | MP19                                    | T11  | TP2<br>TP27             |



| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyjelölő számok | UN szám | Megnevezés és leírás                             |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|----------------------|---------|--|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                      |         |  |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3              |         | 3.1.2  |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                 | (1)     | (2)  |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                   | 3281    | FOLYÉKONY FÉM-KARBONILOK, M.N.N.                 |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 3281    | FOLYÉKONY FÉM-KARBONILOK, M.N.N.                 |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                   | 3281    | FOLYÉKONY FÉM-KARBONILOK, M.N.N.                 |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                   | 3282    | MÉRGEZŐ, FOLYÉKONY, SZERVES FÉMVEGYÜLET, M.N.N.  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 3282    | MÉRGEZŐ, FOLYÉKONY, SZERVES FÉMVEGYÜLET, M.N.N.  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                   | 3282    | MÉRGEZŐ, FOLYÉKONY, SZERVES FÉMVEGYÜLET, M.N.N.  |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                   | 3283    | SZILÁRD SZELENVEGYÜLET, M.N.N.                   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 3283    | SZILÁRD SZELENVEGYÜLET, M.N.N.                   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                   | 3283    | SZILÁRD SZELENVEGYÜLET, M.N.N.                   |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                   | 3284    | TELLÚRVEGYÜLET, M.N.N.                           |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 3284    | TELLÚRVEGYÜLET, M.N.N.                           |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                   | 3284    | TELLÚRVEGYÜLET, M.N.N.                           |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                   | 3285    | VANÁDIUMVEGYÜLET, M.N.N.                         |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 3285    | VANÁDIUMVEGYÜLET, M.N.N.                         |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                   | 3285    | VANÁDIUMVEGYÜLET, M.N.N.                         |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 368                  | 3286    | MÉRGEZŐ, MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 368                  | 3286    | MÉRGEZŐ, MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. |

| UN<br>szám |  | Osztály | Oszá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák      | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                    |
|------------|--|---------|-------------------------|-----------------------------|-------------|-----------------------------------|--|---------|--------------------------------|---|---|--|--------------------|
|            |  |         |                         |                             |             |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |                    |
|            | 3.1.2  | 2.2     | 2.2                     | 2.1.1.3                     | 5.2.2       | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3            |
| (1)        | (2)  | (3a)    | (3b)                    | (4)                         | (5)         | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)               |
| 3287       | SZERVETLEN, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.   | 6.1     | T4                      | I                           | 6.1         | 274<br>315                        | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27        |
| 3287       | SZERVETLEN, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.   | 6.1     | T4                      | II                          | 6.1         | 274                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27        |
| 3287       | SZERVETLEN, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.   | 6.1     | T4                      | III                         | 6.1         | 274                               | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP1<br>TP28        |
| 3288       | SZERVETLEN, MÉRGEZŐ SZILÁRD<br>ANYAG, M.N.N.   | 6.1     | T5                      | I                           | 6.1         | 274                               | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33               |
| 3288       | SZERVETLEN, MÉRGEZŐ SZILÁRD<br>ANYAG, M.N.N.   | 6.1     | T5                      | II                          | 6.1         | 274                               | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33               |
| 3288       | SZERVETLEN, MÉRGEZŐ SZILÁRD<br>ANYAG, M.N.N.   | 6.1     | T5                      | III                         | 6.1         | 274                               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33               |
| 3289       | MARÓ, SZERVETLEN, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.   | 6.1     | TC3                     | I                           | 6.1 + 8     | 274<br>315                        | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27        |
| 3289       | MARÓ, SZERVETLEN, MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.   | 6.1     | TC3                     | II                          | 6.1 + 8     | 274                               | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27        |
| 3290       | MARÓ, SZERVETLEN, MÉRGEZŐ<br>SZILÁRD ANYAG, M.N.N.   | 6.1     | TC4                     | I                           | 6.1 + 8     | 274                               | LQ0  | E5      | P002<br>IBC05                  |   | MP18                                    | T6   | TP33               |
| 3290       | MARÓ, SZERVETLEN, MÉRGEZŐ<br>SZILÁRD ANYAG, M.N.N.   | 6.1     | TC4                     | II                          | 6.1 + 8     | 274                               | LQ18                                       | E4      | P002<br>IBC06                  |   | MP10                                    | T3   | TP33               |
| 3291       | NEM SPECIFIKÁLT KÓRHÁZI<br>HULLADÉK, M.N.N. vagy<br>(BIO)GYÓGYÁSZATI HULLADÉK,<br>M.N.N. vagy SZABÁLYOZOTT<br>GYÓGYÁSZATI HULLADÉK, M.N.N.   | 6.2     | I3                      | II                          | 6.2         | 565                               | LQ0  | E0      | P621<br>IBC620<br>LP621        |   | MP6                                     | BK2  |                    |
| 3291       | NEM SPECIFIKÁLT KÓRHÁZI<br>HULLADÉK, M.N.N. vagy<br>(BIO)GYÓGYÁSZATI HULLADÉK,<br>M.N.N. vagy SZABÁLYOZOTT<br>GYÓGYÁSZATI HULLADÉK, M.N.N.<br>mélyhűtött, cseppfolyósított nitrogénben | 6.2     | I3                      | II                          | 6.2<br>+2.2 | 565                               | LQ0  | E0      | P621<br>IBC620<br>LP621        |   | MP6                                     |  |                    |
| 3292       | NÁTRIUMAKKUMULÁTOROK vagy<br>NÁTRIUMCELLÁK   | 4.3     | W3                      | II                          | 4.3         | 239<br>295                        | LQ0  | E0      | P408                           |   |   |  |                    |
| 3293       | HIDRAZIN VIZES OLDAT legfeljebb<br>37 tömeg% hidrazintartalommal   | 6.1     | T4                      | III                         | 6.1         | 566                               | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                |
| 3294       | HIDROGÉN-CIANID ALKOHOLOS<br>OLDAT legfeljebb 45% hidrogén-cianid<br>tartalommal   | 6.1     | TF1                     | I                           | 6.1 + 3     | 610                               | LQ0  | E5      | P601                           |   | MP8<br>MP17                             | T14  | TP2                |
| 3295       | FOLYÉKONY SZÉNHIDROGÉNEK,<br>M.N.N.  | 3       | F1                      | I                           | 3           | 649                               | LQ3  | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP1<br>TP8<br>TP28 |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3287    | SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3287    | SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3287    | SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3288    | SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3288    | SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3288    | SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 668                    | 3289    | MARÓ, SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 3289    | MARÓ, SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   |
| L10CH<br>S10AH | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10                                       |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 668                    | 3290    | MARÓ, SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11<br>V12                                |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 3290    | MARÓ, SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   |
| S4AH<br>L4BH   | TU15<br>TE19                 | AT                             | 2<br>(-)   | V1  | VV11   | CV13<br>CV25<br>CV28                                   | S3   | 606                    | 3291    | NEM SPECIFIKÁLT KÓRHÁZI HULLADÉK, M.N.N. vagy (BIO)GYÓGYÁSZATI HULLADÉK, M.N.N. vagy SZABÁLYOZOTT GYÓGYÁSZATI HULLADÉK, M.N.N.  |
|                |                              |                                | 2<br>(-)   | V1  |  | CV13<br>CV25<br>CV28                                   | S3   |                        | 3291    | NEM SPECIFIKÁLT KÓRHÁZI HULLADÉK, M.N.N. vagy (BIO)GYÓGYÁSZATI HULLADÉK, M.N.N. vagy SZABÁLYOZOTT GYÓGYÁSZATI HULLADÉK, M.N.N. mélyhűtött, cseppfolyósított nitrogénben |
|                |                              |                                | 2<br>(E)   | V1  |  | CV23   |  |                        | 3292    | NÁTRIUMAKKUMULÁTOROK vagy NÁTRIUMCELLÁK   |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3293    | HIDRAZIN VIZES OLDAT legfeljebb 37 tömeg% hidrazintartalommal   |
| L15DH(+)       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 0<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3294    | HIDROGÉN-CIANID ALKOHOLOS OLDAT legfeljebb 45% hidrogén-cianid tartalommal  |
| L4BN           |                              | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 3295    | FOLYÉKONY SZÉNHYDROGÉNEK, M.N.N.  |

| UN<br>szám |  | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák           | Külön-<br>leges<br>előírások | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|---------------------|------------------------|------------------|------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                     |                        |                  |                              |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2            | 3.3                          | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                | (4)                    | (5)              | (6)                          | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3295       | FOLYÉKONY SZÉNHIIDROGÉNEK,<br>M.N.N. (gőznyomás 50 °C-on nagyobb<br>mint 110 kPa)          | 3       | F1                  | II                     | 3                | 640C<br>649                  | LQ4                                       | E2      | P001                           |   | MP19                                    | T7   | TP1<br>TP8<br>TP28      |
| 3295       | FOLYÉKONY SZÉNHIIDROGÉNEK,<br>M.N.N. (gőznyomás 50 °C-on legfeljebb<br>110 kPa)            | 3       | F1                  | II                     | 3                | 640D<br>649                  | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1<br>TP8<br>TP28      |
| 3295       | FOLYÉKONY SZÉNHIIDROGÉNEK,<br>M.N.N.   | 3       | F1                  | III                    | 3                |                              | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1<br>TP29             |
| 3296       | HEPTAFLUOR-PROPÁN (R 227<br>HŰTŐGÁZ)   | 2       | 2A                  |                        | 2.2              |                              | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 3297       | ETILÉN-OKID ÉS KLÓR-<br>TETRAFLUOR-ETÁN KEVERÉK<br>legfeljebb 8,8% etilén-oxid tartalommal | 2       | 2A                  |                        | 2.2              |                              | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 3298       | ETILÉN-OKID ÉS PENTAFLUOR-<br>ETÁN KEVERÉK legfeljebb 7,9% etilén<br>oxid tartalommal      | 2       | 2A                  |                        | 2.2              |                              | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 3299       | ETILÉN-OKID ÉS TETRAFLUOR-<br>ETÁN KEVERÉK legfeljebb 5,6% etilén<br>oxid tartalommal      | 2       | 2A                  |                        | 2.2              |                              | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 3300       | ETILÉN-OKID ÉS SZÉN-DIOXID<br>KEVERÉK 87%-nál több etilén-oxid<br>tartalommal              | 2       | 2TF                 |                        | 2.3 +<br>2.1     |                              | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 3301       | ÖNMELEGEDŐ, MARÓ FOLYÉKONY<br>ANYAG, M.N.N.  | 8       | CS1                 | I                      | 8 + 4.2          | 274                          | LQ0                                       | E0      | P001                           |   | MP8<br>MP17                             |  |                         |
| 3301       | ÖNMELEGEDŐ, MARÓ FOLYÉKONY<br>ANYAG, M.N.N.  | 8       | CS1                 | II                     | 8 + 4.2          | 274                          | LQ22                                      | E2      | P001                           |   | MP15                                    |  |                         |
| 3302       | 2-DIMETIL-AMINO-ETIL-AKRILÁT   | 6.1     | T1                  | II                     | 6.1              |                              | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 3303       | SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ<br>HATÁSÚ, M.N.N.  | 2       | 1TO                 |                        | 2.3 +<br>5.1     | 274                          | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 3304       | SŰRÍTETT GÁZ, MÉRGEZŐ, MARÓ,<br>M.N.N.   | 2       | 1TC                 |                        | 2.3 + 8          | 274                          | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 3305       | SŰRÍTETT GÁZ, MÉRGEZŐ,<br>GYÚLÉKONY, MARÓ, M.N.N.  | 2       | 1TFC                |                        | 2.3 +<br>2.1 + 8 | 274                          | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 3306       | SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ<br>HATÁSÚ, MARÓ, M.N.N.                                      | 2       | 1TOC                |                        | 2.3 +<br>5.1 + 8 | 274                          | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 3307       | CSEPPFOLYÓSÍTOTT GÁZ,<br>MÉRGEZŐ, GYÚJTÓ HATÁSÚ,<br>M.N.N.                                 | 2       | 2TO                 |                        | 2.3 +<br>5.1     | 274                          | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 3308       | CSEPPFOLYÓSÍTOTT GÁZ,<br>MÉRGEZŐ, MARÓ, M.N.N.   | 2       | 2TC                 |                        | 2.3 + 8          | 274                          | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 3309       | CSEPPFOLYÓSÍTOTT GÁZ,<br>MÉRGEZŐ, GYÚLÉKONY, MARÓ,<br>M.N.N.                               | 2       | 2TFC                |                        | 2.3 +<br>2.1 + 8 | 274                          | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |
| 3310       | CSEPPFOLYÓSÍTOTT GÁZ,<br>MÉRGEZŐ, GYÚJTÓ HATÁSÚ,<br>MARÓ, M.N.N.                           | 2       | 2TOC                |                        | 2.3 +<br>5.1 + 8 | 274                          | LQ0                                       | E0      | P200                           |   | MP9                                     | (M)  |                         |

| ADR-tartány |                      | Jármű a tartányos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L1.5BN      |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 3295    | FOLYÉKONY SZÉNHIIDROGÉNEK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)         |
| LGBF        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 3295    | FOLYÉKONY SZÉNHIIDROGÉNEK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)           |
| LGBF        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 30                     | 3295    | FOLYÉKONY SZÉNHIIDROGÉNEK, M.N.N.   |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 3296    | HEPTAFLUOR-PROPÁN (R 227 HÜTŐGÁZ)   |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 3297    | ETILÉN-OXID ÉS KLÓR-TETRAFLUOR-ETÁN KEVERÉK legfeljebb 8,8% etilén-oxid tartalommal |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 3298    | ETILÉN-OXID ÉS PENTAFLUOR-ETÁN KEVERÉK legfeljebb 7,9% etilén-oxid tartalommal      |
| P*BN(M)     | TA4<br>TT9           | AT                             | 3<br>(C/E)   |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 3299    | ETILÉN-OXID ÉS TETRAFLUOR-ETÁN KEVERÉK legfeljebb 5,6% etilén-oxid tartalommal      |
| P*BH(M)     | TA4<br>TT9           | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 3300    | ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 87%-nál több etilén-oxid tartalommal             |
| L10BH       |                      | AT                             | 1<br>(E)   |   |  |  | S14  | 884                    | 3301    | ÖNMELEGEDŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.  |
| L4BN        |                      | AT                             | 2<br>(E)   |   |  |  |  | 84                     | 3301    | ÖNMELEGEDŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.  |
| L4BH        | TU15<br>TE19         | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3302    | 2-DIMETIL-AMINO-ETIL-AKRILÁT  |
| C*BH(M)     | TU6<br>TA4<br>TT9    | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 265                    | 3303    | SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.  |
| C*BH(M)     | TU6<br>TA4<br>TT9    | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                    | 3304    | SŰRÍTETT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.   |
| C*BH(M)     | TU6<br>TA4<br>TT9    | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 3305    | SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.                                      |
| C*BH(M)     | TU6<br>TA4<br>TT9    | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 265                    | 3306    | SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.                                  |
| P*BH(M)     | TU6<br>TA4<br>TT9    | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 265                    | 3307    | CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.                                |
| P*BH(M)     | TU6<br>TA4<br>TT9    | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 268                    | 3308    | CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.   |
| P*BH(M)     | TU6<br>TA4<br>TT9    | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 3309    | CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.                              |
| P*BH(M)     | TU6<br>TA4<br>TT9    | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10<br>CV36                                    | S14  | 265                    | 3310    | CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.                          |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|--------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |              |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3311       | MÉLYHÚTÓTT,<br>CSEPPFOLYÓSÍTOTT, GYÚJTÓ<br>HATÁSÚ GÁZ, M.N.N.  | 2       | 3O                       |                             | 2.2 +<br>5.1 | 274                               | LQ0  | E0      | P203                           |   | MP9                                     | T75  | TP5<br>TP22             |
| 3312       | MÉLYHÚTÓTT,<br>CSEPPFOLYÓSÍTOTT, GYÚLÉKONY<br>GÁZ, M.N.N.  | 2       | 3F                       |                             | 2.1          | 274                               | LQ0  | E0      | P203                           |   | MP9                                     | T75  | TP5                     |
| 3313       | ÖNMELEGEDŐ SZERVES<br>PIGMENTEK  | 4.2     | S2                       | II                          | 4.2          |                                   | LQ0  | E2      | P002<br>IBC08                  | B4  | MP14                                    | T3   | TP33                    |
| 3313       | ÖNMELEGEDŐ SZERVES<br>PIGMENTEK  | 4.2     | S2                       | III                         | 4.2          |                                   | LQ0  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                    | T1   | TP33                    |
| 3314       | MŰANYAG SAJTOLOÁNYAG<br>gyúlékony gőzt fejlesztő massa, lemez<br>vagy extrudált profil formában  | 9       | M3                       | III                         | —            | 207<br>633                        | LQ27                                       | E1      | P002<br>IBC08<br>R001          | PP14<br>B3 B6                                 | MP10                                    |  |                         |
| 3315       | MÉRGEZŐ VEGYIANYAG MINTA   | 6.1     | T8                       | I                           | 6.1          | 250                               | LQ0  | E5      | P099                           |   | MP8<br>MP17                             |  |                         |
| 3316       | VIZSGÁLÓKÉSZLET vagy<br>ELSŐSEGÉLY FELSZERELÉS   | 9       | M11                      | II                          | 9            | 251<br>340                        | LQ0  | E0      | P901                           |   |   |  |                         |
| 3316       | VIZSGÁLÓKÉSZLET vagy<br>ELSŐSEGÉLY FELSZERELÉS   | 9       | M11                      | III                         | 9            | 251<br>340                        | LQ0  | E0      | P901                           |   |   |  |                         |
| 3317       | 2-AMINO-4,6-DINITRO-FENOL,<br>legalább 20 tömeg% vízzel<br>NEDVESÍTETT   | 4.1     | D                        | I                           | 4.1          |                                   | LQ0  | E0      | P406                           | PP26  | MP2                                     |  |                         |
| 3318       | AMMÓNIA OLDAT, vizes, relatív<br>sűrűség 15 °C-on kisebb, mint 0,880,<br>50%-nál több ammóniatartalommal   | 2       | 4TC                      |                             | 2.3 + 8      | 23                                | LQ0  | E0      | P200                           |   | MP9                                     | T50<br>(M)                                     |                         |
| 3319       | NITROGLICERIN KEVERÉK,<br>ÉRZÉKETLENÍTETT, M.N.N.,<br>2 tömeg%-nál több, de legfeljebb<br>10 tömeg% nitroglicerintartalommal                           | 4.1     | D                        | II                          | 4.1          | 272<br>274                        | LQ0  | E0      | P099<br>IBC99                  |   | MP2                                     |  |                         |
| 3320       | NÁTRIUM-BÓR-HIDRID ÉS<br>NÁTRIUM-HIDROXID OLDAT<br>legfeljebb 12 tömeg% nátrium-bór-hidrid<br>és legfeljebb 40 tömeg% nátrium-<br>hidroxid tartalommal | 8       | C5                       | II                          | 8            |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 3320       | NÁTRIUM-BÓR-HIDRID ÉS<br>NÁTRIUM-HIDROXID OLDAT<br>legfeljebb 12 tömeg% nátrium-bór-hidrid<br>és legfeljebb 40 tömeg% nátrium-<br>hidroxid tartalommal | 8       | C5                       | III                         | 8            |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP2                     |
| 3321       | KIS FAJLAGOS AKTIVITÁSÚ<br>RADIOAKTÍV ANYAG (LSA-II),<br>nem hasadó vagy hasadó-engedményes  | 7       |                          |                             | 7X           | 172<br>317<br>325<br>336          | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   | T5   | TP4                     |
| 3322       | KIS FAJLAGOS AKTIVITÁSÚ<br>RADIOAKTÍV ANYAG (LSA-III),<br>nem hasadó vagy hasadó-engedményes   | 7       |                          |                             | 7X           | 172<br>317<br>325<br>336          | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   | T5   | TP4                     |
| 3323       | RADIOAKTÍV ANYAG, C TÍPUSÚ<br>KÜLDEMÉNYDARABBAN,<br>nem hasadó vagy hasadó-engedményes   | 7       |                          |                             | 7X           | 172<br>317                        | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                         |

| ADR-tartály              |                           | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------------------|---------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód               | Különleges előírások      |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3                      | 4.3.5, 6.8.4              | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)                     | (13)                      | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| R*BN                     | TU7<br>TU19<br>TA4<br>TT9 | AT                             | 3<br>(C/E)   | V5  |  | CV9<br>CV11<br>CV36                                    | S20  | 225                    | 3311    | MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT, GYÚJTÓ HATÁSÚ GÁZ, M.N.N.   |
| R*BN                     | TU18<br>TA4<br>TT9        | FL                             | 2<br>(B/D)   | V5  |  | CV9<br>CV11<br>CV36                                    | S2<br>S17                                  | 223                    | 3312    | MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT, GYÚLÉKONY GÁZ, M.N.N.   |
| SGAV                     |                           | AT                             | 2<br>(D/E)   | V1  |  |  |  | 40                     | 3313    | ÖNMELEGEDŐ SZERVES PIGMENTEK  |
| SGAV                     |                           | AT                             | 3<br>(E)   | V1  |  |  |  | 40                     | 3313    | ÖNMELEGEDŐ SZERVES PIGMENTEK  |
|                          |                           |                                | 3<br>(D/E)   |   | VV3  |  |  | 90                     | 3314    | MŰANYAG SAJTOLÓANYAG gyúlékony gőzt fejlesztő massa, lemez vagy extrudált profil formában   |
|                          |                           |                                | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  |                        | 3315    | MÉRGEZŐ VEGYIANYAG MINTA  |
|                          |                           |                                | 2<br>(E)   |   |  |  |  |                        | 3316    | VIZSGÁLÓKÉSZLET vagy ELSŐSEGÉLY FELSZERELÉS   |
|                          |                           |                                | 3<br>(E)   |   |  |  |  |                        | 3316    | VIZSGÁLÓKÉSZLET vagy ELSŐSEGÉLY FELSZERELÉS   |
|                          |                           |                                | 1<br>(B)   |   |  |  | S14  |                        | 3317    | 2-AMINO-4,6-DINITRO-FENOL, legalább 20 tömeg% vízzel NEDVESÍTETT  |
| P*BH(M)                  | TA4<br>TT9                | AT                             | 1<br>(C/D)   |   |  | CV9<br>CV10  | S14  | 268                    | 3318    | AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 50%-nál több ammóniatartalommal  |
|                          |                           |                                | 2<br>(B)   |   |  |  | S14  |                        | 3319    | NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, M.N.N., 2 tömeg%-nál több, de legfeljebb 10 tömeg% nitroglicerintartalommal                       |
| L4BN                     |                           | AT                             | 2<br>(E)   |   |  |  |  | 80                     | 3320    | NÁTRIUM-BÓR-HIDRID ÉS NÁTRIUM-HIDROXID OLDAT legfeljebb 12 tömeg% nátrium-bór-hidrid és legfeljebb 40 tömeg% nátrium-hidroxid tartalommal |
| L4BN                     |                           | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 3320    | NÁTRIUM-BÓR-HIDRID ÉS NÁTRIUM-HIDROXID OLDAT legfeljebb 12 tömeg% nátrium-bór-hidrid és legfeljebb 40 tömeg% nátrium-hidroxid tartalommal |
| L2.65CN(+)<br>S2.65AN(+) | TU36<br>TT7<br>TM7        | AT                             | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 3321    | KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), nem hasadó vagy hasadó-engedményes   |
| L2.65CN(+)<br>S2.65AN(+) | TU36<br>TT7<br>TM7        | AT                             | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 3322    | KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), nem hasadó vagy hasadó-engedményes  |
|                          |                           |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 3323    | RADIOAKTÍV ANYAG, C TÍPUSÚ KÜLDEMÉNYDARABBAN, nem hasadó vagy hasadó-engedményes  |

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport     | Bárcák     | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                    |
|------------|---|---------|--------------------------|---------------------------------|------------|-----------------------------------|--|---------|--------------------------------|---|---|--|--------------------|
|            |   |         |                          |                                 |            |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |                    |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                         | 5.2.2      | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3            |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                             | (5)        | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)               |
| 3324       | KIS FAJLAGOS AKTIVITÁSÚ<br>RADIOAKTÍV ANYAG (LSA-II),<br>HASADÓ   | 7       |                          |                                 | 7X +<br>7E | 172<br>326<br>336                 | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                    |
| 3325       | KIS FAJLAGOS AKTIVITÁSÚ<br>RADIOAKTÍV ANYAG (LSA-III),<br>HASADÓ  | 7       |                          |                                 | 7X +<br>7E | 172<br>326<br>336                 | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                    |
| 3326       | RADIOAKTÍV ANYAG, HASADÓ,<br>SZENNYEZETT FELÜLETŰ<br>TÁRGYAK, (SCO-I vagy SCO-II)   | 7       |                          |                                 | 7X +<br>7E | 172<br>336                        | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                    |
| 3327       | RADIOAKTÍV ANYAG, HASADÓ,<br>A TÍPUSÚ KÜLDEMÉNY-<br>DARABBAN, nem különleges formában   | 7       |                          |                                 | 7X +<br>7E | 172<br>326                        | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                    |
| 3328       | RADIOAKTÍV ANYAG, HASADÓ,<br>B(U) TÍPUSÚ KÜLDEMÉNY-<br>DARABBAN   | 7       |                          |                                 | 7X +<br>7E | 172<br>337                        | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                    |
| 3329       | RADIOAKTÍV ANYAG, HASADÓ,<br>B(M) TÍPUSÚ KÜLDEMÉNY-<br>DARABBAN   | 7       |                          |                                 | 7X +<br>7E | 172<br>337                        | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                    |
| 3330       | RADIOAKTÍV ANYAG, HASADÓ,<br>C TÍPUSÚ KÜLDEMÉNYDARABBAN   | 7       |                          |                                 | 7X +<br>7E | 172                               | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                    |
| 3331       | RADIOAKTÍV ANYAG, HASADÓ,<br>KÜLÖN MEGEGYEZÉS ALAPJÁN<br>SZÁLLÍTOTT   | 7       |                          |                                 | 7X +<br>7E | 172                               | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                    |
| 3332       | RADIOAKTÍV ANYAG,<br>A TÍPUSÚ KÜLDEMÉNY-<br>DARABBAN, KÜLÖNLEGES<br>FORMÁBAN,<br>nem hasadó vagy hasadó-engedményes                                   | 7       |                          |                                 | 7X         | 172<br>317                        | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                    |
| 3333       | RADIOAKTÍV ANYAG, HASADÓ,<br>A TÍPUSÚ KÜLDEMÉNY-<br>DARABBAN,<br>KÜLÖNLEGES FORMÁBAN  | 7       |                          |                                 | 7X +<br>7E | 172                               | LQ0  | E0      | Lásd<br>2.2.7 és<br>4.1.9      | Lásd<br>4.1.9.1.3                             |   |  |                    |
| 3334       | LÉGI FORGALOMBAN<br>SZABÁLYOZOTT FOLYADÉK,<br>M.N.N.  | 9       | M11                      | Nem tartozik az ADR hatálya alá |            |                                   |  |         |                                |   |   |  |                    |
| 3335       | LÉGI FORGALOMBAN<br>SZABÁLYOZOTT SZILÁRD ANYAG,<br>M.N.N.   | 9       | M11                      | Nem tartozik az ADR hatálya alá |            |                                   |  |         |                                |   |   |  |                    |
| 3336       | FOLYÉKONY, GYÚLÉKONY<br>MERKAPTÁNOK, M.N.N. vagy<br>FOLYÉKONY, GYÚLÉKONY<br>MERKAPTÁN KEVERÉK, M.N.N.   | 3       | F1                       | I                               | 3          | 274                               | LQ3  | E3      | P001                           |   | MP7<br>MP17                             | T11  | TP2                |
| 3336       | FOLYÉKONY, GYÚLÉKONY<br>MERKAPTÁNOK, M.N.N. vagy<br>FOLYÉKONY, GYÚLÉKONY<br>MERKAPTÁN KEVERÉK, M.N.N.<br>(gőznyomás 50 °C-on nagyobb mint<br>110 kPa) | 3       | F1                       | II                              | 3          | 274<br>640C                       | LQ4  | E2      | P001                           |   | MP19                                    | T7   | TP1<br>TP8<br>TP28 |



| ADR-tartály                     |                      | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|---------------------------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartánycód                      | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3                             | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)                            | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|                                 |                      |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 3324    | KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), HASADÓ  |
|                                 |                      |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 3325    | KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), HASADÓ   |
|                                 |                      |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 3326    | RADIOAKTÍV ANYAG, HASADÓ, SZENNYEZETT FELÜLETŰ TÁRGYAK, (SCO-I vagy SCO-II)  |
|                                 |                      |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 3327    | RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ KÜLDEMÉNY-DARABBAN, nem különleges formában   |
|                                 |                      |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 3328    | RADIOAKTÍV ANYAG, HASADÓ, B(U) TÍPUSÚ KÜLDEMÉNY-DARABBAN   |
|                                 |                      |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 3329    | RADIOAKTÍV ANYAG, HASADÓ, B(M) TÍPUSÚ KÜLDEMÉNY-DARABBAN   |
|                                 |                      |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 3330    | RADIOAKTÍV ANYAG, HASADÓ, C TÍPUSÚ KÜLDEMÉNYDARABBAN   |
|                                 |                      |                                | 0<br>(-)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 3331    | RADIOAKTÍV ANYAG, HASADÓ, KÜLÖN MEGEGYEZÉS ALAPJÁN SZÁLLÍTOTT  |
|                                 |                      |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S12<br>S13<br>S21             | 70                     | 3332    | RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNY-DARABBAN, KÜLÖNLEGES FORMÁBAN, nem hasadó vagy hasadó-engedményes                                 |
|                                 |                      |                                | 0<br>(E)   |   |  | CV33   | S6<br>S11<br>S13<br>S21                    | 70                     | 3333    | RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ KÜLDEMÉNY-DARABBAN, KÜLÖNLEGES FORMÁBAN   |
| Nem tartozik az ADR hatálya alá |                      |                                |  |   |  |  |  |                        | 3334    | LÉGI FORGALOMBAN SZABÁLYOZOTT FOLYADÉK, M.N.N.   |
| Nem tartozik az ADR hatálya alá |                      |                                |  |   |  |  |  |                        | 3335    | LÉGI FORGALOMBAN SZABÁLYOZOTT SZILÁRD ANYAG, M.N.N.  |
| L4BN                            |                      | FL                             | 1<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 3336    | FOLYÉKONY, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N.   |
| L1.5BN                          |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 3336    | FOLYÉKONY, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa) |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                    |
|------------|--|---------|--------------------------|-----------------------------|--------|-----------------------------------|---|---------|--------------------------------|---|---|--|--------------------|
|            |  |         |                          |                             |        |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |                    |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3            |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)               |
| 3336       | FOLYÉKONY, GYÚLÉKONY<br>MERKAPTÁNOK, M.N.N. vagy<br>FOLYÉKONY, GYÚLÉKONY<br>MERKAPTÁN KEVERÉK, M.N.N.<br>(gőznyomás 50 °C-on legfeljebb<br>110 kPa)                            | 3       | F1                       | II                          | 3      | 274<br>640D                       | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T7   | TP1<br>TP8<br>TP28 |
| 3336       | FOLYÉKONY, GYÚLÉKONY<br>MERKAPTÁNOK, M.N.N. vagy<br>FOLYÉKONY, GYÚLÉKONY<br>MERKAPTÁN KEVERÉK, M.N.N.  | 3       | F1                       | III                         | 3      | 274                               | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1<br>TP29        |
| 3337       | R 404A HÜTŐGÁZ (pentafluor-etán,<br>1,1,1-trifluor-etán és 1,1,1,2-tetrafluor-<br>etán zeotrop keveréke kb. 44%<br>pentafluor-etán és 52% 1,1,1-trifluor-<br>etán tartalommal) | 2       | 2A                       |                             | 2.2    |                                   | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                    |
| 3338       | R 407A HÜTŐGÁZ (difluor-metán,<br>pentafluor-etán és 1,1,1,2-tetrafluor-etán<br>zeotrop keveréke kb. 20% difluor-metán<br>és 40% pentafluor-etán tartalommal)                  | 2       | 2A                       |                             | 2.2    |                                   | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                    |
| 3339       | R 407B HÜTŐGÁZ (difluor-metán,<br>pentafluor-etán és 1,1,1,2-tetrafluor-etán<br>zeotrop keveréke kb. 10% difluor-metán<br>és 70% pentafluor-etán tartalommal)                  | 2       | 2A                       |                             | 2.2    |                                   | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                    |
| 3340       | R 407C HÜTŐGÁZ (difluor-metán,<br>pentafluor-etán és 1,1,1,2-tetrafluor-etán<br>zeotrop keveréke kb. 23% difluor-metán<br>és 25% pentafluor-etán tartalommal)                  | 2       | 2A                       |                             | 2.2    |                                   | LQ1                                       | E1      | P200                           |   | MP9                                     | T50<br>(M)                                     |                    |
| 3341       | TIOKARBAMID-DIOXID   | 4.2     | S2                       | II                          | 4.2    |                                   | LQ0                                       | E2      | P002<br>IBC06                  |   | MP14                                    | T3   | TP33               |
| 3341       | TIOKARBAMID-DIOXID   | 4.2     | S2                       | III                         | 4.2    |                                   | LQ0                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                    | T1   | TP33               |
| 3342       | XANTÁTOK   | 4.2     | S2                       | II                          | 4.2    |                                   | LQ0                                       | E2      | P002<br>IBC06                  |   | MP14                                    | T3   | TP33               |
| 3342       | XANTÁTOK   | 4.2     | S2                       | III                         | 4.2    |                                   | LQ0                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP14                                    | T1   | TP33               |
| 3343       | NITROGLICERIN KEVERÉK,<br>ÉRZÉKETLENÍTETT, FOLYÉKONY,<br>GYÚLÉKONY, M.N.N., legfeljebb<br>30 tömeg% nitroglicerintartalommal   | 3       | D                        |                             | 3      | 274<br>278                        | LQ0                                       | E0      | P099                           |   | MP2                                     |  |                    |
| 3344       | PENTAERITRIT-TETRANITRÁT<br>(PETN) KEVERÉK,<br>ÉRZÉKETLENÍTETT, SZILÁRD,<br>M.N.N.,<br>10 tömeg%-nál több, de legfeljebb<br>20 tömeg% PETN tartalommal                         | 4.1     | D                        | II                          | 4.1    | 272<br>274                        | LQ0                                       | E0      | P099                           |   | MP2                                     |  |                    |
| 3345       | SZILÁRD, MÉRGEZŐ FENOXI-<br>ECETSAV SZÁRMAZÉK PESZTICID  | 6.1     | T7                       | I                           | 6.1    | 61<br>274<br>648                  | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33               |
| 3345       | SZILÁRD, MÉRGEZŐ FENOXI-<br>ECETSAV SZÁRMAZÉK PESZTICID  | 6.1     | T7                       | II                          | 6.1    | 61<br>274<br>648                  | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33               |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| LGBF           |                              | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 3336    | FOLYÉKONY, GYÚLÉKONY<br>MERKAPTÁNOK, M.N.N. vagy<br>FOLYÉKONY, GYÚLÉKONY<br>MERKAPTÁN KEVERÉK, M.N.N.<br>(gőznyomás 50 °C-on legfeljebb 110 kPa)                 |
| LGBF           |                              | FL                             | 3 (D/E)  |   |  |  | S2   | 30                     | 3336    | FOLYÉKONY, GYÚLÉKONY<br>MERKAPTÁNOK, M.N.N. vagy<br>FOLYÉKONY, GYÚLÉKONY<br>MERKAPTÁN KEVERÉK, M.N.N.  |
| P*BN(M)        | TA4<br>TT9                   | AT                             | 3 (C/E)  |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 3337    | R 404A HŰTŐGÁZ (pentafluor-etán, 1,1,1-trifluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 44% pentafluor-etán és 52% 1,1,1-trifluor-etán tartalommal) |
| P*BN(M)        | TA4<br>TT9                   | AT                             | 3 (C/E)  |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 3338    | R 407A HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 20% difluor-metán és 40% pentafluor-etán tartalommal)             |
| P*BN(M)        | TA4<br>TT9                   | AT                             | 3 (C/E)  |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 3339    | R 407B HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 10% difluor-metán és 70% pentafluor-etán tartalommal)             |
| P*BN(M)        | TA4<br>TT9                   | AT                             | 3 (C/E)  |   |  | CV9<br>CV10<br>CV36                                    |  | 20                     | 3340    | R 407C HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 23% difluor-metán és 25% pentafluor-etán tartalommal)             |
| SGAV           |                              | AT                             | 2 (D/E)  | V1<br>V12                                 |  |  |  | 40                     | 3341    | TIOKARBAMID-DIOXID   |
| SGAV           |                              | AT                             | 3 (E)  | V1  |  |  |  | 40                     | 3341    | TIOKARBAMID-DIOXID   |
| SGAV           |                              | AT                             | 2 (D/E)  | V1<br>V12                                 |  |  |  | 40                     | 3342    | XANTÁTOK   |
| SGAV           |                              | AT                             | 3 (E)  | V1  |  |  |  | 40                     | 3342    | XANTÁTOK   |
|                |                              |                                | 0 (B)  |   |  |  | S2<br>S14                                  |                        | 3343    | NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, GYÚLÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerintartalommal  |
|                |                              |                                | 2 (B)  |   |  |  | S14  |                        | 3344    | PENTAERITRIT-TETRANITRÁT (PETN) KEVERÉK, ÉRZÉKETLENÍTETT, SZILÁRD, M.N.N., 10 tömeg%-nál több, de legfeljebb 20 tömeg% PETN tartalommal                          |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1 (C/E)  | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3345    | SZILÁRD, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2 (D/E)  | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3345    | SZILÁRD, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID  |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |         |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3345       | SZILÁRD, MÉRGEZŐ FENOXI-<br>ECETSAV SZÁRMAZÉK PESZTICID   | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 3346       | FOLYÉKONY, GYŰLÉKONY,<br>MÉRGEZŐ FENOXI-ECETSAV<br>SZÁRMAZÉK PESZTICID<br>(lobbanáspont 23 °C alatt)    | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3                                       | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 3346       | FOLYÉKONY, GYŰLÉKONY,<br>MÉRGEZŐ FENOXI-ECETSAV<br>SZÁRMAZÉK PESZTICID<br>(lobbanáspont 23 °C alatt)    | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11  | TP2<br>TP27             |
| 3347       | FOLYÉKONY, MÉRGEZŐ,<br>GYŰLÉKONY FENOXI-ECETSAV<br>SZÁRMAZÉK PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3347       | FOLYÉKONY, MÉRGEZŐ,<br>GYŰLÉKONY FENOXI-ECETSAV<br>SZÁRMAZÉK PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | II                          | 6.1 + 3 | 61<br>274                         | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3347       | FOLYÉKONY, MÉRGEZŐ,<br>GYŰLÉKONY FENOXI-ECETSAV<br>SZÁRMAZÉK PESZTICID<br>(lobbanáspont legalább 23 °C) | 6.1     | TF2                      | III                         | 6.1 + 3 | 61<br>274                         | LQ7                                       | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP2<br>TP28             |
| 3348       | FOLYÉKONY, MÉRGEZŐ FENOXI-<br>ECETSAV SZÁRMAZÉK PESZTICID   | 6.1     | T6                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |
| 3348       | FOLYÉKONY, MÉRGEZŐ FENOXI-<br>ECETSAV SZÁRMAZÉK PESZTICID   | 6.1     | T6                       | II                          | 6.1     | 61<br>274<br>648                  | LQ17                                      | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3348       | FOLYÉKONY, MÉRGEZŐ FENOXI-<br>ECETSAV SZÁRMAZÉK PESZTICID   | 6.1     | T6                       | III                         | 6.1     | 61<br>274<br>648                  | LQ7                                       | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T7   | TP2<br>TP28             |
| 3349       | SZILÁRD, MÉRGEZŐ PIRETROID<br>PESZTICID   | 6.1     | T7                       | I                           | 6.1     | 61<br>274<br>648                  | LQ0                                       | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 3349       | SZILÁRD, MÉRGEZŐ PIRETROID<br>PESZTICID   | 6.1     | T7                       | II                          | 6.1     | 61<br>274<br>648                  | LQ18                                      | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3349       | SZILÁRD, MÉRGEZŐ PIRETROID<br>PESZTICID   | 6.1     | T7                       | III                         | 6.1     | 61<br>274<br>648                  | LQ9                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 3350       | FOLYÉKONY, GYŰLÉKONY,<br>MÉRGEZŐ PIRETROID PESZTICID<br>(lobbanáspont 23 °C alatt)                      | 3       | FT2                      | I                           | 3 + 6.1 | 61<br>274                         | LQ3                                       | E0      | P001                           |   | MP7<br>MP17                             | T14  | TP2<br>TP27             |
| 3350       | FOLYÉKONY, GYŰLÉKONY,<br>MÉRGEZŐ PIRETROID PESZTICID<br>(lobbanáspont 23 °C alatt)                      | 3       | FT2                      | II                          | 3 + 6.1 | 61<br>274                         | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T11  | TP2<br>TP27             |
| 3351       | FOLYÉKONY, MÉRGEZŐ,<br>GYŰLÉKONY PIRETROID<br>PESZTICID<br>(lobbanáspont legalább 23 °C)                | 6.1     | TF2                      | I                           | 6.1 + 3 | 61<br>274                         | LQ0                                       | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2<br>TP27             |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3345    | SZILÁRD, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID  |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 3346    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont 23 °C alatt)    |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 3346    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont 23 °C alatt)    |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3347    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C) |
| L4BH           | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3347    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C) |
| L4BH           | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 3347    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C) |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3348    | FOLYÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3348    | FOLYÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3348    | FOLYÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID  |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3349    | SZILÁRD, MÉRGEZŐ PIRETROID PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3349    | SZILÁRD, MÉRGEZŐ PIRETROID PESZTICID   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3349    | SZILÁRD, MÉRGEZŐ PIRETROID PESZTICID   |
| L10CH          | TU14<br>TU15<br>TE21         | FL                             | 1<br>(C/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 3350    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PIRETROID PESZTICID (lobbanáspont 23 °C alatt)                   |
| L4BH           | TU15                         | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S22                                  | 336                    | 3350    | FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PIRETROID PESZTICID (lobbanáspont 23 °C alatt)                   |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3351    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PIRETROID PESZTICID (lobbanáspont legalább 23 °C)                |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport                                     | Bárcák         | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |  | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|---|----------------|-----------------------------------|--|---------|--------------------------------|---|--|--|-------------------------|
|            |   |         |                          |   |                |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csmago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3   | 5.2.2          | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                 | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)   | (5)            | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                   | (10)   | (11)                    |
| 3351       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY PIRETROID<br>PESZTICID<br>(lobbanáspont legalább 23 °C)                          | 6.1     | TF2                      | II  | 6.1 + 3        | 61<br>274                         | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                   | T11  | TP2<br>TP27             |
| 3351       | FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY PIRETROID<br>PESZTICID<br>(lobbanáspont legalább 23 °C)                          | 6.1     | TF2                      | III   | 6.1 + 3        | 61<br>274                         | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                   | T7   | TP2<br>TP28             |
| 3352       | FOLYÉKONY, MÉRGEZŐ<br>PIRETROID PESZTICID   | 6.1     | T6                       | I   | 6.1            | 61<br>274<br>648                  | LQ0  | E5      | P001                           |   | MP8<br>MP17                            | T14  | TP2<br>TP27             |
| 3352       | FOLYÉKONY, MÉRGEZŐ<br>PIRETROID PESZTICID   | 6.1     | T6                       | II  | 6.1            | 61<br>274<br>648                  | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                   | T11  | TP2<br>TP27             |
| 3352       | FOLYÉKONY, MÉRGEZŐ<br>PIRETROID PESZTICID   | 6.1     | T6                       | III   | 6.1            | 61<br>274<br>648                  | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                   | T7   | TP2<br>TP28             |
| 3354       | GYÚLÉKONY ROVARIRTÓ GÁZ,<br>M.N.N.  | 2       | 2F                       |   | 2.1            | 274                               | LQ0  | E0      | P200                           |   | MP9                                    | (M)  |                         |
| 3355       | MÉRGEZŐ, GYÚLÉKONY<br>ROVARIRTÓ GÁZ, M.N.N.   | 2       | 2TF                      |   | 2.3 +<br>2.1   | 274                               | LQ0  | E0      | P200                           |   | MP9                                    | (M)  |                         |
| 3356       | KÉMIAI OXIGÉNFEJLESZTŐ  | 5.1     | O3                       | II  | 5.1            | 284                               | LQ0  | E0      | P500                           |   | MP2                                    |  |                         |
| 3357       | NITROGLICERIN KEVERÉK,<br>ÉRZÉKETLENÍTETT, FOLYÉKONY,<br>M.N.N., legfeljebb 30 tömeg%<br>nitroglicerintartalommal | 3       | D                        | II  | 3              | 274<br>288                        | LQ0  | E0      | P099                           |   | MP2                                    |  |                         |
| 3358       | HÚTÓGÉPEK, gyúlékony, nem<br>mérgező, cseppfolyósított gáz<br>tartalommal   | 2       | 6F                       |   | 2.1            | 291                               | LQ0  | E0      | P003                           | PP32  | MP9                                    |  |                         |
| 3359       | GÁZOSÍTÓSZER HATÁSA ALATT<br>ÁLLÓ EGYSÉG  | 9       | M11                      |   |                | 302                               |  |         |                                |   |  |  |                         |
| 3360       | SZÁRAZ, NÖVÉNYI EREDETŰ<br>SZÁLA  | 4.1     | F1                       | Nem tartozik az ADR hatálya alá                                 |                |                                   |  |         |                                |   |  |  |                         |
| 3361       | MÉRGEZŐ, MARÓ KLÓR-SZILÁNOK<br>M.N.N.   | 6.1     | TC1                      | II  | 6.1 + 8        | 274                               | LQ0  | E4      | P010                           |   | MP15                                   | T14  | TP2<br>TP7<br>TP27      |
| 3362       | MÉRGEZŐ, MARÓ, GYÚLÉKONY<br>KLÓR-SZILÁNOK, M.N.N.   | 6.1     | TFC                      | II  | 6.1 + 3<br>+ 8 | 274                               | LQ0  | E4      | P010                           |   | MP15                                   | T14  | TP2<br>TP7<br>TP27      |
| 3363       | VESZÉLYES ÁRU KÉSZÜLÉKBEN<br>vagy<br>VESZÉLYES ÁRU BERENDEZÉSBEN  | 9       | M11                      | Nem tartozik az ADR hatálya alá [lásd még az 1.1.3.1 b) pontot] |                |                                   |  |         |                                |   |  |  |                         |
| 3364       | TRINITRO-FENOL (PIKRINSÁV),<br>legalább 10 tömeg% vízzel<br>NEDVESÍTETT   | 4.1     | D                        | I   | 4.1            |                                   | LQ0  | E0      | P406                           | PP24  | MP2                                    |  |                         |
| 3365       | TRINITRO-KLÓR-BENZOL (PIKRIL-<br>KLORID), legalább 10 tömeg% vízzel<br>NEDVESÍTETT                                | 4.1     | D                        | I   | 4.1            |                                   | LQ0  | E0      | P406                           | PP24  | MP2                                    |  |                         |
| 3366       | TRINITRO-TOLUOL (TROTIL, TNT),<br>legalább 10 tömeg% vízzel<br>NEDVESÍTETT  | 4.1     | D                        | I   | 4.1            |                                   | LQ0  | E0      | P406                           | PP24  | MP2                                    |  |                         |
| 3367       | TRINITRO-BENZOL, legalább<br>10 tömeg% vízzel NEDVESÍTETT   | 4.1     | D                        | I   | 4.1            |                                   | LQ0  | E0      | P406                           | PP24  | MP2                                    |  |                         |

| ADR-tartály   |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|---|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3   | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)  | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BH  | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 63                     | 3351    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PIRETROID PESZTICID<br>(lobbanáspont legalább 23 °C)                       |
| L4BH  | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9                                   | 63                     | 3351    | FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PIRETROID PESZTICID<br>(lobbanáspont legalább 23 °C)                       |
| L10CH   | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3352    | FOLYÉKONY, MÉRGEZŐ PIRETROID PESZTICID   |
| L4BH  | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3352    | FOLYÉKONY, MÉRGEZŐ PIRETROID PESZTICID   |
| L4BH  | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3352    | FOLYÉKONY, MÉRGEZŐ PIRETROID PESZTICID   |
| P*BN(M)   | TA4<br>TT9                   | FL                             | 2<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  | 23                     | 3354    | GYÚLÉKONY ROVARIRTÓ GÁZ, M.N.N.  |
| P*BH(M)   | TU6<br>TA4<br>TT9            | FL                             | 1<br>(B/D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S14                                  | 263                    | 3355    | MÉRGEZŐ, GYÚLÉKONY ROVARIRTÓ GÁZ, M.N.N.   |
|   |                              |                                | 2<br>(E)   |   |  | CV24   |  |                        | 3356    | KÉMIAI OXIGÉNFEJLESZTŐ   |
|   |                              |                                | 2<br>(B)   |   |  |  | S2<br>S14                                  |                        | 3357    | NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerintartalommal |
|   |                              |                                | 2<br>(D)   |   |  | CV9  | S2   |                        | 3358    | HŰTŐGÉPEK, gyúlékony, nem mérgező, cseppfolyósított gáz tartalommal                                      |
|   |                              |                                | (-)  |   |  |  |  |                        | 3359    | GÁZOSÍTÓSZER HATÁSA ALATT ÁLLÓ EGYSÉG  |
| Nem tartozik az ADR hatálya alá                                 |                              |                                |  |   |  |  |  |                        | 3360    | SZÁRAZ, NÖVÉNYI EREDETŰ SZÁLAK   |
| L4BH  | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 3361    | MÉRGEZŐ, MARÓ KLÓR-SZILÁNOK M.N.N.   |
| L4BH  | TU15<br>TE19                 | FL                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S2<br>S9<br>S19                            | 638                    | 3362    | MÉRGEZŐ, MARÓ, GYÚLÉKONY KLÓR-SZILÁNOK, M.N.N.   |
| Nem tartozik az ADR hatálya alá [lásd még az 1.1.3.1 b) pontot] |                              |                                |  |   |  |  |  |                        | 3363    | VESZÉLYES ÁRU KÉSZÜLÉKBEN vagy VESZÉLYES ÁRU BERENDEZÉSBEN   |
|   |                              |                                | 1<br>(B)   |   |  |  | S14  |                        | 3364    | TRINITRO-FENOL (PIKRINSAV), legalább 10 tömeg% vízzel NEDVESÍTETT  |
|   |                              |                                | 1<br>(B)   |   |  |  | S14  |                        | 3365    | TRINITRO-KLÓR-BENZOL (PIKRIL-KLORID), legalább 10 tömeg% vízzel NEDVESÍTETT                              |
|   |                              |                                | 1<br>(B)   |   |  |  | S14  |                        | 3366    | TRINITRO-TOLUOL (TROITL, TNT), legalább 10 tömeg% vízzel NEDVESÍTETT                                     |
|   |                              |                                | 1<br>(B)   |   |  |  | S14  |                        | 3367    | TRINITRO-BENZOL, legalább 10 tömeg% vízzel NEDVESÍTETT   |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartály és<br>ömlesztartá-<br>r-konténer |                            |
|------------|---|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|----------------------------|
|            |   |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások    |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                    |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                       |
| 3368       | TRINITRO-BENZOESAV, legalább<br>10 tömeg% vízzel NEDVESÍTETT  | 4.1     | D                        | I                           | 4.1          |                                   | LQ0                                       | E0      | P406                           | PP24  | MP2                                     |  |                            |
| 3369       | NÁTRIUM-DINITRO-o-KREZOLÁT,<br>legalább 10 tömeg% vízzel<br>NEDVESÍTETT   | 4.1     | DT                       | I                           | 4.1 +<br>6.1 |                                   | LQ0                                       | E0      | P406                           | PP24  | MP2                                     |  |                            |
| 3370       | KARBAMID-NITRÁT, legalább<br>10 tömeg% vízzel NEDVESÍTETT   | 4.1     | D                        | I                           | 4.1          |                                   | LQ0                                       | E0      | P406                           | PP78  | MP2                                     |  |                            |
| 3371       | 2-METIL-BUTIRALDEHID  | 3       | F1                       | II                          | 3            |                                   | LQ4                                       | E2      | P001<br>IBC02<br>R001          |   | MP19                                    | T4   | TP1                        |
| 3373       | "B" KATEGÓRIÁJÚ BIOLÓGIAI<br>ANYAG  | 6.2     | I4                       |                             | 6.2          | 319                               | LQ0                                       | E0      | P650                           |   |   | T1   | TP1                        |
| 3373       | „B” KATEGÓRIÁJÚ BIOLÓGIAI<br>ANYAG (csak állati eredetű anyagok)  | 6.2     | I4                       |                             | 6.2          | 319                               | LQ0                                       | E0      | P650                           |   |   | T1<br>BK1<br>BK2                               | TP1                        |
| 3374       | OLDÓSZERMENTES ACETILÉN   | 2       | 2F                       |                             | 2.1          |                                   | LQ0                                       | E0      | P200                           |   | MP9                                     |  |                            |
| 3375       | AMMÓNIUM-NITRÁT EMULZIÓ vagy<br>AMMÓNIUM-NITRÁT SZUSZPENZIÓ<br>vagy AMMÓNIUM-NITRÁT GÉL,<br>köztes termék robbantóanyag<br>előállításához, folyékony  | 5.1     | O1                       | II                          | 5.1          | 309                               | LQ0                                       | E2      | P099<br>IBC99                  |   | MP2                                     | T1   | TP1<br>TP9<br>TP17<br>TP32 |
| 3375       | AMMÓNIUM-NITRÁT EMULZIÓ vagy<br>AMMÓNIUM-NITRÁT SZUSZPENZIÓ<br>vagy AMMÓNIUM-NITRÁT GÉL,<br>köztes termék robbantóanyag<br>előállításához, szilárd  | 5.1     | O2                       | II                          | 5.1          | 309                               | LQ0                                       | E2      | P099<br>IBC99                  |   | MP2                                     | T1   | TP1<br>TP9<br>TP17<br>TP32 |
| 3376       | 4-NITRO-FENIL-HIDRAZIN legalább<br>30 tömeg% vízzel   | 4.1     | D                        | I                           | 4.1          |                                   | LQ0                                       | E0      | P406                           | PP26  | MP2                                     |  |                            |
| 3377       | NÁTRIUM-PERBORÁT-<br>MONOHIDRÁT   | 5.1     | O2                       | III                         | 5.1          |                                   | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1<br>BK1<br>BK2                               | TP33                       |
| 3378       | NÁTRIUM-KARBONÁT-<br>PEROXIHIDRÁT   | 5.1     | O2                       | II                          | 5.1          |                                   | LQ11                                      | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3<br>BK1<br>BK2                               | TP33                       |
| 3378       | NÁTRIUM-KARBONÁT-<br>PEROXIHIDRÁT   | 5.1     | O2                       | III                         | 5.1          |                                   | LQ12                                      | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1<br>BK1<br>BK2                               | TP33                       |
| 3379       | FOLYÉKONY, ÉRZÉKETLENÍTETT<br>ROBBANÓANYAG, M.N.N.  | 3       | D                        | I                           | 3            | 274<br>311                        | LQ0                                       | E0      | P099                           |   | MP2                                     |  |                            |
| 3380       | SZILÁRD, ÉRZÉKETLENÍTETT<br>ROBBANÓANYAG, M.N.N.  | 4.1     | D                        | I                           | 4.1          | 274<br>311                        | LQ0                                       | E0      | P099                           |   | MP2                                     |  |                            |
| 3381       | BELÉLEGEZVE MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.,<br>melynek mérgezőképessége belélegzés<br>esetén legfeljebb 200 ml/m <sup>3</sup> és telített<br>gőzének koncentrációja legalább az<br>LC <sub>50</sub> 500-szorosa | 6.1     | T1<br>vagy<br>T4         | I                           | 6.1          | 274                               | LQ0                                       | E5      | P601                           |   | MP8<br>MP17                             | T22  | TP2                        |



| ADR-tartály |   | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|---|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások                              |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4                                      | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)  | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |   |                                | 1<br>(B)   |   |  |  | S14  |                        | 3368    | TRINITRO-BENZOESAV, legalább 10 tömeg% vízzel NEDVESÍTETT  |
|             |   |                                | 1<br>(B)   |   |  | CV13<br>CV28   | S14  |                        | 3369    | NÁTRIUM-DINITRO-o-KREZOLÁT, legalább 10 tömeg% vízzel NEDVESÍTETT  |
|             |   |                                | 1<br>(B)   |   |  |  | S14  |                        | 3370    | KARBAMID-NITRÁT, legalább 10 tömeg% vízzel NEDVESÍTETT   |
| LGBF        |   | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 33                     | 3371    | 2-METIL-BUTIRALDEHID   |
| L4BH        | TU15<br>TU37<br>TE19                              | AT                             | (–)  |   |  |  | S3   | 606                    | 3373    | "B" KATEGÓRIÁJÚ BIOLÓGIAI ANYAG  |
| L4BH        | TU15<br>TU37<br>TE19                              | AT                             | (–)  |   |  |  | S3   | 606                    | 3373    | „B” KATEGÓRIÁJÚ BIOLÓGIAI ANYAG (csak állati eredetű anyagok)  |
|             |   |                                | 2<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  |                        | 3374    | OLDÓSZERMENTES ACETILÉN  |
| LGAV(+)     | TU3<br>TU12<br>TU39<br>TE10<br>TE23<br>TA1<br>TA3 | AT                             | 2<br>(E)   |   |  | CV24   | S9<br>S23                                  | 50                     | 3375    | AMMÓNIUM-NITRÁT EMULZIÓ vagy AMMÓNIUM-NITRÁT SZUSZPENZIÓ vagy AMMÓNIUM-NITRÁT GÉL, köztes termék robbantóanyag előállításához, folyékony   |
| SGAV(+)     | TU3<br>TU12<br>TU39<br>TE10<br>TE23<br>TA1<br>TA3 | AT                             | 2<br>(E)   |   |  | CV24   | S9<br>S23                                  | 50                     | 3375    | AMMÓNIUM-NITRÁT EMULZIÓ vagy AMMÓNIUM-NITRÁT SZUSZPENZIÓ vagy AMMÓNIUM-NITRÁT GÉL, köztes termék robbantóanyag előállításához, szilárd   |
|             |   |                                | 1<br>(B)   | V1  |  |  | S14  |                        | 3376    | 4-NITRO-FENIL-HIDRAZIN legalább 30 tömeg% vízzel   |
| SGAV        | TU3   | AT                             | 3<br>(E)   |   | VV8  | CV24   |  | 50                     | 3377    | NÁTRIUM-PERBORÁT-MONOHIDRÁT  |
| SGAV        | TU3   | AT                             | 2<br>(E)   | V11                                       | VV8  | CV24   |  | 50                     | 3378    | NÁTRIUM-KARBONÁT-PEROXIDHIDRÁT   |
| SGAV        | TU3   | AT                             | 3<br>(E)   |   | VV8  | CV24   |  | 50                     | 3378    | NÁTRIUM-KARBONÁT-PEROXIDHIDRÁT   |
|             |   |                                | 1<br>(B)   |   |  |  | S2<br>S14                                  |                        | 3379    | FOLYÉKONY, ÉRZÉKETLENÍTETT ROBBANÓANYAG, M.N.N.  |
|             |   |                                | 1<br>(B)   |   |  |  | S14  |                        | 3380    | SZILÁRD, ÉRZÉKETLENÍTETT ROBBANÓANYAG, M.N.N.  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21                      | AT                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3381    | BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedélyes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztartáru-<br>konténer |                         |
|------------|--|---------|--------------------------|-----------------------------|--------------|-----------------------------------|---|---------|--------------------------------|---|---|--|-------------------------|
|            |  |         |                          |                             |              |                                   |   |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                     | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                      | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3382       | BELÉLEGEZVE MÉRGEZŐ<br>FOLYÉKONY ANYAG, M.N.N.,<br>melynek mérgezőképessége belélegzés<br>esetén legfeljebb 1000 ml/m <sup>3</sup> és telített<br>gőzének koncentrációja legalább az<br>LC <sub>50</sub> 10-szerese                  | 6.1     | T1<br>vagy<br>T4         | I                           | 6.1          | 274                               | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T20  | TP2                     |
| 3383       | BELÉLEGEZVE MÉRGEZŐ,<br>GYÚLÉKONY, FOLYÉKONY<br>ANYAG, M.N.N., melynek<br>mérgezőképessége belélegzés esetén<br>legfeljebb 200 ml/m <sup>3</sup> és telített gőzének<br>koncentrációja legalább az<br>LC <sub>50</sub> 500-szorosa   | 6.1     | TF1                      | I                           | 6.1 + 3      | 274                               | LQ0                                       | E5      | P601                           |   | MP8<br>MP17                             | T22  | TP2                     |
| 3384       | BELÉLEGEZVE MÉRGEZŐ,<br>GYÚLÉKONY, FOLYÉKONY<br>ANYAG, M.N.N., melynek<br>mérgezőképessége belélegzés esetén<br>legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének<br>koncentrációja legalább az<br>LC <sub>50</sub> 10-szerese   | 6.1     | TF1                      | I                           | 6.1 + 3      | 274                               | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T20  | TP2                     |
| 3385       | BELÉLEGEZVE MÉRGEZŐ, VÍZZEL<br>REAKTÍV, FOLYÉKONY ANYAG,<br>M.N.N., melynek mérgezőképessége<br>belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és<br>telített gőzének koncentrációja legalább<br>az LC <sub>50</sub> 500-szorosa | 6.1     | TW1                      | I                           | 6.1 +<br>4.3 | 274                               | LQ0                                       | E5      | P601                           |   | MP8<br>MP17                             | T22  | TP2                     |
| 3386       | BELÉLEGEZVE MÉRGEZŐ, VÍZZEL<br>REAKTÍV, FOLYÉKONY ANYAG,<br>M.N.N., melynek mérgezőképessége<br>belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup><br>és telített gőzének koncentrációja<br>legalább az LC <sub>50</sub> 10-szerese | 6.1     | TW1                      | I                           | 6.1 +<br>4.3 | 274                               | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T20  | TP2                     |
| 3387       | BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ<br>HATÁSÚ, FOLYÉKONY ANYAG,<br>M.N.N., melynek mérgezőképessége<br>belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és<br>telített gőzének koncentrációja legalább<br>az LC <sub>50</sub> 500-szorosa  | 6.1     | TO1                      | I                           | 6.1 +<br>5.1 | 274                               | LQ0                                       | E5      | P601                           |   | MP8<br>MP17                             | T22  | TP2                     |
| 3388       | BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ<br>HATÁSÚ, FOLYÉKONY ANYAG,<br>M.N.N., melynek mérgezőképessége<br>belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup><br>és telített gőzének koncentrációja<br>legalább az LC <sub>50</sub> 10-szerese  | 6.1     | TO1                      | I                           | 6.1 +<br>5.1 | 274                               | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T20  | TP2                     |
| 3389       | BELÉLEGEZVE MÉRGEZŐ, MARÓ,<br>FOLYÉKONY ANYAG, M.N.N.,<br>melynek mérgezőképessége belélegzés<br>esetén legfeljebb 200 ml/m <sup>3</sup> és telített<br>gőzének koncentrációja legalább az<br>LC <sub>50</sub> 500-szorosa           | 6.1     | TC1<br>vagy<br>TC3       | I                           | 6.1 + 8      | 274                               | LQ0                                       | E5      | P601                           |   | MP8<br>MP17                             | T22  | TP2                     |
| 3390       | BELÉLEGEZVE MÉRGEZŐ, MARÓ,<br>FOLYÉKONY ANYAG, M.N.N.,<br>melynek mérgezőképessége belélegzés<br>esetén legfeljebb 1000 ml/m <sup>3</sup> és telített<br>gőzének koncentrációja legalább az<br>LC <sub>50</sub> 10-szerese           | 6.1     | TC1<br>vagy<br>TC3       | I                           | 6.1 + 8      | 274                               | LQ0                                       | E5      | P602                           |   | MP8<br>MP17                             | T20  | TP2                     |

| ADR-tartály |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3382    | BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese                  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3383    | BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa      |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | FL                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S2<br>S9<br>S14                            | 663                    | 3384    | BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese      |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 623                    | 3385    | BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 623                    | 3386    | BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 665                    | 3387    | BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 665                    | 3388    | BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese  |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 668                    | 3389    | BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa           |
| L10CH       | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/D)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 668                    | 3390    | BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese           |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák       | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |             |
|------------|---|---------|--------------------------|-----------------------------|--------------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------|
|            |   |         |                          |                             |              |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |             |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2        | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3     |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)          | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)        |
| 3391       | PIROFOROS, SZILÁRD, SZERVES<br>FÉMVEGYÜLET                      | 4.2     | S5                       | I                           | 4.2          | 274                               | LQ0  | E0      | P404                           | PP86  | MP2                                     | T21  | TP7<br>TP33 |
| 3392       | PIROFOROS, FOLYÉKONY,<br>SZERVES FÉMVEGYÜLET                    | 4.2     | S5                       | I                           | 4.2          | 274                               | LQ0  | E0      | P400                           | PP86  | MP2                                     | T21  | TP2<br>TP7  |
| 3393       | PIROFOROS, VÍZZEL REAKTÍV,<br>SZILÁRD, SZERVES FÉMVEGYÜLET      | 4.2     | SW                       | I                           | 4.2 +<br>4.3 | 274                               | LQ0  | E0      | P404                           | PP86  | MP2                                     | T21  | TP7<br>TP33 |
| 3394       | PIROFOROS, VÍZZEL REAKTÍV,<br>FOLYÉKONY, SZERVES<br>FÉMVEGYÜLET | 4.2     | SW                       | I                           | 4.2 +<br>4.3 | 274                               | LQ0  | E0      | P400                           | PP86  | MP2                                     | T21  | TP2<br>TP7  |
| 3395       | VÍZZEL REAKTÍV, SZILÁRD,<br>SZERVES FÉMVEGYÜLET                 | 4.3     | W2                       | I                           | 4.3          | 274                               | LQ0  | E0      | P403                           |   | MP2                                     | T9   | TP7<br>TP33 |
| 3395       | VÍZZEL REAKTÍV, SZILÁRD,<br>SZERVES FÉMVEGYÜLET                 | 4.3     | W2                       | II                          | 4.3          | 274                               | LQ11                                       | E2      | P410<br>IBC04                  |   | MP14                                    | T3   | TP33        |
| 3395       | VÍZZEL REAKTÍV, SZILÁRD,<br>SZERVES FÉMVEGYÜLET                 | 4.3     | W2                       | III                         | 4.3          | 274                               | LQ12                                       | E1      | P410<br>IBC06                  |   | MP14                                    | T1   | TP33        |
| 3396       | VÍZZEL REAKTÍV, GYÚLÉKONY,<br>SZILÁRD, SZERVES FÉMVEGYÜLET      | 4.3     | WF2                      | I                           | 4.3 +<br>4.1 | 274                               | LQ0  | E0      | P403                           |   | MP2                                     | T9   | TP7<br>TP33 |
| 3396       | VÍZZEL REAKTÍV, GYÚLÉKONY,<br>SZILÁRD, SZERVES FÉMVEGYÜLET      | 4.3     | WF2                      | II                          | 4.3 +<br>4.1 | 274                               | LQ11                                       | E2      | P410<br>IBC04                  |   | MP14                                    | T3   | TP33        |
| 3396       | VÍZZEL REAKTÍV, GYÚLÉKONY,<br>SZILÁRD, SZERVES FÉMVEGYÜLET      | 4.3     | WF2                      | III                         | 4.3 +<br>4.1 | 274                               | LQ12                                       | E1      | P410<br>IBC06                  |   | MP14                                    | T1   | TP33        |
| 3397       | VÍZZEL REAKTÍV, ÖNMELEGEDŐ,<br>SZILÁRD, SZERVES FÉMVEGYÜLET     | 4.3     | WS                       | I                           | 4.3 +<br>4.2 | 274                               | LQ0  | E0      | P403                           |   | MP2                                     | T9   | TP7<br>TP33 |
| 3397       | VÍZZEL REAKTÍV, ÖNMELEGEDŐ,<br>SZILÁRD, SZERVES FÉMVEGYÜLET     | 4.3     | WS                       | II                          | 4.3 +<br>4.2 | 274                               | LQ11                                       | E2      | P410<br>IBC04                  |   | MP14                                    | T3   | TP33        |
| 3397       | VÍZZEL REAKTÍV, ÖNMELEGEDŐ,<br>SZILÁRD, SZERVES FÉMVEGYÜLET     | 4.3     | WS                       | III                         | 4.3 +<br>4.2 | 274                               | LQ12                                       | E1      | P410<br>IBC06                  |   | MP14                                    | T1   | TP33        |

| ADR-tartály    |   | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                      |
|----------------|---|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánykód     | Különleges előírások                      |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3            | 4.3.5, 6.8.4                              | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)           | (13)                                      | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L21DH          | TU4<br>TU14<br>TU22<br>TC1<br>TE21<br>TM1 | AT                             | 0<br>(B/E)   | V1  |  |  | S20  | 43                     | 3391    | PIROFOROS, SZILÁRD, SZERVES FÉMVEGYÜLET                   |
| L21DH          | TU4<br>TU14<br>TU22<br>TC1<br>TE21<br>TM1 | AT                             | 0<br>(B/E)   | V1  |  |  | S20  | 333                    | 3392    | PIROFOROS, FOLYÉKONY, SZERVES FÉMVEGYÜLET                 |
| L21DH          | TU4<br>TU14<br>TU22<br>TC1<br>TE21<br>TM1 | AT                             | 0<br>(B/E)   | V1  |  |  | S20  | X432                   | 3393    | PIROFOROS, VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET   |
| L21DH          | TU4<br>TU14<br>TU22<br>TC1<br>TE21<br>TM1 | AT                             | 0<br>(B/E)   | V1  |  |  | S20  | X333                   | 3394    | PIROFOROS, VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET |
| L10DH<br>S10AN | TU4<br>TU14<br>TU22<br>TE21<br>TM2        | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X423                   | 3395    | VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET              |
| L4DH<br>SGAN   | TU14<br>TE21<br>TM2                       | AT                             | 2<br>(D/E)   | V1  |  | CV23   |  | 423                    | 3395    | VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET              |
| L4DH<br>SGAN   | TU14<br>TE21<br>TM2                       | AT                             | 3<br>(E)   | V1  |  | CV23   |  | 423                    | 3395    | VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET              |
| L10DH<br>S10AN | TU4<br>TU14<br>TU22<br>TE21<br>TM2        | AT                             | 0<br>(B/E)   | V1  |  | CV23   | S20  | X423                   | 3396    | VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD, SZERVES FÉMVEGYÜLET   |
| L4DH<br>SGAN   | TU14<br>TE21<br>TM2                       | AT                             | 0<br>(D/E)   | V1  |  | CV23   |  | 423                    | 3396    | VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD, SZERVES FÉMVEGYÜLET   |
| L4DH<br>SGAN   | TU14<br>TE21<br>TM2                       | AT                             | 0<br>(E)   | V1  |  | CV23   |  | 423                    | 3396    | VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD, SZERVES FÉMVEGYÜLET   |
| L10DH<br>S10AN | TU14<br>TE21<br>TM2                       | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X423                   | 3397    | VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET  |
| L4DH<br>SGAN   |   | AT                             | 2<br>(D/E)   | V1  |  | CV23   |  | 423                    | 3397    | VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET  |
| L4DH<br>SGAN   |   | AT                             | 3<br>(E)   | V1  |  | CV23   |  | 423                    | 3397    | VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET  |

| UN<br>szám |   | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák       | Különleges<br>előírások | Korlátozott és<br>engedélyezett<br>mennyiség |         | Csomagolóeszköz           |  |                                    | Mobil tartály és<br>ömlesztartály-<br>konténer |                         |
|------------|---|---------|---------------------|------------------------|--------------|-------------------------|--|---------|---------------------------|--|------------------------------------|--|-------------------------|
|            |   |         |                     |                        |              |                         |  |         | Csomagolási<br>utasítások | Különleges<br>csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2        | 3.3                     | 3.4.6  | 3.5.1.2 | 4.1.4                     | 4.1.4                                  | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                | (4)                    | (5)          | (6)                     | (7a)   | (7b)    | (8)                       | (9a)                                   | (9b)                               | (10)   | (11)                    |
| 3398       | VÍZZEL REAKTÍV, FOLYÉKONY SZERVES FÉMVEGYÜLET             | 4.3     | W1                  | I                      | 4.3          | 274                     | LQ0  | E0      | P402                      |  | MP2                                | T13  | TP2<br>TP7              |
| 3398       | VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET            | 4.3     | W1                  | II                     | 4.3          | 274                     | LQ10   | E2      | P001<br>IBC01             |  | MP15                               | T7   | TP2<br>TP7              |
| 3398       | VÍZZEL REAKTÍV, FOLYÉKONY. SZERVES FÉMVEGYÜLET            | 4.3     | W1                  | III                    | 4.3          | 274                     | LQ13   | E1      | P001<br>IBC02             |  | MP15                               | T7   | TP2<br>TP7              |
| 3399       | VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY SZERVES FÉMVEGYÜLET  | 4.3     | WF1                 | I                      | 4.3 + 3      | 274                     | LQ0  | E0      | P402                      |  | MP2                                | T13  | TP2<br>TP7              |
| 3399       | VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY, SZERVES FÉMVEGYÜLET | 4.3     | WF1                 | II                     | 4.3 + 3      | 274                     | LQ10   | E2      | P001<br>IBC01             |  | MP15                               | T7   | TP2<br>TP7              |
| 3399       | VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY, SZERVES FÉMVEGYÜLET | 4.3     | WF1                 | III                    | 4.3 + 3      | 274                     | LQ13   | E1      | P001<br>IBC02<br>R001     |  | MP15                               | T7   | TP2<br>TP7              |
| 3400       | ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET                  | 4.2     | S5                  | II                     | 4.2          | 274                     | LQ18   | E2      | P410<br>IBC06             |  | MP14                               | T3   | TP33                    |
| 3400       | ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET                  | 4.2     | S5                  | III                    | 4.2          | 274                     | LQ11   | E1      | P002<br>IBC08             |  | MP14                               | T1   | TP33                    |
| 3401       | SZILÁRD ALKÁLIFÉM AMALGÁM                                 | 4.3     | W2                  | I                      | 4.3          | 182<br>274              | LQ0  | E0      | P403                      |  | MP2                                | T9   | TP7<br>TP33             |
| 3402       | SZILÁRD ALKÁLIFÖLDFÉM AMALGÁM                             | 4.3     | W2                  | I                      | 4.3          | 183<br>274<br>506       | LQ0  | E0      | P403                      |  | MP2                                | T9   | TP7<br>TP33             |
| 3403       | SZILÁRD KÁLIUMFÉM ÖTVÖZETEK                               | 4.3     | W2                  | I                      | 4.3          |                         | LQ0  | E0      | P403                      |  | MP2                                | T9   | TP7<br>TP33             |
| 3404       | SZILÁRD KÁLIUM-NÁTRIUM ÖTVÖZETEK                          | 4.3     | W2                  | I                      | 4.3          |                         | LQ0  | E0      | P403                      |  | MP2                                | T9   | TP7<br>TP33             |
| 3405       | BÁRIUM-KLORÁT OLDAT                                       | 5.1     | OT1                 | II                     | 5.1 +<br>6.1 |                         | LQ10   | E2      | P504<br>IBC02             |  | MP2                                | T4   | TP1                     |
| 3405       | BÁRIUM-KLORÁT OLDAT                                       | 5.1     | OT1                 | III                    | 5.1 +<br>6.1 |                         | LQ13   | E1      | P001<br>IBC02             |  | MP2                                | T4   | TP1                     |
| 3406       | BÁRIUM-PERKLORÁT OLDAT                                    | 5.1     | OT1                 | II                     | 5.1 +<br>6.1 |                         | LQ10   | E2      | P504<br>IBC02             |  | MP2                                | T4   | TP1                     |
| 3406       | BÁRIUM-PERKLORÁT OLDAT                                    | 5.1     | OT1                 | III                    | 5.1 +<br>6.1 |                         | LQ13   | E1      | P001<br>IBC02             |  | MP2                                | T4   | TP1                     |
| 3407       | OLDOTT KLORÁT ÉS MAGNÉZIUM-KLORID KEVERÉK                 | 5.1     | O1                  | II                     | 5.1          |                         | LQ10   | E2      | P504<br>IBC02             |  | MP2                                | T4   | TP1                     |
| 3407       | OLDOTT KLORÁT ÉS MAGNÉZIUM-KLORID KEVERÉK                 | 5.1     | O1                  | III                    | 5.1          |                         | LQ13   | E1      | P504<br>IBC02             |  | MP2                                | T4   | TP1                     |
| 3408       | ÓLOM-PERKLORÁT OLDAT                                      | 5.1     | OT1                 | II                     | 5.1 +<br>6.1 |                         | LQ10   | E2      | P504<br>IBC02             |  | MP2                                | T4   | TP1                     |

| ADR-tartály  |                                    | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                      |
|--------------|------------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartánycód   | Különleges előírások               |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4                       | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                               | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| L10DH        | TU4<br>TU14<br>TU22<br>TE21<br>TM2 | AT                             | 0<br>(B/E)   | V1  |  | CV23   | S20  | X323                   | 3398    | VÍZZEL REAKTÍV, FOLYÉKONY SZERVES FÉMVEGYÜLET             |
| L4DH         | TU14<br>TE21<br>TM2                | AT                             | 0<br>(D/E)   | V1  |  | CV23   |  | 323                    | 3398    | VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET            |
| L4DH         | TU14<br>TE21<br>TM2                | AT                             | 0<br>(E)   | V1  |  | CV23   |  | 323                    | 3398    | VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET            |
| L10DH        | TU4<br>TU14<br>TU22<br>TE21<br>TM2 | FL                             | 0<br>(B/E)   | V1  |  | CV23   | S2<br>S20                                  | X323                   | 3399    | VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY SZERVES FÉMVEGYÜLET  |
| L4DH         | TU4<br>TU14<br>TU22<br>TE21<br>TM2 | FL                             | 0<br>(D/E)   | V1  |  | CV23   | S2   | 323                    | 3399    | VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY, SZERVES FÉMVEGYÜLET |
| L4DH         | TU14<br>TE21<br>TM2                | FL                             | 0<br>(E)   | V1  |  | CV23   | S2   | 323                    | 3399    | VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY, SZERVES FÉMVEGYÜLET |
| L4BN<br>SGAN |                                    | AT                             | 2<br>(D/E)   | V1<br>V12                                 |  |  |  | 40                     | 3400    | ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET                  |
| L4BN<br>SGAN |                                    | AT                             | 3<br>(E)   | V1  |  |  |  | 40                     | 3400    | ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET                  |
| L10BN(+)     | TU1<br>TE5<br>TT3<br>TM2           | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X423                   | 3401    | SZILÁRD ALKÁLIFÉM AMALGÁM                                 |
| L10BN(+)     | TU1<br>TE5<br>TT3<br>TM2           | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X423                   | 3402    | SZILÁRD ALKÁLIFÖLDFÉM AMALGÁM                             |
| L10BN(+)     | TU1<br>TE5<br>TT3<br>TM2           | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X423                   | 3403    | SZILÁRD KÁLIUMFÉM ÖTVÖZETEK                               |
| L10BN(+)     | TU1<br>TE5<br>TT3<br>TM2           | AT                             | 1<br>(B/E)   | V1  |  | CV23   | S20  | X423                   | 3404    | SZILÁRD KÁLIUM-NÁTRIUM ÖTVÖZETEK                          |
| L4BN         | TU3                                | AT                             | 2<br>(E)   |   |  | CV24<br>CV28   |  | 56                     | 3405    | BÁRIUM-KLORÁT OLDAT                                       |
| LGBV         | TU3                                | AT                             | 3<br>(E)   |   |  | CV24<br>CV28   |  | 56                     | 3405    | BÁRIUM-KLORÁT OLDAT                                       |
| L4BN         | TU3                                | AT                             | 2<br>(E)   |   |  | CV24<br>CV28   |  | 56                     | 3406    | BÁRIUM-PERKLORÁT OLDAT                                    |
| LGBV         | TU3                                | AT                             | 3<br>(E)   |   |  | CV24<br>CV28   |  | 56                     | 3406    | BÁRIUM-PERKLORÁT OLDAT                                    |
| L4BN         | TU3                                | AT                             | 2<br>(E)   |   |  | CV24   |  | 50                     | 3407    | OLDOTT KLORÁT ÉS MAGNÉZIUM-KLORID KEVERÉK                 |
| LGBV         | TU3                                | AT                             | 3<br>(E)   |   |  | CV24   |  | 50                     | 3407    | OLDOTT KLORÁT ÉS MAGNÉZIUM-KLORID KEVERÉK                 |
| L4BN         | TU3                                | AT                             | 2<br>(E)   |   |  | CV24<br>CV28   |  | 56                     | 3408    | ÓLOM-PERKLORÁT OLDAT                                      |

| UN<br>szám |  | Osztály | Osztályozási<br>kód | Csomagolási<br>csoport | Bárcák       | Különleges<br>előírások | Korlátozott és<br>engedélyezett<br>mennyiség |         | Csomagolóeszköz               |  |                                    | Mobil tartály és<br>ömlesztartály-<br>konténer |                         |
|------------|--|---------|---------------------|------------------------|--------------|-------------------------|--|---------|-------------------------------|--|------------------------------------|--|-------------------------|
|            |  |         |                     |                        |              |                         |  |         | Csomagolási<br>utasítások     | Különleges<br>csomagolási<br>előírások | Egybe-<br>csomagolási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2  | 2.2     | 2.2                 | 2.1.1.3                | 5.2.2        | 3.3                     | 3.4.6  | 3.5.1.2 | 4.1.4                         | 4.1.4                                  | 4.1.10                             | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)  | (3a)    | (3b)                | (4)                    | (5)          | (6)                     | (7a)   | (7b)    | (8)                           | (9a)                                   | (9b)                               | (10)   | (11)                    |
| 3408       | ÓLOM-PERKLORÁT OLDAT   | 5.1     | OT1                 | III                    | 5.1 +<br>6.1 |                         | LQ13   | E1      | P001<br>IBC02                 |  | MP2                                | T4   | TP1                     |
| 3409       | FOLYÉKONY KLÓR-NITRO-<br>BENZOLOK  | 6.1     | T1                  | II                     | 6.1          | 279                     | LQ17   | E4      | P001<br>IBC02                 |  | MP15                               | T7   | TP2                     |
| 3410       | 4-KLÓR-o-TOLUIDIN-HIDROKLORID<br>OLDAT                                   | 6.1     | T1                  | III                    | 6.1          |                         | LQ7  | E1      | P001<br>IBC03<br>R001         |  | MP19                               | T4   | TP1                     |
| 3411       | béta-NAFTIL-AMIN OLDAT   | 6.1     | T1                  | II                     | 6.1          |                         | LQ17   | E4      | P001<br>IBC02                 |  | MP15                               | T7   | TP2                     |
| 3411       | béta-NAFTIL-AMIN OLDAT   | 6.1     | T1                  | III                    | 6.1          |                         | LQ7  | E1      | P001<br>IBC02                 |  | MP19                               | T7   | TP2                     |
| 3412       | HANGYASAV legalább 10 tömeg%, de<br>legfeljebb 85 tömeg% savtartalommal  | 8       | C3                  | II                     | 8            |                         | LQ22   | E2      | P001<br>IBC02                 |  | MP15                               | T7   | TP2                     |
| 3412       | HANGYASAV legalább 5 tömeg%, de<br>10 tömeg%-nál kevesebb savtartalommal | 8       | C3                  | III                    | 8            |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T4   | TP1                     |
| 3413       | KÁLIUM-CIANID OLDAT  | 6.1     | T4                  | I                      | 6.1          |                         | LQ0  | E5      | P001                          |  | MP8<br>MP17                        | T14  | TP2                     |
| 3413       | KÁLIUM-CIANID OLDAT  | 6.1     | T4                  | II                     | 6.1          |                         | LQ17   | E4      | P001<br>IBC02                 |  | MP15                               | T11  | TP2<br>TP27             |
| 3413       | KÁLIUM-CIANID OLDAT  | 6.1     | T4                  | III                    | 6.1          |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T7   | TP2<br>TP28             |
| 3414       | NÁTRIUM-CIANID OLDAT   | 6.1     | T4                  | I                      | 6.1          |                         | LQ0  | E5      | P001                          |  | MP8<br>MP17                        | T14  | TP2                     |
| 3414       | NÁTRIUM-CIANID OLDAT   | 6.1     | T4                  | II                     | 6.1          |                         | LQ17   | E4      | P001<br>IBC02                 |  | MP15                               | T11  | TP2<br>TP27             |
| 3414       | NÁTRIUM-CIANID OLDAT   | 6.1     | T4                  | III                    | 6.1          |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T7   | TP2<br>TP28             |
| 3415       | NÁTRIUM-FLUORID OLDAT  | 6.1     | T4                  | III                    | 6.1          |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T4   | TP1                     |
| 3416       | FOLYÉKONY KLÓR-ACETOFENON  | 6.1     | T1                  | II                     | 6.1          |                         | LQ17   | E4      | P001<br>IBC02                 |  | MP15                               | T7   | TP2                     |
| 3417       | SZILÁRD XILIL-BROMID   | 6.1     | T2                  | II                     | 6.1          |                         | LQ18   | E4      | P002<br>IBC08                 | B4                                     | MP10                               | T3   | TP33                    |
| 3418       | 2,4-TOLUILÉN-DIAMIN OLDAT  | 6.1     | T1                  | III                    | 6.1          |                         | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001 |  | MP19                               | T4   | TP1                     |
| 3419       | SZILÁRD BÓR-TRIFLUORID-<br>ECETSAV KOMPLEX                               | 8       | C4                  | II                     | 8            |                         | LQ23   | E2      | P002<br>IBC08                 | B4                                     | MP10                               | T3   | TP33                    |
| 3420       | SZILÁRD BÓR-TRIFLUORID-<br>PROPIONSÁV KOMPLEX                            | 8       | C4                  | II                     | 8            |                         | LQ23   | E2      | P002<br>IBC08                 | B4                                     | MP10                               | T3   | TP33                    |
| 3421       | KÁLIUM-HIDROGÉN-DIFLUORID<br>OLDAT (kálium-bifluorid)                    | 8       | CT1                 | II                     | 8 + 6.1      |                         | LQ22   | E2      | P001<br>IBC02                 |  | MP15                               | T7   | TP2                     |



| ADR-tartály  |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|--------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód   | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3          | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)         | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
| LGBV         | TU3                          | AT                             | 3 (E)  |   |  | CV24<br>CV28   |  | 56                     | 3408    | ÓLOM-PERKLORÁT OLDAT  |
| L4BH         | TU15<br>TE19                 | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3409    | FOLYÉKONY KLÓR-NITRO-BENZOLOK   |
| L4BH         | TU15<br>TE19                 | AT                             | 2 (E)  |   |  | CV13<br>CV28   | S9   | 60                     | 3410    | 4-KLÓR-o-TOLUIDIN-HIDROKLORID OLDAT                                   |
| L4BH         | TU15<br>TE19                 | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3411    | béta-NAFTIL-AMIN OLDAT  |
| L4BH         | TU15<br>TE19                 | AT                             | 2 (E)  |   |  | CV13<br>CV28   | S9   | 60                     | 3411    | béta-NAFTIL-AMIN OLDAT  |
| L4BN         |                              | AT                             | 2 (E)  |   |  |  |  | 80                     | 3412    | HANGYASAV legalább 10 tömeg%, de legfeljebb 85 tömeg% savtartalommal  |
| L4BN         |                              | AT                             | 3 (E)  |   |  |  |  | 80                     | 3412    | HANGYASAV legalább 5 tömeg%, de 10 tömeg%-nál kevesebb savtartalommal |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1 (C/E)  |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3413    | KÁLIUM-CIANID OLDAT   |
| L4BH         | TU15<br>TE19                 | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3413    | KÁLIUM-CIANID OLDAT   |
| L4BH         | TU15<br>TE19                 | AT                             | 2 (E)  |   |  | CV13<br>CV28   | S9   | 60                     | 3413    | KÁLIUM-CIANID OLDAT   |
| L10CH        | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1 (C/E)  |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3414    | NÁTRIUM-CIANID OLDAT  |
| L4BH         | TU15<br>TE19                 | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3414    | NÁTRIUM-CIANID OLDAT  |
| L4BH         | TU15<br>TE19                 | AT                             | 2 (E)  |   |  | CV13<br>CV28   | S9   | 60                     | 3414    | NÁTRIUM-CIANID OLDAT  |
| L4BH         | TU15<br>TE19                 | AT                             | 2 (E)  |   |  | CV13<br>CV28   | S9   | 60                     | 3415    | NÁTRIUM-FLUORID OLDAT   |
| L4BH         | TU15<br>TE19                 | AT                             | 2 (D/E)  |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3416    | FOLYÉKONY KLÓR-ACETOFENON   |
| L4BH<br>SGAH | TU15<br>TE19                 | AT                             | 2 (D/E)  | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3417    | SZILÁRD XILIL-BROMID  |
| L4BH         | TU15<br>TE19                 | AT                             | 2 (E)  |   |  | CV13<br>CV28   | S9   | 60                     | 3418    | 2,4-TOLUILÉN-DIAMIN OLDAT   |
| L4BN<br>SGAN |                              | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 3419    | SZILÁRD BÓR-TRIFLUORID-ECETSAV KOMPLEX                                |
| L4BN<br>SGAN |                              | AT                             | 2 (E)  | V11                                       |  |  |  | 80                     | 3420    | SZILÁRD BÓR-TRIFLUORID-PROPIONSÁV KOMPLEX                             |
| L4DH         | TU14<br>TE21<br>TT4          | AT                             | 2 (E)  |   |  | CV13<br>CV28   |  | 86                     | 3421    | KÁLIUM-HIDROGÉN-DIFLUORID OLDAT (kálium-bifluorid)                    |

| UN<br>szám |   | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|---------|
|            |   |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 3421       | KÁLIUM-HIDROGÉN-DIFLUORID<br>OLDAT (kálium-bifluorid) | 8       | CT1                      | III                         | 8 + 6.1 |                                   | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1     |
| 3422       | KÁLIUM-FLUORID OLDAT                                  | 6.1     | T4                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |
| 3423       | SZILÁRD TETRAMETIL-<br>AMMÓNIUM-HIDROXID              | 8       | C8                       | II                          | 8       |                                   | LQ24                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3424       | AMMÓNIUM-DINITRO-o-KREZOLÁT<br>OLDAT                  | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 3424       | AMMÓNIUM-DINITRO-o-KREZOLÁT<br>OLDAT                  | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC02                  |   | MP19                                    | T7   | TP2     |
| 3425       | SZILÁRD BRÓM-ECETSAV                                  | 8       | C4                       | II                          | 8       |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3426       | AKRILAMID OLDAT                                       | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |
| 3427       | SZILÁRD KLÓR-BENZIL-KLORIDOK                          | 6.1     | T2                       | III                         | 6.1     |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 3428       | SZILÁRD 3-KLÓR-4-METIL-FENIL-<br>IZOCIANÁT            | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3429       | FOLYÉKONY KLÓR-TOLUIDINEK                             | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |
| 3430       | FOLYÉKONY XILENOLOK                                   | 6.1     | T1                       | II                          | 6.1     |                                   | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 3431       | SZILÁRD NITRO-BENZO-<br>TRIFLUORIDOK                  | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3432       | SZILÁRD POLIKLÓROZOTT<br>BIFENILEK                    | 9       | M2                       | II                          | 9       | 305                               | LQ25                                       | E2      | P906<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3434       | FOLYÉKONY NITRO-KREZOLOK                              | 6.1     | T1                       | III                         | 6.1     |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1     |
| 3436       | SZILÁRD HEXAFLUOR-ACETON-<br>HIDRÁT                   | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3437       | SZILÁRD KLÓR-KREZOLOK                                 | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3438       | SZILÁRD alfa-METIL-BENZIL-<br>ALKOHOL                 | 6.1     | T2                       | III                         | 6.1     |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 3439       | MÉRGEZŐ, SZILÁRD NITRILEK,<br>M.N.N.                  | 6.1     | T2                       | I                           | 6.1     | 274                               | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33    |
| 3439       | MÉRGEZŐ, SZILÁRD NITRILEK,<br>M.N.N.                  | 6.1     | T2                       | II                          | 6.1     | 274                               | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3439       | MÉRGEZŐ, SZILÁRD NITRILEK,<br>M.N.N.                  | 6.1     | T2                       | III                         | 6.1     | 274                               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |

| ADR-tartály    |                              | Jármű a tartányos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyjelölő számok | UN szám | Megnevezés és leírás                               |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|----------------------|---------|--|
| Tartánykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                      |         |  |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3              |         | 3.1.2  |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                 | (1)     | (2)  |
| L4DH           | TU14<br>TE21                 | AT                             | 3<br>(E)   |   |  | CV13<br>CV28   |  | 86                   | 3421    | KÁLIUM-HIDROGÉN-DIFLUORID OLDAT (kálium-bifluorid) |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                   | 3422    | KÁLIUM-FLUORID OLDAT                               |
| L4BN<br>SGAN   |                              | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                   | 3423    | SZILÁRD TETRAMETIL-AMMÓNIUM-HIDROXID               |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 3424    | AMMÓNIUM-DINITRO-o-KREZOLÁT OLDAT                  |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                   | 3424    | AMMÓNIUM-DINITRO-o-KREZOLÁT OLDAT                  |
| L4BN<br>SGAN   |                              | AT                             | 2<br>(E)   | V11                                       |  |  |  | 80                   | 3425    | SZILÁRD BRÓM-ECETSAV                               |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                   | 3426    | AKRILAMID OLDAT                                    |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                   | 3427    | SZILÁRD KLÓR-BENZIL-KLORIDOK                       |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 3428    | SZILÁRD 3-KLÓR-4-METIL-FENIL-IZOCIANÁT             |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                   | 3429    | FOLYÉKONY KLÓR-TOLUIDINEK                          |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 3430    | FOLYÉKONY XILENOLOK                                |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 3431    | SZILÁRD NITRO-BENZO-TRIFLUORIDOK                   |
| L4BH<br>S4AH   | TU15                         | AT                             | 0<br>(D/E)   | V11                                       | VV15   | CV1<br>CV13<br>CV28                                    | S19  | 90                   | 3432    | SZILÁRD POLIKLÓROZOTT BIFENILEK                    |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                   | 3434    | FOLYÉKONY NITRO-KREZOLOK                           |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 3436    | SZILÁRD HEXAFLUOR-ACETON-HIDRÁT                    |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 3437    | SZILÁRD KLÓR-KREZOLOK                              |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                   | 3438    | SZILÁRD alfa-METIL-BENZIL-ALKOHOL                  |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                   | 3439    | MÉRGEZŐ, SZILÁRD NITRILEK, M.N.N.                  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                   | 3439    | MÉRGEZŐ, SZILÁRD NITRILEK, M.N.N.                  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                   | 3439    | MÉRGEZŐ, SZILÁRD NITRILEK, M.N.N.                  |

| UN<br>szám |                                     | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|-------------------------------------|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |                                     |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2                               | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)                                 | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3440       | FOLYÉKONY SZELÉNVEGYÜLET,<br>M.N.N. | 6.1     | T4                       | I                           | 6.1     | 274<br>563                        | LQ0  | E5      | P001                           |   | MP8<br>MP17                             | T14  | TP2 TP27                |
| 3440       | FOLYÉKONY SZELÉNVEGYÜLET,<br>M.N.N. | 6.1     | T4                       | II                          | 6.1     | 274<br>563                        | LQ17                                       | E4      | P001<br>IBC02                  |   | MP15                                    | T11  | TP2<br>TP27             |
| 3440       | FOLYÉKONY SZELÉNVEGYÜLET,<br>M.N.N. | 6.1     | T4                       | III                         | 6.1     | 274<br>563                        | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T7   | TP1<br>TP28             |
| 3441       | SZILÁRD KLÓR-DINITRO-<br>BENZOLOK   | 6.1     | T2                       | II                          | 6.1     | 279                               | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3442       | SZILÁRD DIKLÓR-ANILINEK             | 6.1     | T2                       | II                          | 6.1     | 279                               | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3443       | SZILÁRD DINITRO-BENZOLOK            | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3444       | SZILÁRD NIKOTIN-HIDROKLORID         | 6.1     | T2                       | II                          | 6.1     | 43                                | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3445       | SZILÁRD NIKOTIN-SZULFÁT             | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3446       | SZILÁRD NITRO-TOLUOLOK              | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3447       | SZILÁRD NITRO-XILOLOK               | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3448       | SZILÁRD KÖNNYGÁZ ANYAG,<br>M.N.N.   | 6.1     | T2                       | I                           | 6.1     | 274                               | LQ0  | E5      | P002                           |   | MP18                                    | T6   | TP33                    |
| 3448       | SZILÁRD KÖNNYGÁZ ANYAG,<br>M.N.N.   | 6.1     | T2                       | II                          | 6.1     | 274                               | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3449       | SZILÁRD BRÓM-BENZIL-CIANIDOK        | 6.1     | T2                       | I                           | 6.1     | 138                               | LQ0  | E5      | P002                           |   | MP18                                    | T6   | TP33                    |
| 3450       | SZILÁRD DIFENIL-KLÓR-ARZIN          | 6.1     | T3                       | I                           | 6.1     |                                   | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33                    |
| 3451       | SZILÁRD TOLUIDINEK                  | 6.1     | T2                       | II                          | 6.1     | 279                               | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3452       | SZILÁRD XILIDINEK                   | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3453       | SZILÁRD FOSZFORSAV                  | 8       | C2                       | III                         | 8       |                                   | LQ24                                       | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 3454       | SZILÁRD DINITRO-TOLUOLOK            | 6.1     | T2                       | II                          | 6.1     |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3455       | SZILÁRD KREZOLOK                    | 6.1     | TC2                      | II                          | 6.1 + 8 |                                   | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3456       | SZILÁRD NITROZILKÉNSAV              | 8       | C2                       | II                          | 8       |                                   | LQ23                                       | E2      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33                    |
| 3457       | SZILÁRD KLÓR-NITRO-TOLUOLOK         | 6.1     | T2                       | III                         | 6.1     |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |
| 3458       | SZILÁRD NITRO-ANIZOLOK              | 6.1     | T2                       | III                         | 6.1     | 279                               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33                    |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás             |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|----------------------------------|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |                                  |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2                            |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)                              |
| L10CH          | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3440    | FOLYÉKONY SZELENVEGYÜLET, M.N.N. |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   |   |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3440    | FOLYÉKONY SZELENVEGYÜLET, M.N.N. |
| L4BH           | TU15<br>TE19                 | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   | S9   | 60                     | 3440    | FOLYÉKONY SZELENVEGYÜLET, M.N.N. |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3441    | SZILÁRD KLÓR-DINITRO-BENZOLOK    |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3442    | SZILÁRD DIKLÓR-ANILINEK          |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3443    | SZILÁRD DINITRO-BENZOLOK         |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3444    | SZILÁRD NIKOTIN-HIDROKLORID      |
| SGAH           | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3445    | SZILÁRD NIKOTIN-SZULFÁT          |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3446    | SZILÁRD NITRO-TOLUOLOK           |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3447    | SZILÁRD NITRO-XILOLOK            |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3448    | SZILÁRD KÖNNYGÁZ ANYAG, M.N.N.   |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3448    | SZILÁRD KÖNNYGÁZ ANYAG, M.N.N.   |
| L10CH<br>S10AH | TU15<br>TE19                 | AT                             | 1<br>(C/E)   |   |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3449    | SZILÁRD BRÓM-BENZIL-CIANIDOK     |
| L10CH<br>S10AH | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3450    | SZILÁRD DIFENIL-KLÓR-ARZIN       |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3451    | SZILÁRD TOLUIDINEK               |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3452    | SZILÁRD XILIDINEK                |
| L4BN<br>SGAV   |                              | AT                             | 3<br>(E)   |   | VV9  |  |  | 80                     | 3453    | SZILÁRD FOSZFORSAV               |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3454    | SZILÁRD DINITRO-TOLUOLOK         |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 68                     | 3455    | SZILÁRD KREZOLOK                 |
| L4BN<br>SGAN   |                              | AT                             | 2<br>(E)   | V11                                       |  |  |  | X80                    | 3456    | SZILÁRD NITROZILKÉNSAV           |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3457    | SZILÁRD KLÓR-NITRO-TOLUOLOK      |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3458    | SZILÁRD NITRO-ANIZOLOK           |

| UN<br>szám |  | Osztály | Oszta-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|---|--|---------|
|            |  |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)    |
| 3459       | SZILÁRD NITRO-BRÓM-BENZOLOK                          | 6.1     | T2                       | III                         | 6.1    |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 3460       | SZILÁRD N-ETIL-BENZIL-<br>TOLUIDINEK                 | 6.1     | T2                       | III                         | 6.1    |                                   | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 3462       | ÉLŐ SZERVEZETEKBŐL KIVONT<br>SZILÁRD TOXINOK, M.N.N. | 6.1     | T2                       | I                           | 6.1    | 210<br>274                        | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33    |
| 3462       | ÉLŐ SZERVEZETEKBŐL KIVONT<br>SZILÁRD TOXINOK, M.N.N. | 6.1     | T2                       | II                          | 6.1    | 210<br>274                        | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3462       | ÉLŐ SZERVEZETEKBŐL KIVONT<br>SZILÁRD TOXINOK, M.N.N. | 6.1     | T2                       | III                         | 6.1    | 210<br>274                        | LQ9  | E1      | P002<br>IBC08<br>R001          | B3  | MP10                                    | T1   | TP33    |
| 3463       | PROPIONSÁV legalább 90 tömeg%<br>savtartalommal      | 8       | CF1                      | II                          | 8 + 3  |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2     |
| 3464       | MÉRGEZŐ, SZILÁRD, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. | 6.1     | T2                       | I                           | 6.1    | 43<br>274                         | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33    |
| 3464       | MÉRGEZŐ, SZILÁRD, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. | 6.1     | T2                       | II                          | 6.1    | 43<br>274                         | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3464       | MÉRGEZŐ, SZILÁRD, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. | 6.1     | T2                       | III                         | 6.1    | 43<br>274                         | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 3465       | SZILÁRD, SZERVES<br>ARZÉNEGYÜLET, M.N.N.             | 6.1     | T3                       | I                           | 6.1    | 274                               | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33    |
| 3465       | SZILÁRD, SZERVES<br>ARZÉNEGYÜLET, M.N.N.             | 6.1     | T3                       | II                          | 6.1    | 274                               | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3465       | SZILÁRD, SZERVES<br>ARZÉNEGYÜLET, M.N.N.             | 6.1     | T3                       | III                         | 6.1    | 274                               | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 3466       | SZILÁRD FÉM-KARBONILOK,<br>M.N.N.                    | 6.1     | T3                       | I                           | 6.1    | 274<br>562                        | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33    |
| 3466       | SZILÁRD FÉM-KARBONILOK,<br>M.N.N.                    | 6.1     | T3                       | II                          | 6.1    | 274<br>562                        | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3466       | SZILÁRD FÉM-KARBONILOK,<br>M.N.N.                    | 6.1     | T3                       | III                         | 6.1    | 274<br>562                        | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |
| 3467       | MÉRGEZŐ, SZILÁRD, SZERVES<br>FÉMVEGYÜLET, M.N.N.     | 6.1     | T3                       | I                           | 6.1    | 274<br>562                        | LQ0  | E5      | P002<br>IBC07                  |   | MP18                                    | T6   | TP33    |
| 3467       | MÉRGEZŐ, SZILÁRD, SZERVES<br>FÉMVEGYÜLET, M.N.N.     | 6.1     | T3                       | II                          | 6.1    | 274<br>562                        | LQ18                                       | E4      | P002<br>IBC08                  | B4  | MP10                                    | T3   | TP33    |
| 3467       | MÉRGEZŐ, SZILÁRD, SZERVES<br>FÉMVEGYÜLET, M.N.N.     | 6.1     | T3                       | III                         | 6.1    | 274<br>562                        | LQ9  | E1      | P002<br>IBC08<br>LP02<br>R001  | B3  | MP10                                    | T1   | TP33    |

| ADR-tartály    |                              | Jármű a tartályos szállításhoz | Szállítási kategória<br>1.1.3.6<br>(Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás                                 |
|----------------|------------------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód     | Különleges előírások         |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3            | 4.3.5, 6.8.4                 | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)           | (13)                         | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3459    | SZILÁRD NITRO-BRÓM-BENZOLOK                          |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3460    | SZILÁRD N-ETIL-BENZIL-TOLUIDINEK                     |
| L10CH<br>S10AH | TU15<br>TE19                 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3462    | ÉLŐ SZERVEZETEKBŐL KIVONT<br>SZILÁRD TOXINOK, M.N.N. |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3462    | ÉLŐ SZERVEZETEKBŐL KIVONT<br>SZILÁRD TOXINOK, M.N.N. |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3462    | ÉLŐ SZERVEZETEKBŐL KIVONT<br>SZILÁRD TOXINOK, M.N.N. |
| L4BN           |                              | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 3463    | PROPIONSÁV legalább 90 tömeg%<br>savtartalommal      |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3464    | MÉRGEZŐ, SZILÁRD, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3464    | MÉRGEZŐ, SZILÁRD, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3464    | MÉRGEZŐ, SZILÁRD, SZERVES<br>FOSZFORVEGYÜLET, M.N.N. |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3465    | SZILÁRD, SZERVES<br>ARZÉNEGYÜLET, M.N.N.             |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3465    | SZILÁRD, SZERVES<br>ARZÉNEGYÜLET, M.N.N.             |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3465    | SZILÁRD, SZERVES<br>ARZÉNEGYÜLET, M.N.N.             |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3466    | SZILÁRD FÉM-KARBONILOK,<br>M.N.N.                    |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3466    | SZILÁRD FÉM-KARBONILOK,<br>M.N.N.                    |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3466    | SZILÁRD FÉM-KARBONILOK,<br>M.N.N.                    |
| L10CH<br>S10AH | TU14<br>TU15<br>TE19<br>TE21 | AT                             | 1<br>(C/E)   | V10<br>V12                                |  | CV1<br>CV13<br>CV28                                    | S9<br>S14                                  | 66                     | 3467    | MÉRGEZŐ, SZILÁRD, SZERVES<br>FÉMVEGYÜLET, M.N.N.     |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(D/E)   | V11                                       |  | CV13<br>CV28   | S9<br>S19                                  | 60                     | 3467    | MÉRGEZŐ, SZILÁRD, SZERVES<br>FÉMVEGYÜLET, M.N.N.     |
| L4BH<br>SGAH   | TU15<br>TE19                 | AT                             | 2<br>(E)   |   | VV9  | CV13<br>CV28   | S9   | 60                     | 3467    | MÉRGEZŐ, SZILÁRD, SZERVES<br>FÉMVEGYÜLET, M.N.N.     |

| UN<br>szám |   | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák  | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |   | Mobil tartány és<br>ömlesztettáru-<br>konténer |                         |
|------------|---|---------|--------------------------|-----------------------------|---------|-----------------------------------|--|---------|--------------------------------|---|---|--|-------------------------|
|            |   |         |                          |                             |         |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csomago-<br>lási<br>előírások | Utasítá-<br>sok                                | Különleges<br>előírások |
|            | 3.1.2   | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2   | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                  | 4.2.5.2,<br>7.3.2                              | 4.2.5.3                 |
| (1)        | (2)   | (3a)    | (3b)                     | (4)                         | (5)     | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                    | (10)   | (11)                    |
| 3468       | HIDROGÉN FÉMHIIDRID TÁROLÓ<br>RENDSZERBEN vagy<br>HIDROGÉN KÉSZÜLÉKBEN LEVŐ<br>FÉMHIIDRID TÁROLÓ<br>RENDSZERBEN vagy<br>HIDROGÉN KÉSZÜLÉKKEL<br>EGYBECSOMAGOLT FÉMHIIDRID<br>TÁROLÓ RENDSZERBEN   | 2       | 1F                       |                             | 2.1     | 321                               | LQ0  | E0      | P099                           |   | MP9                                     |  |                         |
| 3469       | GYÚLÉKONY, MARÓ FESTÉK<br>(beleértve a festéket, lakkot, zománcot,<br>sellakot, kencét, polírozót, folyékony<br>töltőanyagot és folyékony lakkbázist)<br>vagy<br>GYÚLÉKONY, MARÓ FESTÉK<br>SEGÉDANYAG (beleértve a<br>festékhígítót vagy oldószert) | 3       | FC                       | I                           | 3 + 8   | 163                               | LQ3  | E0      | P001                           |   | MP7<br>MP17                             | T11  | TP2<br>TP27             |
| 3469       | GYÚLÉKONY, MARÓ FESTÉK<br>(beleértve a festéket, lakkot, zománcot,<br>sellakot, kencét, polírozót, folyékony<br>töltőanyagot és folyékony lakkbázist)<br>vagy<br>GYÚLÉKONY, MARÓ FESTÉK<br>SEGÉDANYAG (beleértve a<br>festékhígítót vagy oldószert) | 3       | FC                       | II                          | 3 + 8   | 163                               | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                    | T7   | TP2<br>TP8<br>TP28      |
| 3469       | GYÚLÉKONY, MARÓ FESTÉK<br>(beleértve a festéket, lakkot, zománcot,<br>sellakot, kencét, polírozót, folyékony<br>töltőanyagot és folyékony lakkbázist)<br>vagy<br>GYÚLÉKONY, MARÓ FESTÉK<br>SEGÉDANYAG (beleértve a<br>festékhígítót vagy oldószert) | 3       | FC                       | III                         | 3 + 8   | 163                               | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1<br>TP29             |
| 3470       | MARÓ, GYÚLÉKONY FESTÉK<br>(beleértve a festéket, lakkot, zománcot,<br>sellakot, kencét, polírozót, folyékony<br>töltőanyagot és folyékony lakkbázist)<br>vagy<br>MARÓ, GYÚLÉKONY FESTÉK<br>SEGÉDANYAG (beleértve a<br>festékhígítót vagy oldószert) | 8       | CF1                      | II                          | 8 + 3   | 163                               | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2<br>TP8<br>TP28      |
| 3471       | HIDROGÉN-DIFLUORIDOK OLDATA<br>M.N.N.   | 8       | CT1                      | II                          | 8 + 6.1 |                                   | LQ22                                       | E2      | P001<br>IBC02                  |   | MP15                                    | T7   | TP2                     |
| 3471       | HIDROGÉN-DIFLUORIDOK OLDATA<br>M.N.N.   | 8       | CT1                      | III                         | 8 + 6.1 |                                   | LQ7  | E1      | P001<br>IBC03<br>R001          |   | MP19                                    | T4   | TP1                     |
| 3472       | FOLYÉKONY KROTONSAV   | 8       | C3                       | III                         | 8       |                                   | LQ7  | E1      | P001<br>IBC03<br>LP01<br>R001  |   | MP19                                    | T4   | TP1                     |
| 3473       | ÜZEMANYAGCELLA KAZETTA vagy<br>ÜZEMANYAGCELLA KAZETTA<br>KÉSZÜLÉKBEN vagy<br>ÜZEMANYAGCELLA KAZETTA<br>KÉSZÜLÉKKEL EGYBE-<br>CSOMAGOLVA,<br>gyúlékony folyadék tartalommal  | 3       | F1                       |                             | 3       | 328                               | LQ13                                       | E0      | P004                           |   |   |  |                         |



| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás  |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|---|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |   |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2   |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)   |
|             |                      |                                | 2<br>(D)   |   |  | CV9<br>CV10<br>CV36                                    | S2<br>S20                                  |                        | 3468    | HIDROGÉN FÉMHIIDRID TÁROLÓ RENDSZERBEN vagy<br>HIDROGÉN KÉSZÜLÉKBEN LEVŐ FÉMHIIDRID TÁROLÓ RENDSZERBEN vagy<br>HIDROGÉN KÉSZÜLÉKKEL EGYBECSOMAGOLT FÉMHIIDRID TÁROLÓ RENDSZERBEN  |
| L10CH       | TU14<br>TE21         | FL                             | 1<br>(C/E)   |   |  |  | S2<br>S20                                  | 338                    | 3469    | GYÚLÉKONY, MARÓ FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>GYÚLÉKONY, MARÓ FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert) |
| L4BH        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2<br>S20                                  | 338                    | 3469    | GYÚLÉKONY, MARÓ FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>GYÚLÉKONY, MARÓ FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert) |
| L4BN        |                      | FL                             | 3<br>(D/E)   |   |  |  | S2   | 38                     | 3469    | GYÚLÉKONY, MARÓ FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>GYÚLÉKONY, MARÓ FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert) |
| L4BN        |                      | FL                             | 2<br>(D/E)   |   |  |  | S2   | 83                     | 3470    | MARÓ, GYÚLÉKONY FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy<br>MARÓ, GYÚLÉKONY FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert) |
| L4DH        | TU14<br>TE21<br>TT4  | AT                             | 2<br>(E)   |   |  | CV13<br>CV28   |  | 86                     | 3471    | HIDROGÉN-DIFLUORIDOK OLDATA M.N.N.  |
| L4DH        | TU14<br>TE21         | AT                             | 3<br>(E)   |   |  | CV13<br>CV28   |  | 86                     | 3471    | HIDROGÉN-DIFLUORIDOK OLDATA M.N.N.  |
| L4BN        |                      | AT                             | 3<br>(E)   |   |  |  |  | 80                     | 3472    | FOLYÉKONY KROTONSAV   |
|             |                      |                                | 3<br>(E)   |   |  |  | S2   |                        | 3473    | ÜZEMANYAGCELLA KAZETTA vagy<br>ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy<br>ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBECSOMAGOLVA,<br>gyúlékony folyadék tartalommal   |

| UN<br>szám |  | Osztály | Osztá-<br>lyozási<br>kód | Csoma-<br>golási<br>csoport | Bárcák | Külön-<br>leges<br>előírá-<br>sok | Korlátozott és<br>engedményes<br>mennyiség |         | Csomagolóeszköz                |   |  | Mobil tartány és<br>ömlesztettáru-<br>konténer |         |
|------------|--|---------|--------------------------|-----------------------------|--------|-----------------------------------|--|---------|--------------------------------|---|--|--|---------|
|            |  |         |                          |                             |        |                                   |  |         | Csoma-<br>golási<br>utasítások | Különle-<br>ges cso-<br>magolási<br>előírások | Egybe-<br>csmago-<br>lási<br>előírások |  |         |
|            | 3.1.2  | 2.2     | 2.2                      | 2.1.1.3                     | 5.2.2  | 3.3                               | 3.4.6                                      | 3.5.1.2 | 4.1.4                          | 4.1.4   | 4.1.10                                 | 4.2.5.2,<br>7.3.2                              | 4.2.5.3 |
| (1)        | (2)  | (3a)    | (3b)                     | (4)                         | (5)    | (6)                               | (7a)                                       | (7b)    | (8)                            | (9a)  | (9b)                                   | (10)   | (11)    |
| 3474       | 1-HIDROXIBENZOTRIAZOL,<br>VÍZMENTES, legalább 20 tömeg%<br>vízzel NEDVESÍTETT  | 4.1     | D                        | I                           | 4.1    |                                   | LQ0  | E0      | P406                           | PP48  | MP2                                    |  |         |
| 3475       | ETANOL ÉS MOTORBENZIN<br>KEVERÉKE vagy<br>ETANOL ÉS BENZIN KEVERÉKE<br>vagy<br>ETANOL ÉS GAZOLIN KEVERÉKE,<br>10%-nál több etanoltartalommal   | 3       | F1                       | II                          | 3      | 333                               | LQ4  | E2      | P001<br>IBC02                  |   | MP19                                   | T4   | TP1     |
| 3476       | ÜZEMANYAGCELLA KAZETTA vagy<br>ÜZEMANYAGCELLA KAZETTA<br>KÉSZÜLÉKBEN vagy<br>ÜZEMANYAGCELLA KAZETTA<br>KÉSZÜLÉKKEL EGYBE-<br>CSOMAGOLVA,<br>vízzel reaktív anyag tartalommal               | 4.3     | W3                       |                             | 4.3    | 328<br>334                        | LQ10<br>LQ11                               | E0      | P004                           |   |  |  |         |
| 3477       | ÜZEMANYAGCELLA KAZETTA vagy<br>ÜZEMANYAGCELLA KAZETTA<br>KÉSZÜLÉKBEN vagy<br>ÜZEMANYAGCELLA KAZETTA<br>KÉSZÜLÉKKEL EGYBE-<br>CSOMAGOLVA,<br>maró anyag tartalommal                         | 8       | C11                      |                             | 8      | 328<br>334                        | LQ12<br>LQ13                               | E0      | P004                           |   |  |  |         |
| 3478       | ÜZEMANYAGCELLA KAZETTA vagy<br>ÜZEMANYAGCELLA KAZETTA<br>KÉSZÜLÉKBEN vagy<br>ÜZEMANYAGCELLA KAZETTA<br>KÉSZÜLÉKKEL EGYBE-<br>CSOMAGOLVA,<br>gyúlékony, cseppfolyósított gáz<br>tartalommal | 2       | 6F                       |                             | 2.1    | 328<br>338                        | LQ1  | E0      | P004                           |   |  |  |         |
| 3479       | ÜZEMANYAGCELLA KAZETTA vagy<br>ÜZEMANYAGCELLA KAZETTA<br>KÉSZÜLÉKBEN vagy<br>ÜZEMANYAGCELLA KAZETTA<br>KÉSZÜLÉKKEL EGYBE-<br>CSOMAGOLVA,<br>fémhidridben levő hidrogén-tartalommal         | 2       | 6F                       |                             | 2.1    | 328<br>339                        | LQ1  | E0      | P004                           |   |  |  |         |
| 3480       | LÍTIUMION AKKUMULÁTOROK<br>(beleértve a lítiumion polimer<br>akkumulátorokat is)   | 9       | M4                       | II                          | 9      | 188<br>230<br>310<br>636          | LQ0  | E0      | P903<br>P903a<br>P903b         |   |  |  |         |
| 3481       | LÍTIUMION AKKUMULÁTOROK<br>KÉSZÜLÉKBEN vagy<br>LÍTIUMION AKKUMULÁTOROK<br>KÉSZÜLÉKKEL EGYBE-<br>CSOMAGOLVA<br>(beleértve a lítiumion polimer<br>akkumulátorokat is)                        | 9       | M4                       | II                          | 9      | 188<br>230<br>636                 | LQ0  | E0      | P903<br>P903a<br>P903b         |   |  |  |         |

| ADR-tartály |                      | Jármű a tartályos szállításhoz | Szállítási kategória 1.1.3.6 (Alagútkorlátozási kód) | Szállítás                                 |  |  |  | Veszélyt jelölő számok | UN szám | Megnevezés és leírás   |
|-------------|----------------------|--------------------------------|--|---|--|--|--|------------------------|---------|--|
| Tartálykód  | Különleges előírások |                                |  | Különleges előírások a küldeménydarabokra | Különleges előírások az ömlesztett szállításra | Különleges előírások az árukezelésre, be- és kirakásra | Különleges előírások a jármű üzemeltetésre |                        |         |  |
| 4.3         | 4.3.5, 6.8.4         | 9.1.1.2                        | (8.6)  | 7.2.4                                     | 7.3.3  | 7.5.11   | 8.5  | 5.3.2.3                |         | 3.1.2  |
| (12)        | (13)                 | (14)                           | (15)   | (16)                                      | (17)   | (18)   | (19)                                       | (20)                   | (1)     | (2)  |
|             |                      |                                | 1 (B)  |   |  |  | S17  |                        | 3474    | 1-HIDROXIBENZOTRIAZOL, VÍZMENTES, legalább 20 tömeg% vízzel NEDVESÍTETT  |
| LGBF        |                      | FL                             | 2 (D/E)  |   |  |  | S2<br>S20                                  | 33                     | 3475    | ETANOL ÉS MOTORBENZIN KEVERÉKE vagy ETANOL ÉS BENZIN KEVERÉKE vagy ETANOL ÉS GAZOLIN KEVERÉKE, 10%-nál több etanoltartalommal  |
|             |                      |                                | 3 (E)  | V1  |  | CV23   |  |                        | 3476    | ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE-CSOMAGOLVA, vízzel reaktív anyag tartalommal            |
|             |                      |                                | 3 (E)  |   |  |  |  |                        | 3477    | ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE-CSOMAGOLVA, maró anyag tartalommal                      |
|             |                      |                                | 2 (B/D)  |   |  | CV9<br>CV12  | S2   |                        | 3478    | ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE-CSOMAGOLVA, gyúlékony, cseppfolyósított gáz tartalommal |
|             |                      |                                | 2 (B/D)  |   |  | CV9<br>CV12  | S2   |                        | 3479    | ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE-CSOMAGOLVA, fémhidridben levő hidrogén-tartalommal      |
|             |                      |                                | 2 (E)  |   |  |  |  |                        | 3480    | LÍTIUMION AKKUMULÁTOROK (beleértve a lítiumion polimer akkumulátorokat is)   |
|             |                      |                                | 2 (E)  |   |  |  |  |                        | 3481    | LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKBEN vagy LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBE-CSOMAGOLVA (beleértve a lítiumion polimer akkumulátorokat is)                     |

## 3.2.2

**„B” táblázat: Az ADR anyagainak és tárgyainak betűrendes felsorolása**

Ez a tárgymutató a 3.2.1 szakasz „A” táblázatban UN szám szerinti sorrendben felsorolt anyagokat és tárgyakat tartalmazza betűrendes felsorolásban. A táblázat nem szerves része az ADR-nek. A táblázatot nem terjesztették be sem a Belső Szállítási Bizottság Veszélyes Áru Szállítási Munkacsoportjához ellenőrzés és jóváhagyás céljából, sem az ADR Szerződő Felekhez hivatalos jóváhagyás céljából. A táblázatot az „A” és „B” Mellékletben való eligazodás megkönnyítésére az ENSZ Európai Gazdasági Bizottsága Titkársága állította össze kellő gondossággal, azonban a táblázat használata nem helyettesíti a Mellékletek áttanulmányozását és az azokban foglalt előírások betartását, mivel ellentmondás esetén a Mellékletekben foglaltak a mérvadók. Joghatallyal csak az ADR és Mellékletei rendelkeznek.

- Megjegyzés:**
- 1. A betűrendes sorrend céljából a következő információ nincs figyelembe véve, még ha az a helyes szállítás név részét képezi is: számok, görög betűk, rövidítések, mint „szek”, „terc”, és betűk, mint „N” (nitrogén), „n” (normál), „o” (orto), „m” (meta), „p” (para) és „m.n.n.” (másként meg nem nevezett).*
  - 2. Az anyagok és tárgyak nagybetűvel írt neve a helyes szállítási megnevezést (lásd a 3.1.2 szakaszt) jelenti, a kereshetőség érdekében azonban esetenként a szavak sorrendje fel van cserélve. A helyes szállítási megnevezésre minden esetben a a 3.2 fejezet „A” táblázat megnevezései a mértékadóak.*
  - 3. A anyagok és tárgyak nagybetűvel írt nevét követő „lásd” szó alternatív helyes szállítási megnevezést vagy egy helyes szállítási megnevezés részét jelöli (kivéve a PCB-knél) (lásd a 3.1.2.1 bekezdést).*
  - 4. Ha egy kisbetűvel írt nevet a „lásd” szó követ, az azt jelenti, hogy a név nem egy helyes szállítási megnevezés, csupán szinonima.*
  - 5. Ahol a tétel részben nagybetűvel, részben kisbetűvel van írva, a kisbetűs szöveg nem része a helyes szállítási megnevezésnek (lásd a 3.1.2.1 bekezdést).*
  - 6. Az okmányokban és a küldeménydarabok jelölésénél a helyes szállítási megnevezés az esettől függően egyes számban vagy többes számban használható (lásd a 3.1.2.3 bekezdést).*
  - 7. A helyes szállítási megnevezés pontos meghatározására lásd a 3.1.2 szakaszt.*

| Megnevezés   | Osztály                      | UN szám                      | Megjegyzés                      |
|--|------------------------------|------------------------------|---------------------------------|
| A, A0, A01, A02, A1 keverék: lásd SZÉNHIDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N.   |                              |                              |                                 |
| A TÍPUSÚ ROBBANTÓANYAG   | 1.1D                         | 0081                         |                                 |
| ACETÁL   | 3                            | 1088                         |                                 |
| ACETALDEHID  | 3                            | 1089                         |                                 |
| ACETALDEHID-AMMÓNIA  | 9                            | 1841                         |                                 |
| ACETALDEHID-OXIM   | 3                            | 2332                         |                                 |
| Acetil-aceton: lásd 2,4-PENTÁNDION   |                              |                              |                                 |
| ACETIL-BROMID  | 8                            | 1716                         |                                 |
| ACETIL-JODID   | 8                            | 1898                         |                                 |
| ACETIL-KLORID  | 3                            | 1717                         |                                 |
| ACETIL-METIL-KARBINOL  | 3                            | 2621                         |                                 |
| ACETILÉN, OLDÓSZERMENTES   | 2                            | 3374                         |                                 |
| ACETILÉN, OLDOTT   | 2                            | 1001                         |                                 |
| Acetilén-tetrabromid: lásd TETRABRÓM-ETÁN  |                              |                              |                                 |
| Acetilén-tetraklorid: lásd 1,1,2,2-TETRAKLÓR-ETÁN                                      |                              |                              |                                 |
| Acetoin: lásd ACETIL-METIL-KARBINOL  |                              |                              |                                 |
| ACETON   | 3                            | 1090                         |                                 |
| ACETON OLAJOK  | 3                            | 1091                         |                                 |
| ACETON-CIÁNHIDRIN, STABILIZÁLT   | 6.1                          | 1541                         |                                 |
| ACETONITRIL  | 3                            | 1648                         |                                 |
| ADIPONITRIL  | 6.1                          | 2205                         |                                 |
| AEROSZOLOK   | 2                            | 1950                         |                                 |
| AKKUMULÁTOR FOLYADÉK, LÚGOS  | 8                            | 2797                         |                                 |
| AKKUMULÁTOR FOLYADÉK, SAVAS  | 8                            | 2796                         |                                 |
| AKKUMULÁTORRAL HAJTOTT JÁRMŰ   | 9                            | 3171                         | Nem tartozik az ADR hatálya alá |
| AKKUMULÁTORRAL HAJTOTT KÉSZÜLÉK  | 9                            | 3171                         | Nem tartozik az ADR hatálya alá |
| AKKUMULÁTORTELEPEK, KIFOLYÁSBIZTOS, NEDVES, elektromosság tárolására                   | 8                            | 2800                         |                                 |
| AKKUMULÁTORTELEPEK, NEDVES, LÚGOS elektromosság tárolására                             | 8                            | 2795                         |                                 |
| AKKUMULÁTORTELEPEK, NEDVES, SAVAS elektromosság tárolására                             | 8                            | 2794                         |                                 |
| AKKUMULÁTORTELEPEK, SZILÁRD KÁLIUM-HIDROXID TARTALMÚ, SZÁRAZ, elektromosság tárolására | 8                            | 3028                         |                                 |
| AKNÁK robbanótöltettel   | 1,1F<br>1.1D<br>1.2D<br>1.2F | 0136<br>0137<br>0138<br>0294 |                                 |
| AKRIDIN  | 6.1                          | 2713                         |                                 |
| AKRILAMID OLDAT  | 6.1                          | 3426                         |                                 |
| AKRILAMID, SZILÁRD   | 6.1                          | 2074                         |                                 |
| AKRILNITRIL, STABILIZÁLT   | 3                            | 1093                         |                                 |
| AKRILSAV, STABILIZÁLT  | 8                            | 2218                         |                                 |
| AKROLEIN DIMER, STABILIZÁLT  | 3                            | 2607                         |                                 |
| AKROLEIN, STABILIZÁLT  | 6.1                          | 1092                         |                                 |
| Aktinolit: lásd FEHÉR AZBESZT  |                              |                              |                                 |
| AKTÍV SZÉN   | 4.2                          | 1362                         |                                 |

| Megnevezés   | Osztály | UN szám | Megjegyzés                      |
|--|---------|---------|---------------------------------|
| Alapozó festékek jármű karosszériához: lásd BEVONÓ OLDAT                                   |         |         |                                 |
| ALDEHIDEK, GYÚLÉKONY, MÉRGEZŐ, M.N.N.  | 3       | 1988    |                                 |
| ALDEHIDEK, M.N.N.  | 3       | 1989    |                                 |
| ALDOL  | 6.1     | 2839    |                                 |
| ALKÁLIFÉM AMALGÁM, FOLYÉKONY   | 4.3     | 1389    |                                 |
| ALKÁLIFÉM AMALGÁM, SZILÁRD   | 4.3     | 3401    |                                 |
| ALKÁLIFÉM AMIDOK   | 4.3     | 1390    |                                 |
| ALKÁLIFÉM DISZPERZIÓ   | 4.3     | 1391    |                                 |
| ALKÁLIFÉM ÖTVÖZETEK, FOLYÉKONY, M.N.N.   | 4.3     | 1421    |                                 |
| Alkálifém-dinitro-fenolátok: lásd DINITRO-FENOLÁTOK  |         |         |                                 |
| ALKÁLIFÖLDFÉM-ALKOHOLÁTOK, M.N.N.  | 4.2     | 3205    |                                 |
| ALKÁLIFÖLDFÉM AMALGÁM, FOLYÉKONY   | 4.3     | 1392    |                                 |
| ALKÁLIFÖLDFÉM AMALGÁM, SZILÁRD   | 4.3     | 3402    |                                 |
| ALKÁLIFÖLDFÉM DISZPERZIÓ   | 4.3     | 1391    |                                 |
| ALKÁLIFÖLDFÉM ÖTVÖZET, M.N.N.  | 4.3     | 1393    |                                 |
| ALKALOIDA SÓK, FOLYÉKONY, M.N.N.   | 6.1     | 3140    |                                 |
| ALKALOIDA SÓK, SZILÁRD, M.N.N.   | 6.1     | 1544    |                                 |
| ALKALOIDOK, FOLYÉKONY, M.N.N.  | 6.1     | 3140    |                                 |
| ALKALOIDOK, SZILÁRD, M.N.N.  | 6.1     | 1544    |                                 |
| ALKIL-FENOLOK, FOLYÉKONY, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve) | 8       | 3145    |                                 |
| ALKIL-FENOLOK, SZILÁRD, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)   | 8       | 2430    |                                 |
| ALKIL-KÉNSAVAK   | 8       | 2571    |                                 |
| ALKIL-SZULFONSAVAK, FOLYÉKONY, 5%-nál több szabad kénsav-tartalommal                       | 8       | 2584    |                                 |
| ALKIL-SZULFONSAVAK, FOLYÉKONY, legfeljebb 5% szabad kénsav-tartalommal                     | 8       | 2586    |                                 |
| ALKIL-SZULFONSAVAK, SZILÁRD, 5%-nál több szabad kénsav-tartalommal                         | 8       | 2583    |                                 |
| ALKIL-SZULFONSAVAK, SZILÁRD, legfeljebb 5% szabad kénsav-tartalommal                       | 8       | 2585    |                                 |
| ALKOHOLÁTOK OLDATA, M.N.N., alkoholban   | 3       | 3274    |                                 |
| ALKOHOLOK, GYÚLÉKONY, MÉRGEZŐ, M.N.N.  | 3       | 1986    |                                 |
| ALKOHOLOK, M.N.N.  | 3       | 1987    |                                 |
| ALKOHOLOS ITALOK, 24 tf.%-nál több alkoholtartalommal                                      | 3       | 3065    |                                 |
| ÁLLATI EREDETŰ SZÁLAK vagy SZÖVETEK, M.N.N., olajjal                                       | 4.2     | 1373    |                                 |
| ÁLLATI EREDETŰ SZÁLAK, égett, nedves vagy vizes  | 4.2     | 1372    | Nem tartozik az ADR hatálya alá |
| csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG  | 6.1     | 2900    |                                 |
| ALLIL-ACETÁT   | 3       | 2333    |                                 |
| ALLIL-ALKOHOL  | 6.1     | 1098    |                                 |
| ALLIL-AMIN   | 6.1     | 2334    |                                 |
| ALLIL-BROMID   | 3       | 1099    |                                 |
| ALLIL-ETIL-ÉTER  | 3       | 2335    |                                 |
| ALLIL-FORMIÁT  | 3       | 2336    |                                 |
| ALLIL-GLICIDIL-ÉTER  | 3       | 2219    |                                 |
| ALLIL-IZOTIOCIANÁT, STABILIZÁLT  | 6.1     | 1545    |                                 |
| ALLIL-JODID  | 3       | 1723    |                                 |
| ALLIL-KLÓR-FORMIÁT   | 6.1     | 1722    |                                 |
| ALLIL-KLORID   | 3       | 1100    |                                 |

| Megnevezés  | Osztály | UN szám | Megjegyzés |
|---|---------|---------|------------|
| ALLIL-TRIKLÓR-SZILÁN, STABILIZÁLT   | 8       | 1724    |            |
| ALUMÍNIUM-ALKIL-HALOGENIDEK, SZILÁRD, M.N.N.  | 4.2     | 3461    |            |
| ALUMÍNIUM-BÓR-HIDRID  | 4.2     | 2870    |            |
| ALUMÍNIUM-BÓR-HIDRID KÉSZÜLÉKEKBEN  | 4.2     | 2870    |            |
| ALUMÍNIUM-BROMID OLDAT  | 8       | 2580    |            |
| ALUMÍNIUM-BROMID, VÍZMENTES   | 8       | 1725    |            |
| ALUMÍNIUMFELDOLGOZÁSI MELLÉKTERMÉKEK  | 4.3     | 3170    |            |
| ALUMÍNIUM-FERROSZILÍCIUM POR  | 4.3     | 1395    |            |
| ALUMÍNIUM-FOSZFID   | 4.3     | 1397    |            |
| ALUMÍNIUM-FOSZFID PESZTICID   | 6.1     | 3048    |            |
| ALUMÍNIUM-HIDRID  | 4.3     | 2463    |            |
| ALUMÍNIUM-KARBID  | 4.3     | 1394    |            |
| ALUMÍNIUM-KLORID OLDAT  | 8       | 2581    |            |
| ALUMÍNIUM-KLORID, VÍZMENTES   | 8       | 1726    |            |
| ALUMÍNIUM-NITRÁT  | 5.1     | 1438    |            |
| ALUMÍNIUMPOR, BEVONAT NÉLKÜL  | 4.3     | 1396    |            |
| ALUMÍNIUMPOR, BEVONT  | 4.1     | 1309    |            |
| ALUMÍNIUM-REZINÁT   | 4.1     | 2715    |            |
| ALUMÍNIUM-SZILÍCIUM POR BEVONAT NÉLKÜL  | 4.3     | 1398    |            |
| ALUMÍNIUM ÚJRAOLVASZTÁSI MELLÉKTERMÉKEK   | 4.3     | 3170    |            |
| AMIL-ACETÁTOK   | 3       | 1104    |            |
| AMIL-AMIN   | 3       | 1106    |            |
| AMIL-BUTIRÁTOK  | 3       | 2620    |            |
| AMIL-FORMIÁTOK  | 3       | 1109    |            |
| AMIL-KLORID   | 3       | 1107    |            |
| AMIL-MERKAPTÁNOK  | 3       | 1111    |            |
| n-AMIL-METIL-KETON  | 3       | 1110    |            |
| AMIL-NITRÁT   | 3       | 1112    |            |
| AMIL-NITRIT   | 3       | 1113    |            |
| AMIL-TRIKLÓR-SZILÁN   | 8       | 1728    |            |
| n-AMILÉN  | 3       | 1108    |            |
| 2-AMINO-5-DIETIL-AMINO-PENTÁN   | 6.1     | 2946    |            |
| 2-AMINO-4,6-DINITRO-FENOL, legalább 20 tömeg% vízzel NEDVESÍTETT  | 4.1     | 3317    |            |
| N-AMINO-ETIL-PIPERAZIN  | 8       | 2815    |            |
| 2-(2-AMINO-ETOXI)-ETANOL  | 8       | 3055    |            |
| AMINO-FENOLOK (o-, m-, p-)  | 6.1     | 2512    |            |
| 2-AMINO-4-KLÓR-FENOL  | 6.1     | 2673    |            |
| AMINO-PIRIDINEK (o-, m-, p-)  | 6.1     | 2671    |            |
| AMINOK, FOLYÉKONY, MARÓ, GYÚLÉKONY, M.N.N.  | 8       | 2734    |            |
| AMINOK, FOLYÉKONY, MARÓ, M.N.N.   | 8       | 2735    |            |
| AMINOK, GYÚLÉKONY, MARÓ, M.N.N.   | 3       | 2733    |            |
| AMINOK, SZILÁRD, MARÓ, M.N.N.   | 8       | 3259    |            |
| AMMÓNIA MŰTRÁGYA OLDAT szabad ammónia-tartalommal   | 2       | 1043    |            |
| AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on 0,880 és 0,957 között, 10%-nál több, de legfeljebb 35% ammónia tartalommal | 8       | 2672    |            |
| AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 35%-nál több, de legfeljebb 50% ammóniatartalommal     | 2       | 2073    |            |
| AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 50%-nál több ammóniatartalommal                        | 2       | 3318    |            |

| Megnevezés  | Osztály     | UN szám      | Megjegyzés                      |
|---|-------------|--------------|---------------------------------|
| AMMÓNIA, VÍZMENTES  | 2           | 1005         |                                 |
| AMMÓNIUM-ARZENÁT  | 6.1         | 1546         |                                 |
| Ammónium-biszulfát: lásd AMMÓNIUM-HIDROGÉN-SZULFÁT  |             |              |                                 |
| AMMÓNIUM-DIKROMÁT   | 5.1         | 1439         |                                 |
| AMMÓNIUM-DINITRO-o-KREZOLÁT OLDAT   | 6.1         | 3424         |                                 |
| AMMÓNIUM-DINITRO-o-KREZOLÁT, SZILÁRD  | 6.1         | 1843         |                                 |
| AMMÓNIUM-FLUORID  | 6.1         | 2505         |                                 |
| AMMÓNIUM-FLUORO-SZILIKÁT  | 6.1         | 2854         |                                 |
| AMMÓNIUM-HIDROGÉN-DIFLUORID OLDAT   | 8           | 2817         |                                 |
| AMMÓNIUM-HIDROGÉN-DIFLUORID, SZILÁRD  | 8           | 1727         |                                 |
| AMMÓNIUM-HIDROGÉN-SZULFÁT (ammónium-biszulfát)  | 8           | 2506         |                                 |
| AMMÓNIUM-METAVANADÁT  | 6.1         | 2859         |                                 |
| AMMÓNIUM-NITRÁT 0,2%-nál több gyúlékony anyag tartalommal, beleértve a szénegyenértékben kifejezett szerves anyagokat is, minden más adalékanyagot kizárva  | 1.1D        | 0222         |                                 |
| AMMÓNIUM-NITRÁT legfeljebb 0,2% összes éghető anyaggal, beleértve bármely szerves anyagot szénegyenértékre számítva, bármilyen más hozzáadott anyagot kizárva   | 5.1         | 1942         |                                 |
| AMMÓNIUM-NITRÁT ALAPÚ MŰTRÁGYA  | 5.1         | 2067         |                                 |
| AMMÓNIUM-NITRÁT ALAPÚ MŰTRÁGYA, amely nitrogén/ foszfát, nitrogén/kálisó vagy nitrogén/ foszfát/kálisó típusú műtrágya egynemű keveréke legfeljebb 70% ammónium-nitrát tartalommal és legfeljebb 0,4% összes éghető anyag tartalommal (beleértve bármilyen szerves anyagot szénegyenértékre átszámítva) vagy legfeljebb 45% ammónium-nitrát tartalommal és korlátlan éghető anyag tartalommal | 5.1         | 2071         | Nem tartozik az ADR hatálya alá |
| AMMÓNIUM-NITRÁT EMULZIÓ, köztes termék robbantóanyag előállításához, folyékony vagy szilárd   | 5.1         | 3375         |                                 |
| AMMÓNIUM-NITRÁT, FOLYÉKONY (forró, tömény oldat, 80%-nál nagyobb, de legfeljebb 93% koncentrációval)  | 5.1         | 2426         |                                 |
| AMMÓNIUM-NITRÁT GÉL, köztes termék robbantóanyag előállításához, folyékony vagy szilárd   | 5.1         | 3375         |                                 |
| AMMÓNIUM-NITRÁT SZUSZPENZIÓ, köztes termék robbantóanyag előállításához, folyékony vagy szilárd   | 5.1         | 3375         |                                 |
| AMMÓNIUM-PERKLORÁT  | 1.1D<br>5.1 | 0402<br>1442 |                                 |
| AMMÓNIUM-PERSZULFÁT   | 5.1         | 1444         |                                 |
| AMMÓNIUM-PIKRÁT, legalább 10 tömeg% vízzel NEDVESÍTETT  | 4.1         | 1310         |                                 |
| AMMÓNIUM-PIKRÁT, száraz vagy 10 tömeg%-nál kevesebb vízzel nedvesített  | 1.1D        | 0004         |                                 |
| AMMÓNIUM-POLISZULFID OLDAT  | 8           | 2818         |                                 |
| AMMÓNIUM-POLIVANADÁT  | 6.1         | 2861         |                                 |
| AMMÓNIUM-SZULFID OLDAT  | 8           | 2683         |                                 |
| AMORF FOSZFOR   | 4.1         | 1338         |                                 |
| AMORF SZILÍCIUMPOR  | 4.1         | 1346         |                                 |
| Amozit: lásd BARNA AZBESZT  |             |              |                                 |
| ANILIN  | 6.1         | 1547         |                                 |
| ANILIN-HIDROKLORID  | 6.1         | 1548         |                                 |
| ANIZIDINEK  | 6.1         | 2431         |                                 |
| ANIZOIL-KLORID  | 8           | 1729         |                                 |
| ANIZOL (fenil-metil-éter)   | 3           | 2222         |                                 |
| ANTIMON-KÁLIUM-TARTARÁT   | 6.1         | 1551         |                                 |
| ANTIMON-LAKTÁT  | 6.1         | 1550         |                                 |
| ANTIMON-PENTAFLUORID  | 8           | 1732         |                                 |



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|--|---------|---------|------------|
| ANTIMON-PENTAKLORID, FOLYÉKONY   | 8       | 1730    |            |
| ANTIMON-PENTAKLORID OLDAT  | 8       | 1731    |            |
| ANTIMON-TRIKLORID  | 8       | 1733    |            |
| ANTIMONPOR   | 6.1     | 2871    |            |
| ANTIMONVEGYÜLET, SZERVETLEN, FOLYÉKONY, M.N.N.   | 6.1     | 3141    |            |
| ANTIMONVEGYÜLET, SZERVETLEN, SZILÁRD, M.N.N.   | 6.1     | 1549    |            |
| Antofillit: lásd FEHÉR AZBESZT   |         |         |            |
| ARGON, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT  | 2       | 1951    |            |
| ARGON, SŰRÍTETT  | 2       | 1006    |            |
| ARIL-SZULFONSAVAK, FOLYÉKONY, 5%-nál több szabad kénsavtartalommal   | 8       | 2584    |            |
| ARIL-SZULFONSAVAK, FOLYÉKONY, legfeljebb 5% szabad kénsav-tartalommal  | 8       | 2586    |            |
| ARIL-SZULFONSAVAK, SZILÁRD, 5%-nál több szabad kénsav-tartalommal  | 8       | 2583    |            |
| ARIL-SZULFONSAVAK, SZILÁRD, legfeljebb 5% szabad kénsav-tartalommal  | 8       | 2585    |            |
| AROMÁS KIVONATOK, FOLYÉKONY  | 3       | 1169    |            |
| AROMÁS NITROVEGYÜLETEK DEFLAGRÁLÓ FÉMSÓI, M.N.N.   | 1.3C    | 0132    |            |
| ARZÉN  | 6.1     | 1558    |            |
| Arzenátok, szervetlen, m.n.n.: lásd ARZÉNVEGYÜLET, FOLYÉKONY vagy SZILÁRD, M.N.N.                                |         |         |            |
| ARZÉN-BROMID   | 6.1     | 1555    |            |
| Arzenitek, szervetlen, m.n.n.: lásd ARZÉNVEGYÜLET, FOLYÉKONY vagy SZILÁRD, M.N.N.                                |         |         |            |
| ARZÉN-PENTOXID   | 6.1     | 1559    |            |
| ARZÉN PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)  | 3       | 2760    |            |
| ARZÉN PESZTICID, FOLYÉKONY, MÉRGEZŐ  | 6.1     | 2994    |            |
| ARZÉN PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)                                     | 6.1     | 2993    |            |
| ARZÉN PESZTICID, SZILÁRD, MÉRGEZŐ  | 6.1     | 2759    |            |
| ARZÉNPOR   | 6.1     | 1562    |            |
| ARZÉNSAV, FOLYÉKONY  | 6.1     | 1553    |            |
| ARZÉNSAV, SZILÁRD  | 6.1     | 1554    |            |
| Arzén-szulfidok, m.n.n.: lásd ARZÉNVEGYÜLET, FOLYÉKONY vagy SZILÁRD, M.N.N.                                      |         |         |            |
| ARZÉN-TRIKLORID  | 6.1     | 1560    |            |
| ARZÉN-TRIOXID  | 6.1     | 1561    |            |
| ARZÉNVEGYÜLET, FOLYÉKONY, M.N.N., szervetlen, pl.: arzenátok, m.n.n.; arzenitek, m.n.n.; arzén-szulfidok, m.n.n. | 6.1     | 1556    |            |
| ARZÉNVEGYÜLET, SZERVES, FOLYÉKONY, M.N.N.  | 6.1     | 3280    |            |
| ARZÉNVEGYÜLET, SZERVES, SZILÁRD, M.N.N.  | 6.1     | 3465    |            |
| ARZÉNVEGYÜLET, SZILÁRD, M.N.N., szervetlen, pl.: arzenátok, m.n.n.; arzenitek, m.n.n.; arzén-szulfidok, m.n.n.   | 6.1     | 1557    |            |
| ARZIN  | 2       | 2188    |            |
| AZBESZT: lásd BARNA AZBESZT, FEHÉR AZBESZT, KÉK AZBESZT  |         |         |            |
| AZO-DIKARBONAMID   | 4.1     | 3242    |            |
| B, B1, B2 keverék: lásd SZÉNHIIDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N.                                      |         |         |            |
| B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID  | 5.2     | 3101    |            |

| Megnevezés   | Osztály      | UN szám      | Megjegyzés |
|--|--------------|--------------|------------|
| B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   | 5.2          | 3111         |            |
| B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG   | 4.1          | 3221         |            |
| B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL  | 4.1          | 3231         |            |
| B TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG   | 4.1          | 3222         |            |
| B TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL  | 4.1          | 3232         |            |
| B TÍPUSÚ ROBBANTÓANYAG   | 1.1D<br>1.5D | 0082<br>0331 |            |
| B TÍPUSÚ, SZILÁRD SZERVES PEROXID  | 5.2          | 3102         |            |
| B TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   | 5.2          | 3112         |            |
| BÁRIUM   | 4.3          | 1400         |            |
| BÁRIUM-AZID, legalább 50 tömeg% vízzel NEDVESÍTETT   | 4.1          | 1571         |            |
| BÁRIUM-AZID, száraz vagy 50 tömeg%-nál kevesebb vízzel nedvesített   | 1.1A         | 0224         |            |
| BÁRIUM-BROMÁT  | 5.1          | 2719         |            |
| BÁRIUM-CINANID   | 6.1          | 1565         |            |
| BÁRIUM-HIPOKLORIT 22%-nál több szabad klórtartalommal  | 5.1          | 2741         |            |
| BÁRIUM-KLORÁT OLDAT  | 5.1          | 3405         |            |
| BÁRIUM-KLORÁT, SZILÁRD   | 5.1          | 1445         |            |
| BÁRIUM-NITRÁT  | 5.1          | 1446         |            |
| BÁRIUM-OXID  | 6.1          | 1884         |            |
| BÁRIUM ÖTVÖZETEK, PIROFOROS  | 4.2          | 1854         |            |
| BÁRIUM-PERKLORÁT OLDAT   | 5.1          | 3406         |            |
| BÁRIUM-PERKLORÁT, SZILÁRD  | 5.1          | 1447         |            |
| BÁRIUM-PERMANGANÁT   | 5.1          | 1448         |            |
| BÁRIUM-PEROXID   | 5.1          | 1449         |            |
| BÁRIUMVEGYÜLET, M.N.N.   | 6.1          | 1564         |            |
| BARNA AZBESZT (amozit)   | 9            | 2212         |            |
| BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese                 | 6.1          | 3382         |            |
| BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa                 | 6.1          | 3381         |            |
| BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese | 6.1          | 3388         |            |
| BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa | 6.1          | 3387         |            |
| BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese     | 6.1          | 3384         |            |
| BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa     | 6.1          | 3383         |            |

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|---|---------|---------|---------------------------------|
| BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese           | 6.1     | 3390    |                                 |
| BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa           | 6.1     | 3389    |                                 |
| BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese | 6.1     | 3386    |                                 |
| BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa | 6.1     | 3385    |                                 |
| BELSŐÉGÉSŰ MOTOR  | 9       | 3166    | Nem tartozik az ADR hatálya alá |
| BENZALDEHID   | 9       | 1990    |                                 |
| BENZIDIN  | 6.1     | 1885    |                                 |
| BENZIL-BROMID   | 6.1     | 1737    |                                 |
| BENZIL-DIMETIL-AMIN   | 8       | 2619    |                                 |
| BENZILIDÉN-KLORID   | 6.1     | 1886    |                                 |
| BENZIL-JODID  | 6.1     | 2653    |                                 |
| BENZIL-KLÓR-FORMIÁT   | 8       | 1739    |                                 |
| BENZIL-KLORID   | 6.1     | 1738    |                                 |
| BENZIN  | 3       | 1203    |                                 |
| BENZO-TRIFLUORID  | 3       | 2338    |                                 |
| BENZO-TRIKLORID ((triklór-metil)-benzol)  | 8       | 2226    |                                 |
| BENZOIL-KLORID  | 8       | 1736    |                                 |
| BENZOKINON  | 6.1     | 2587    |                                 |
| BENZOL  | 3       | 1114    |                                 |
| BENZOL-SZULFONIL-KLORID   | 8       | 2225    |                                 |
| BENZONITRIL   | 6.1     | 2224    |                                 |
| BERILLIUM-NITRÁT  | 5.1     | 2464    |                                 |
| BERILLIUMPOR  | 6.1     | 1567    |                                 |
| BERILLIUMVEGYÜLET, M.N.N.   | 6.1     | 1566    |                                 |
| BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonóanyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat)  | 3       | 1139    |                                 |
| BHUSA   | 4.1     | 1327    | Nem tartozik az ADR hatálya alá |
| BICIKLO-[2.2.1]-HEPTA-2,5-DIÉN, STABILIZÁLT (2,5-NORBORNADIÉN, STABILIZÁLT)   | 3       | 2251    |                                 |
| (BIO)GYÓGYÁSZATI HULLADÉK, M.N.N.   | 6.2     | 3291    |                                 |
| BIOLÓGIAI ANYAG, „B” KATEGÓRIÁJÚ  | 6.2     | 3373    |                                 |
| BIPIRIDIUM PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)  | 3       | 2782    |                                 |
| BIPIRIDIUM PESZTICID, FOLYÉKONY, MÉRGEZŐ  | 6.1     | 3016    |                                 |
| BIPIRIDIUM PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)   | 6.1     | 3015    |                                 |
| BIPIRIDIUM PESZTICID, SZILÁRD, MÉRGEZŐ  | 6.1     | 2781    |                                 |
| BISZULFÁTOK VIZES OLDATAI   | 8       | 2837    |                                 |
| BISZULFITOK, VIZES OLDAT, M.N.N.  | 8       | 2693    |                                 |
| Bitumen: lásd FOLYÉKONY KÁTRÁNYOK   |         |         |                                 |

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|--|------------------------------|------------------------------|------------|
| BIZTONSÁGI GYUFA (levél, kártya, doboz formában)                             | 4.1                          | 1944                         |            |
| BIZTONSÁGI GYÚJTÓZSINÓR  | 1.4S                         | 0105                         |            |
| BIZTONSÁGI ÖV ELŐFESZÍTŐ   | 1.4S<br>9                    | 0503<br>3268                 |            |
| BOMBÁK, FÜSTFEJLESZTŐ, NEM ROBBANÓ, maró folyadékkal, gyújtószerkezet nélkül | 8                            | 2028                         |            |
| BOMBÁK GYÚLÉKONY FOLYADÉK TARTALOMMAL, robbanótöltettel                      | 1.1J<br>1.2J                 | 0399<br>0400                 |            |
| BOMBÁK, NEM ROBBANÓ, FÜSTFEJLESZTŐ, maró folyadékkal, gyújtószerkezet nélkül | 8                            | 2028                         |            |
| BOMBÁK robbanótöltettel  | 1.1F<br>1.1D<br>1.2D<br>1.2F | 0033<br>0034<br>0035<br>0291 |            |
| BOMBÁK VILLANÓFÉNY TÖLTETTEL   | 1.1F<br>1.1D<br>1.2G<br>1.3G | 0037<br>0038<br>0039<br>0299 |            |
| BORNEOL  | 4.1                          | 1312                         |            |
| BÓR-TRIBROMID  | 8                            | 2692                         |            |
| BÓR-TRIFLUORID   | 2                            | 1008                         |            |
| BÓR-TRIFLUORID-DIETIL-ÉTERÁT   | 8                            | 2604                         |            |
| BÓR-TRIFLUORID-DIHIDRÁT  | 8                            | 2851                         |            |
| BÓR-TRIFLUORID-DIMETIL-ÉTER  | 4.3                          | 2965                         |            |
| BÓR-TRIFLUORID-ECETSAV KOMPLEX, FOLYÉKONY                                    | 8                            | 1742                         |            |
| BÓR-TRIFLUORID-ECETSAV KOMPLEX, SZILÁRD                                      | 8                            | 3419                         |            |
| Bór-triflurid-éter komplex: lásd BÓR-TRIFLUORID-DIETIL-ÉTERÁT                |                              |                              |            |
| BÓR-TRIFLUORID-PROPIONSÁV KOMPLEX, FOLYÉKONY                                 | 8                            | 1743                         |            |
| BÓR-TRIFLUORID-PROPIONSÁV KOMPLEX, SZILÁRD                                   | 8                            | 3420                         |            |
| BÓR-TRIKLORID  | 2                            | 1741                         |            |
| BRÓM   | 8                            | 1744                         |            |
| BRÓM-ACETIL-BROMID   | 8                            | 2513                         |            |
| BRÓM-ACETON  | 6.1                          | 1569                         |            |
| BRÓM-BENZIL-CIANIDOK, FOLYÉKONY  | 6.1                          | 1694                         |            |
| BRÓM-BENZIL-CIANIDOK, SZILÁRD  | 6.1                          | 3449                         |            |
| BRÓM-BENZOL  | 3                            | 2514                         |            |
| 1-BRÓM-BUTÁN   | 3                            | 1126                         |            |
| 2-BRÓM-BUTÁN   | 3                            | 2339                         |            |
| BRÓM-ECETSAV OLDAT   | 8                            | 1938                         |            |
| BRÓM-ECETSAV, SZILÁRD  | 8                            | 3425                         |            |
| 2-BRÓM-ETIL-ETIL-ÉTER  | 3                            | 2340                         |            |
| BRÓM-HIDROGÉNSÁV   | 8                            | 1788                         |            |
| BRÓM-KLÓR-DIFLUOR-METÁN (R 12B1 HŰTŐGÁZ)                                     | 2                            | 1974                         |            |
| BRÓM-KLORID  | 2                            | 2901                         |            |
| BRÓM-KLÓR-METÁN  | 6.1                          | 1887                         |            |
| 1-BRÓM-3-KLÓR-PROPÁN   | 6.1                          | 2688                         |            |
| 1-BRÓM-3-METIL-BUTÁN   | 3                            | 2341                         |            |
| BRÓM-METIL-PROPÁNOK  | 3                            | 2342                         |            |
| 2-BRÓM-2-NITRO-1,3-PROPÁNDIOL  | 4.1                          | 3241                         |            |
| BRÓM OLDAT   | 8                            | 1744                         |            |
| BRÓM-PENTAFLUORID  | 5.1                          | 1745                         |            |

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|---|---------|---------|-----------------------------|
| 2-BRÓM-PENTÁN   | 3       | 2343    |                             |
| BRÓM-PROPÁNOK   | 3       | 2344    |                             |
| BRÓM-PROPIN   | 3       | 2345    |                             |
| BRÓM-TRIFLUOR-ETILÉN  | 2       | 2419    |                             |
| BRÓM-TRIFLUORID   | 5.1     | 1746    |                             |
| BRÓM-TRIFLUOR-METÁN (R 13B1 HŰTŐGÁZ)  | 2       | 1009    |                             |
| BROMÁTOK, SZERVETLEN, VIZES OLDATA, M.N.N.  | 5.1     | 3213    |                             |
| BROMÁTOK, SZERVETLEN, M.N.N.  | 5.1     | 1450    |                             |
| BROMOFORM   | 6.1     | 2515    |                             |
| BRUCIN  | 6.1     | 1570    |                             |
| BUTADIÉNEK ÉS SZÉNHIDROGÉN KEVERÉKE, STABILIZÁLT, amelynek gőznyomása 70 °C-on nem haladja meg az 1,1 MPa-t (11 bar-t) és sűrűsége 50 °C-on legalább 0,525 kg/l | 2       | 1010    |                             |
| BUTADIÉNEK, STABILIZÁLT, amelyek gőznyomása 70 °C-on nem haladja meg az 1,1 MPa-t (11 bar-t) és sűrűsége 50 °C-on legalább 0,525 kg/l                           | 2       | 1010    |                             |
| BUTÁN   | 2       | 1011    |                             |
| BUTÁNDION (diacetil)  | 3       | 2346    |                             |
| BUTANOLOK   | 3       | 1120    |                             |
| 1-BUTÉN   | 2       | 1012    |                             |
| cisz-2-BUTÉN  | 2       | 1012    |                             |
| transz-2-BUTÉN  | 2       | 1012    |                             |
| BUTÉN KEVERÉK   | 2       | 1012    |                             |
| BUTIL-ACETÁTOK  | 3       | 1123    |                             |
| BUTIL-AKRILÁTOK, STABILIZÁLT  | 3       | 2348    |                             |
| n-BUTIL-AMIN  | 3       | 1125    |                             |
| N-BUTIL-ANILIN  | 6.1     | 2738    |                             |
| BUTIL-BENZOLOK  | 3       | 2709    |                             |
| n-Butil-bromid: lásd 1-BRÓM-BUTÁN   |         |         |                             |
| terc-BUTIL-CIKLOHEXIL-KLÓR-FORMIÁT  | 6.1     | 2747    |                             |
| n-BUTIL-FORMIÁT   | 3       | 1128    |                             |
| terc-BUTIL-HIPOKLORIT   | 4.2     | 3255    | A szállításból ki van zárva |
| N,n-BUTIL-IMIDAZOL  | 6.1     | 2690    |                             |
| n-BUTIL-IZOCIANÁT   | 6.1     | 2485    |                             |
| terc-BUTIL-IZOCIANÁT  | 6.1     | 2484    |                             |
| n-BUTIL-KLÓR-FORMIÁT  | 6.1     | 2743    |                             |
| Butil-klorid: lásd KLÓR-BUTÁNOK   |         |         |                             |
| BUTIL-MERKAPTÁN   | 3       | 2347    |                             |
| n-BUTIL-METAKRILÁT, STABILIZÁLT   | 3       | 2227    |                             |
| BUTIL-METIL-ÉTER  | 3       | 2350    |                             |
| BUTIL-NITRITEK  | 3       | 2351    |                             |
| BUTIL-PROPIONÁTOK   | 3       | 1914    |                             |
| BUTIL-TOLUOLOK  | 6.1     | 2667    |                             |
| BUTIL-TRIKLÓR-SZILÁN  | 8       | 1747    |                             |
| 5-terc-BUTIL-2,4,6-TRINITRO-m-XILOL (XILOLMÓSUSZ)   | 4.1     | 2956    |                             |
| BUTIL-VINIL-ÉTER, STABILIZÁLT   | 3       | 2352    |                             |
| 1,2-BUTILÉN-OXID, STABILIZÁLT   | 3       | 3022    |                             |
| 2-Butin: lásd KROTONILÉN  |         |         |                             |
| BUTIN-1,4-DIOL  | 6.1     | 2716    |                             |
| BUTIRALDEHID  | 3       | 1129    |                             |

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|---|---------|---------|------------|
| BUTIRALDOXIM  | 3       | 2840    |            |
| BUTIRIL-KLORID  | 3       | 2353    |            |
| BUTIRONITRIL  | 3       | 2411    |            |
| C keverék: lásd SZÉNHIDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N.  |         |         |            |
| C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID   | 5.2     | 3103    |            |
| C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL  | 5.2     | 3113    |            |
| C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG  | 4.1     | 3223    |            |
| C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   | 4.1     | 3233    |            |
| C TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG  | 4.1     | 3224    |            |
| C TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL   | 4.1     | 3234    |            |
| C TÍPUSÚ ROBBANTÓANYAG  | 1.1D    | 0083    |            |
| C TÍPUSÚ, SZILÁRD SZERVES PEROXID   | 5.2     | 3104    |            |
| C TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL  | 5.2     | 3114    |            |
| CELLULOID, blokk, rúd, tekercs, lemez, cső, stb. formában, a hulladékok kivételével                             | 4.1     | 2000    |            |
| CELLULOID HULLADÉK  | 4.2     | 2002    |            |
| CÉRIUM, forgács vagy homokkal szennyezett por   | 4.3     | 3078    |            |
| CÉRIUM lemezek, rudak vagy öntecsek   | 4.1     | 1333    |            |
| CÉZIUM  | 4.3     | 1407    |            |
| CÉZIUM-HIDROXID   | 8       | 2682    |            |
| CÉZIUM-HIDROXID OLDAT   | 8       | 2681    |            |
| CÉZIUM-NITRÁT   | 5.1     | 1451    |            |
| CIÁN-BROMID   | 6.1     | 1889    |            |
| CIÁN-HIDROGÉNSAV VIZES OLDAT legfeljebb 20% hidrogén-cianid tartalommal   | 6.1     | 1613    |            |
| CIANID OLDAT, M.N.N.  | 6.1     | 1935    |            |
| CIANIDOK, SZERVETLEN, SZILÁRD, M.N.N.   | 6.1     | 1588    |            |
| CIANUR-KLORID   | 8       | 2670    |            |
| CIKLOBUTÁN  | 2       | 2601    |            |
| CIKLOBUTIL-KLÓR-FORMIÁT   | 6.1     | 2744    |            |
| 1,5,9-CIKLODODEKATRIÉN  | 6.1     | 2518    |            |
| CIKLOHEPTÁN   | 3       | 2241    |            |
| CIKLOHEPTATRIÉN   | 3       | 2603    |            |
| CIKLOHEPTÉN   | 3       | 2242    |            |
| CIKLOHEXÁN  | 3       | 1145    |            |
| CIKLOHEXANON  | 3       | 1915    |            |
| CIKLOHEXÉN  | 3       | 2256    |            |
| CIKLOHEXENIL-TRIKLÓR-SZILÁN   | 8       | 1762    |            |
| CIKLOHEXIL-ACETÁT   | 3       | 2243    |            |
| CIKLOHEXIL-AMIN   | 8       | 2357    |            |
| CIKLOHEXIL-IZOCIANÁT  | 6.1     | 2488    |            |
| CIKLOHEXIL-MERKAPTÁN  | 3       | 3054    |            |
| CIKLOHEXIL-TRIKLÓR-SZILÁN   | 8       | 1763    |            |
| CIKLONIT, DESZENZIBILIZÁLT  | 1.1D    | 0483    |            |
| CIKLONIT ÉS OKTOGÉN KEVERÉKE, legalább 15 tömeg% vízzel NEDVESÍTETT vagy legalább 10 tömeg% flegmatizálószerrel | 1.1D    | 0391    |            |

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| DESZENZIBILIZÁLT  |         |         |            |
| CIKLONIT legalább 15 tömeg% vízzel NEDVESÍTETT  | 1.1D    | 0072    |            |
| CIKLOOKTADIÉNEK   | 3       | 2520    |            |
| CIKLOOKTADIÉN-FOSZFINEK   | 4.2     | 2940    |            |
| CIKLOOKTATETRAÉN  | 3       | 2358    |            |
| CIKLOPENTÁN   | 3       | 1146    |            |
| CIKLOPENTANOL   | 3       | 2244    |            |
| CIKLOPENTANON   | 3       | 2245    |            |
| CIKLOPENTÉN   | 3       | 2246    |            |
| CIKLOPROPÁN   | 2       | 1027    |            |
| CIKLOTETRAMETILÉN-TETRANITRAMIN (OKTOGÉN, HMX), DESZENZIBILIZÁLT  | 1.1D    | 0484    |            |
| CIKLOTETRAMETILÉN-TETRANITRAMIN (OKTOGÉN, HMX), legalább 15 tömeg% vízzel NEDVESÍTETT   | 1.1D    | 0226    |            |
| CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT, HEXOGÉN, RDX), DESZENZIBILIZÁLT  | 1.1D    | 0483    |            |
| CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT, HEXOGÉN, RDX), legalább 15 tömeg% vízzel NEDVESÍTETT   | 1.1D    | 0072    |            |
| CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT; HEXOGÉN; RDX) ÉS CIKLOTETRAMETILÉN-TETRANITRAMIN (OKTOGÉN; HMX) KEVERÉKE, legalább 15 tömeg% vízzel NEDVESÍTETT vagy legalább 10 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT | 1.1D    | 0391    |            |
| CIMOLOK (Metil-izopropil-benzolok)  | 3       | 2046    |            |
| CINK-AMMÓNIUM-NITRIT  | 5.1     | 1512    |            |
| CINK-ARZENÁT  | 6.1     | 1712    |            |
| CINK-ARZENÁT ÉS CINK-ARZENIT KEVERÉK  | 6.1     | 1712    |            |
| CINK-ARZENIT  | 6.1     | 1712    |            |
| CINK-BROMÁT   | 5.1     | 2469    |            |
| CINK-CIANID   | 6.1     | 1713    |            |
| CINK-DITIONIT (CINK-HIPODISZULFIT)  | 9       | 1931    |            |
| CINK-FLUORO-SZILIKÁT  | 6.1     | 2855    |            |
| CINK-FOSZFID  | 4.3     | 1714    |            |
| CINKHAMUK   | 4.3     | 1435    |            |
| CINK-HIPODISZULFIT  | 9       | 1931    |            |
| CINK-KLORÁT   | 5.1     | 1513    |            |
| CINK-KLORID OLDAT   | 8       | 1840    |            |
| CINK-KLORID, VÍZMENTES  | 8       | 2331    |            |
| CINK-NITRÁT   | 5.1     | 1514    |            |
| CINK-PERMANGANÁT  | 5.1     | 1515    |            |
| CINK-PEROXID  | 5.1     | 1516    |            |
| CINK-REZINÁT  | 4.1     | 2714    |            |
| CINKPOR   | 4.3     | 1436    |            |
| CINKPÜDER   | 4.3     | 1436    |            |
| CIRKÓNIUM GYÚLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA   | 3       | 1308    |            |
| CIRKÓNIUM HULLADÉK  | 4.2     | 1932    |            |
| CIRKÓNIUM, SZÁRAZ, lemez, szalag vagy huzal formában  | 4.2     | 2009    |            |
| CIRKÓNIUM, SZÁRAZ, tekercselt huzal, megmunkált lemezek, szalag (254 mikronnál vékonyabb, de legalább 18 mikron vastag) formában  | 4.1     | 2858    |            |
| CIRKÓNIUM-HIDRID  | 4.1     | 1437    |            |
| CIRKÓNIUM-NITRÁT  | 5.1     | 2728    |            |

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| CIRKÓNIUM-PIKRAMÁT, legalább 20 tömeg% vízzel NEDVESÍTETT                                  | 4.1                  | 1517                 |            |
| CIRKÓNIUM-PIKRAMÁT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített                  | 1.3C                 | 0236                 |            |
| CIRKÓNIUMPOR, legalább 25% vízzel NEDVESÍTETT  | 4.1                  | 1358                 |            |
| CIRKÓNIUMPOR, SZÁRAZ   | 4.2                  | 2008                 |            |
| CIRKÓNIUM-TETRAKLORID  | 8                    | 2503                 |            |
| CSEPPFOLYÓSÍTOTT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.  | 2                    | 3157                 |            |
| CSEPPFOLYÓSÍTOTT GÁZ, GYÚLÉKONY, M.N.N.  | 2                    | 3161                 |            |
| CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.   | 2                    | 3163                 |            |
| CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.                                       | 2                    | 3307                 |            |
| CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.                                 | 2                    | 3310                 |            |
| CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.   | 2                    | 3160                 |            |
| CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.                                     | 2                    | 3309                 |            |
| CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, M.N.N.  | 2                    | 3162                 |            |
| CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.  | 2                    | 3308                 |            |
| CSEPPFOLYÓSÍTOTT GÁZ, nem gyúlékony, nitrogén, szén-dioxid vagy levegő alatt               | 2                    | 1058                 |            |
| D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID  | 5.2                  | 3105                 |            |
| D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL                             | 5.2                  | 3115                 |            |
| D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG   | 4.1                  | 3225                 |            |
| D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL                              | 4.1                  | 3235                 |            |
| D TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG   | 4.1                  | 3226                 |            |
| D TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL                                | 4.1                  | 3236                 |            |
| D TÍPUSÚ ROBBANTÓANYAG   | 1.1D                 | 0084                 |            |
| D TÍPUSÚ, SZILÁRD SZERVES PEROXID  | 5.2                  | 3106                 |            |
| D TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL                               | 5.2                  | 3116                 |            |
| DEKABORÁN  | 4.1                  | 1868                 |            |
| DEKAHIDRO-NAFTALIN   | 3                    | 1147                 |            |
| n-DEKÁN  | 3                    | 2247                 |            |
| DETONÁTORSZERKEZETEK robbantáshoz, NEMVILLAMOS   | 1.1B<br>1.4B<br>1.4S | 0360<br>0361<br>0500 |            |
| DEUTÉRIUM, SÚRÍTETT  | 2                    | 1957                 |            |
| Diacetil: lásd BUTÁNDION   |                      |                      |            |
| DIACETON-ALKOHOL   | 3                    | 1148                 |            |
| DIALLIL-AMIN   | 3                    | 2359                 |            |
| DIALLIL-ÉTER   | 3                    | 2360                 |            |
| DI-n-AMIL-AMIN   | 3                    | 2841                 |            |
| 4,4'-DIAMINO-DIFENIL-METÁN   | 6.1                  | 2651                 |            |
| DIAZO-DINITRO-FENOL, legalább 40 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT | 1.1A                 | 0074                 |            |
| DIBENZIL-DIKLÓR-SZILÁN   | 8                    | 2434                 |            |
| DIBORÁN  | 2                    | 1911                 |            |
| 1,2-DIBRÓM-3-BUTANON   | 6.1                  | 2648                 |            |



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| DIBRÓM-DIFLUOR-METÁN  | 9       | 1941    |            |
| 1,2-dibró-m-etán: lásd ETILÉN-DIBROMID  |         |         |            |
| DIBRÓM-KLÓR-PROPÁNOK  | 6.1     | 2872    |            |
| DIBRÓM-METÁN  | 6.1     | 2664    |            |
| DI-n-BUTILAMIN  | 8       | 2248    |            |
| DIBUTIL-AMINO-ETANOL  | 6.1     | 2873    |            |
| DIBUTIL-ÉTEREK  | 3       | 1149    |            |
| DICIÁN  | 2       | 1026    |            |
| DICIKLOHEXIL-AMIN   | 8       | 2565    |            |
| DICIKLOHEXIL-AMMÓNIUM-NITRIT  | 4.1     | 2687    |            |
| DICIKLOPENTADIÉN  | 3       | 2048    |            |
| 1,2-DI(DIMETIL-AMINO)-ETÁN  | 3       | 2372    |            |
| DIDÍMIUM-NITRÁT   | 5.1     | 1465    |            |
| DIETIL-AMIN   | 3       | 1154    |            |
| 2-DIETIL-AMINO-ETANOL   | 8       | 2686    |            |
| DIETIL-AMINO-PROPIL-AMIN  | 3       | 2684    |            |
| N,N-DIETIL-ANILIN   | 6.1     | 2432    |            |
| DIETIL-BENZOLOK   | 3       | 2049    |            |
| DIETIL-DIKLÓR-SZILÁN  | 8       | 1767    |            |
| DIETIL-ÉTER (ETIL-ÉTER)   | 3       | 1155    |            |
| N,N-DIETIL-ETILÉN-DIAMIN  | 8       | 2685    |            |
| DIETIL-KARBONÁT   | 3       | 2366    |            |
| DIETIL-KETON  | 3       | 1156    |            |
| DIETIL-SZULFÁT  | 6.1     | 1594    |            |
| DIETIL-SZULFID  | 3       | 2375    |            |
| DIETIL-TIOFOSZFORIL-KLORID  | 8       | 2751    |            |
| DIETILÉNGLIKOL-DINITRÁT, legalább 25 tömeg% nem illó, vízben oldhatatlan flegmatizálószerrel DESZENZIBILIZÁLT | 1.1D    | 0075    |            |
| DIETILÉN-TRIAMIN  | 8       | 2079    |            |
| 1,1-Dietoxi-etán: lásd ACETÁL   |         |         |            |
| 1,2-Dietoxi-etán: lásd ETILÉN-GLIKOL-DIETIL-ÉTER  |         |         |            |
| DIETOXI-METÁN   | 3       | 2373    |            |
| 3,3-DIETOXI-PROPÉN  | 3       | 2374    |            |
| DIFENIL-AMIN-KLÓR-ARZIN   | 6.1     | 1698    |            |
| DIFENIL-BRÓM-METÁN  | 8       | 1770    |            |
| DIFENIL-DIKLÓR-SZILÁN   | 8       | 1769    |            |
| DIFENIL-KLÓR-ARZIN, FOLYÉKONY   | 6.1     | 1699    |            |
| DIFENIL-KLÓR-ARZIN, SZILÁRD   | 6.1     | 3450    |            |
| 1,1-DIFLUOR-ETÁN (R 152a HŰTŐGÁZ)   | 2       | 1030    |            |
| 1,1-DIFLUOR-ETILÉN (R 1132a HŰTŐGÁZ)  | 2       | 1959    |            |
| DIFLUOR-METÁN (R 32 HŰTŐGÁZ)  | 2       | 3252    |            |
| DIFLUORO-FOSZFORSAV, VÍZMENTES  | 8       | 1768    |            |
| 2,3-DIHIDRO-PIRÁN   | 3       | 2376    |            |
| DIIZOBUTIL-AMIN   | 3       | 2361    |            |
| DIIZOBUTILÉN IZOMEREK KEVERÉKE  | 3       | 2050    |            |
| DIIZOBUTIL-KETON  | 3       | 1157    |            |
| DIIZOPROPIL-AMIN  | 3       | 1158    |            |
| DIIZOPROPIL-ÉTER  | 3       | 1159    |            |
| DIKETÉN, STABILIZÁLT  | 6.1     | 2521    |            |
| DIKLÓR-ACETIL-KLORID  | 8       | 1765    |            |

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| 1,3-DIKLÓR-ACETON  | 6.1     | 2649    |                             |
| DIKLÓR-ANILINEK, FOLYÉKONY   | 6.1     | 1590    |                             |
| DIKLÓR-ANILINEK, SZILÁRD   | 6.1     | 3442    |                             |
| o-DIKLÓR-BENZOL  | 6.1     | 1591    |                             |
| 2,2'-DIKLÓR-DIETIL-ÉTER  | 6.1     | 1916    |                             |
| DIKLÓR-DIFLUOR-METÁN (R 12 HŰTŐGÁZ)  | 2       | 1028    |                             |
| DIKLÓR-DIFLUOR-METÁN ÉS 1,1-DIFLUOR-ETÁN AZEOTROP KEVERÉK kb. 74% diklór-difluor-metán tartalommal (R 500 HŰTŐGÁZ) | 2       | 2602    |                             |
| DIKLÓR-DIMETIL-ÉTER, SZIMMETRIKUS  | 6.1     | 2249    | A szállításból ki van zárva |
| DIKLÓR-ECETSAV   | 8       | 1764    |                             |
| 1,1-DIKLÓR-ETÁN  | 3       | 2362    |                             |
| 1,2-DIKLÓR-ETÁN  | 3       | 1184    |                             |
| 1,1-Diklór-etilén: lásd VINILIDÉN-KLORID, STABILIZÁLT  |         |         |                             |
| 1,2-DIKLÓR-ETILÉN  | 3       | 1150    |                             |
| DIKLÓR-FENIL-IZOCIANÁTOK   | 6.1     | 2250    |                             |
| DIKLÓR-FENIL-TRIKLÓR-SZILÁN  | 8       | 1766    |                             |
| DIKLÓR-FLUOR-METÁN (R 21 HŰTŐGÁZ)  | 2       | 1029    |                             |
| alfa-Diklór-hidrin: lásd 1,3-DIKLÓR-2-PROPANOL   |         |         |                             |
| DIKLÓR-IZOCIANURSAV SÓK, SZÁRAZ  | 5.1     | 2465    |                             |
| DIKLÓR-IZOCIANURSAV, SZÁRAZ  | 5.1     | 2465    |                             |
| DIKLÓR-IZOPROPIL-ÉTER  | 6.1     | 2490    |                             |
| DIKLÓR-METÁN (metilén-klorid)  | 6.1     | 1593    |                             |
| 1,1-DIKLÓR-1-NITRO-ETÁN  | 6.1     | 2650    |                             |
| DIKLÓR-PENTÁNOK  | 3       | 1152    |                             |
| 1,2-DIKLÓR-PROPÁN  | 3       | 1279    |                             |
| 1,3-DIKLÓR-2-PROPANOL  | 6.1     | 2750    |                             |
| DIKLÓR-PROPÉNEK  | 3       | 2047    |                             |
| DIKLÓR-SZILÁN  | 2       | 2189    |                             |
| 1,2-DIKLÓR-1,1,2,2-TETRAFLUOR-ETÁN (R 114 HŰTŐGÁZ)   | 2       | 1958    |                             |
| DIMETIL-AMIN VIZES OLDAT   | 3       | 1160    |                             |
| DIMETIL-AMIN, VÍZMENTES  | 2       | 1032    |                             |
| 2-DIMETIL-AMINO-ACETONITRIL  | 3       | 2378    |                             |
| 2-DIMETIL-AMINO-ETANOL   | 8       | 2051    |                             |
| 2-DIMETIL-AMINO-ETIL-AKRILÁT   | 6.1     | 3302    |                             |
| 2-DIMETIL-AMINO-ETIL-METAKRILÁT  | 6.1     | 2522    |                             |
| N,N-DIMETIL-ANILIN   | 6.1     | 2253    |                             |
| 2,3-DIMETIL-BUTÁN  | 3       | 2457    |                             |
| 1,3-DIMETIL-BUTIL-AMIN   | 3       | 2379    |                             |
| DIMETIL-CIKLOHEXÁNOK   | 3       | 2263    |                             |
| N,N-DIMETIL-CIKLOHEXIL-AMIN  | 8       | 2264    |                             |
| DIMETIL-DIETOXI-SZILÁN   | 3       | 2380    |                             |
| DIMETIL-DIKLÓR-SZILÁN  | 3       | 1162    |                             |
| DIMETIL-DIOXÁNOK   | 3       | 2707    |                             |
| DIMETIL-DISZULFID  | 3       | 2381    |                             |
| DIMETIL-ÉTER   | 2       | 1033    |                             |
| N,N-DIMETIL-FORMAMID   | 3       | 2265    |                             |
| DIMETIL-HIDRAZIN, ASZIMMETRIKUS  | 6.1     | 1163    |                             |
| DIMETIL-HIDRAZIN, SZIMMETRIKUS   | 6.1     | 2382    |                             |
| N,N-DIMETIL-KARBAMOIL-KLORID   | 8       | 2262    |                             |

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| DIMETIL-KARBONÁT  | 3       | 1161    |            |
| 2,2-DIMETIL-PROPÁN  | 2       | 2044    |            |
| N,N-DIMETIL-PROPIL-AMIN   | 3       | 2266    |            |
| DIMETIL-SZULFÁT   | 6.1     | 1595    |            |
| DIMETIL-SZULFID   | 3       | 1164    |            |
| DIMETIL-TIOFOSZFORIL-KLORID   | 6.1     | 2267    |            |
| 1,1-DIMETOXI-ETÁN   | 3       | 2377    |            |
| 1,2-DIMETOXI-ETÁN   | 3       | 2252    |            |
| DINÁTRIUM-TRIOXO-SZILIKÁT   | 8       | 3253    |            |
| DINGU   | 1.1G    | 0489    |            |
| DINITRO-ANILINEK  | 6.1     | 1596    |            |
| DINITRO-BENZOLOK, FOLYÉKONY   | 6.1     | 1597    |            |
| DINITRO-BENZOLOK, SZILÁRD   | 6.1     | 3443    |            |
| DINITRO-FENOL, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített                    | 1.1D    | 0076    |            |
| DINITRO-FENOL, legalább 15 tömeg% vízzel NEDVESÍTETT                                    | 4.1     | 1320    |            |
| DINITRO-FENOL OLDAT   | 6.1     | 1599    |            |
| DINITRO-FENOLÁTOK (alkálifémeké), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített | 1.3C    | 0077    |            |
| DINITRO-FENOLÁTOK, legalább 15 tömeg% vízzel NEDVESÍTETT                                | 4.1     | 1321    |            |
| DINITRO-GLIKOL-URIL (DINGU)   | 1.1D    | 0489    |            |
| DINITRO-o-KREZOL  | 6.1     | 1598    |            |
| DINITRO-REZORCIN, legalább 15 tömeg% vízzel NEDVESÍTETT                                 | 4.1     | 1322    |            |
| DINITRO-REZORCIN, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített                 | 1.1D    | 0078    |            |
| Dinitro-toluol izomerek keveréke: lásd DINITRO-TOLUOLOK                                 |         |         |            |
| DINITRO-TOLUOLOK, FOLYÉKONY   | 6.1     | 2038    |            |
| DINITRO-TOLUOLOK, OLVASZTOTT  | 6.1     | 1600    |            |
| DINITRO-TOLUOLOK, SZILÁRD   | 6.1     | 3454    |            |
| DINITROGÉN-OXID   | 2       | 1070    |            |
| DINITROGÉN-OXID, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT   | 2       | 2201    |            |
| DINITROGÉN-TETROXID   | 2       | 1067    |            |
| DINITROZO-BENZOL  | 1.3C    | 0406    |            |
| DIOXÁN  | 3       | 1165    |            |
| DIOXOLÁN  | 3       | 1166    |            |
| DIPENTÉN (limonén)  | 3       | 2052    |            |
| DIPIKRIL-AMIN   | 1.1D    | 0079    |            |
| DIPIKRIL-SZULFID, legalább 10 tömeg% vízzel NEDVESÍTETT                                 | 4.1     | 2852    |            |
| DIPIKRIL-SZULFID, száraz vagy 10 tömeg%-nál kevesebb vízzel nedvesített                 | 1.1D    | 0401    |            |
| DIPROPIL-AMIN   | 3       | 2383    |            |
| DI-n-PROPIL-ÉTER  | 3       | 2384    |            |
| DIPROPIL-KETON  | 3       | 2710    |            |
| Dipropilén-triamin: lásd 3,3'-IMINO-BISZPROPIL-AMIN                                     |         |         |            |
| DIVINIL-ÉTER, STABILIZÁLT   | 3       | 1167    |            |
| DÍZELOLAJ   | 3       | 1202    |            |
| DODECIL-TRIKLÓR-SZILÁN  | 8       | 1771    |            |
| E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID   | 5.2     | 3107    |            |
| E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL                          | 5.2     | 3117    |            |

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| E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG  | 4.1          | 3227         |            |
| E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL                 | 4.1          | 3237         |            |
| E TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG  | 4.1          | 3228         |            |
| E TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL                   | 4.1          | 3238         |            |
| E TÍPUSÚ ROBBANTÓANYAG  | 1.1D<br>1.5D | 0241<br>0332 |            |
| E TÍPUSÚ, SZILÁRD SZERVES PEROXID   | 5.2          | 3108         |            |
| E TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL                  | 5.2          | 3118         |            |
| ECETSAV   | 8            | 2789         |            |
| ECETSAV OLDAT 10 tömeg%-nál több, de legfeljebb 80 tömeg% ecetsav-tartalommal | 8            | 2790         |            |
| ECETSAV OLDAT 80 tömeg%-nál több ecetsav tartalommal                          | 8            | 2789         |            |
| ECETSAVANHIDRID   | 8            | 1715         |            |
| EEI TÁRGYAK   | 1            | 0486         |            |
| ELSŐSEGÉLY FELSZERELÉS  | 9            | 3316         |            |
| EPIBRÓMHIDRIN   | 6.1          | 2558         |            |
| EPIKLÓRHIDRIN   | 6.1          | 2023         |            |
| 1,2-EPOXI-3-ETOXI-PROPÁN  | 3            | 2752         |            |
| ÉSZTEREK, M.N.N.  | 3            | 3272         |            |
| ETÁN  | 2            | 1035         |            |
| ETÁN, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT  | 2            | 1961         |            |
| Etánál: lásd ACETALDEHID  |              |              |            |
| ETANOL (ETIL-ALKOHOL)   | 3            | 1170         |            |
| ETANOL OLDAT (ETIL-ALKOHOL OLDAT)   | 3            | 1170         |            |
| ETANOL-AMIN   | 8            | 2491         |            |
| ETANOL-AMIN OLDAT   | 8            | 2491         |            |
| ETANOL ÉS MOTORBENZIN KEVERÉKE 10%-nál több etanol-tartalommal                | 3            | 3475         |            |
| ETANOL ÉS BENZIN KEVERÉKE 10%-nál több etanoltartalommal                      |              |              |            |
| ETANOL ÉS GAZOLIN KEVERÉKE 10%-nál több etanoltartalommal                     |              |              |            |
| ÉTEREK, M.N.N.  | 3            | 3271         |            |
| ETIL-ACETÁT   | 3            | 1173         |            |
| ETIL-ACETILÉN, STABILIZÁLT  | 2            | 2452         |            |
| ETIL-AKRILÁT, STABILIZÁLT   | 3            | 1917         |            |
| ETIL-ALKOHOL  | 3            | 1170         |            |
| ETIL-ALKOHOL OLDAT  | 3            | 1170         |            |
| ETIL-AMIL-KETON   | 3            | 2271         |            |
| ETIL-AMIN   | 2            | 1036         |            |
| ETIL-AMIN VIZES OLDAT legalább 50%, de legfeljebb 70% etil-amin tartalommal   | 3            | 2270         |            |
| N-ETIL-ANILIN   | 6.1          | 2272         |            |
| 2-ETIL-ANILIN   | 6.1          | 2273         |            |
| N-ETIL-N-BENZIL-ANILIN  | 6.1          | 2274         |            |
| N-ETIL-BENZIL-TOLUIDINEK, FOLYÉKONY   | 6.1          | 2753         |            |
| N-ETIL-BENZIL-TOLUIDINEK, SZILÁRD   | 6.1          | 3460         |            |
| ETIL-BENZOL   | 3            | 1175         |            |
| ETIL-BRÓM-ACETÁT  | 6.1          | 1603         |            |
| ETIL-BROMID   | 6.1          | 1891         |            |

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|--|---------|---------|------------|
| 2-ETIL-BUTANOL   | 3       | 2275    |            |
| ETIL-BUTIL-ACETÁT  | 3       | 1177    |            |
| ETIL-BUTIL-ÉTER  | 3       | 1179    |            |
| 2-ETIL-BUTIRALDEHID  | 3       | 1178    |            |
| ETIL-BUTIRÁT   | 3       | 1180    |            |
| ETIL-DIKLÓR-ARZIN  | 6.1     | 1892    |            |
| ETIL-DIKLÓR-SZILÁN   | 4.3     | 1183    |            |
| ETIL-ÉTER  | 3       | 1155    |            |
| ETIL-FENIL-DIKLÓR-SZILÁN   | 8       | 2435    |            |
| ETIL-FLUORID (R 161 HŰTŐGÁZ)   | 2       | 2453    |            |
| ETIL-FORMIÁT   | 3       | 1190    |            |
| 2-ETIL-HEXIL-AMIN  | 3       | 2276    |            |
| 2-ETIL-HEXIL-KLÓR-FORMIÁT  | 6.1     | 2748    |            |
| ETIL-IZOBUTIRÁT  | 3       | 2385    |            |
| ETIL-IZOCIANÁT   | 3       | 2481    |            |
| Etil-karbonát: lásd DIETIL-KARBONÁT  |         |         |            |
| ETIL-KLÓR-ACETÁT   | 6.1     | 1181    |            |
| ETIL-KLÓR-FORMIÁT  | 6.1     | 1182    |            |
| ETIL-KLORID  | 2       | 1037    |            |
| ETIL-2-KLÓR-PROPIONÁT  | 3       | 2935    |            |
| ETIL-KLÓR-TIOFORMIÁT   | 8       | 2826    |            |
| ETIL-KROTONÁT  | 3       | 1862    |            |
| ETIL-LAKTÁT  | 3       | 1192    |            |
| ETIL-MERKAPTÁN   | 3       | 2363    |            |
| ETIL-METAKRILÁT, STABILIZÁLT   | 3       | 2277    |            |
| ETIL-METIL-ÉTER  | 2       | 1039    |            |
| ETIL-METIL-KETON (METIL-ETIL-KETON)  | 3       | 1193    |            |
| ETIL-NITRIT OLDAT  | 3       | 1194    |            |
| ETIL-ORTOFORMIÁT   | 3       | 2524    |            |
| ETIL-OXALÁT  | 6.1     | 2525    |            |
| 1-ETIL-PIPERIDIN   | 3       | 2386    |            |
| ETIL-PROPIL-ÉTER   | 3       | 2615    |            |
| ETIL-PROPIONÁT   | 3       | 1195    |            |
| N-ETIL-TOLUIDINEK  | 6.1     | 2754    |            |
| ETIL-TRIKLÓR-SZILÁN  | 3       | 1196    |            |
| ETIL-VINIL-ÉTER, STABILIZÁLT   | 3       | 1302    |            |
| ETILÉN   | 2       | 1962    |            |
| ETILÉN, ACETILÉN ÉS PROPILÉN KEVERÉK, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT, legalább 71,5% etilén-, legfeljebb 22,5% acetilén- és legfeljebb 6% propilén-tartalommal | 2       | 3138    |            |
| ETILÉN, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT   | 2       | 1038    |            |
| ETILÉN-DIAMIN  | 8       | 1604    |            |
| ETILÉN-DIAMIN-RÉZ OLDAT  | 8       | 1761    |            |
| ETILÉN-DIBROMID (1,2-dibrom-étán)  | 6.1     | 1605    |            |
| ETILÉN-GLIKOL-DIETIL-ÉTER  | 3       | 1153    |            |
| ETILÉN-GLIKOL-MONOETIL-ÉTER  | 3       | 1171    |            |
| ETILÉN-GLIKOL-MONOETIL-ÉTER-ACETÁT   | 3       | 1172    |            |
| ETILÉN-GLIKOL-MONOMETIL-ÉTER   | 3       | 1188    |            |
| ETILÉN-GLIKOL-MONOMETIL-ÉTER-ACETÁT  | 3       | 1189    |            |
| ETILÉN-IMIN, STABILIZÁLT   | 6.1     | 1185    |            |

| Megnevezés  | Osztály      | UN szám      | Megjegyzés |
|---|--------------|--------------|------------|
| ETILÉN-KLÓRHIDRIN   | 6.1          | 1135         |            |
| ETILÉN-OXID   | 2            | 1040         |            |
| ETILÉN-OXID ÉS DIKLÓR-DIFLUOR-METÁN KEVERÉK legfeljebb 12,5% etilén-oxiddal               | 2            | 3070         |            |
| ETILÉN-OXID ÉS KLÓR-TETRAFLUOR-ETÁN KEVERÉK legfeljebb 8,8% etilén-oxid tartalommal       | 2            | 3297         |            |
| ETILÉN-OXID ÉS PENTAFLUOR-ETÁN KEVERÉK legfeljebb 7,9% etilén-oxid tartalommal            | 2            | 3298         |            |
| ETILÉN-OXID ÉS PROPILÉN-OXID KEVERÉK legfeljebb 30% etilén-oxid tartalommal               | 3            | 2983         |            |
| ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 87%-nál több etilén-oxid tartalommal                   | 2            | 3300         |            |
| ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 9%-nál több, de legfeljebb 87% etilén-oxid tartalommal | 2            | 1041         |            |
| ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉKE legfeljebb 9% etilén-oxid tartalommal                 | 2            | 1952         |            |
| ETILÉN-OXID ÉS TETRAFLUOR-ETÁN KEVERÉK legfeljebb 5,6% etilén-oxid tartalommal            | 2            | 3299         |            |
| ETILÉN-OXID NITROGÉNNEL 50 °C-on legfeljebb 1 MPa (10 bar) össznyomásig                   | 2            | 1040         |            |
| EVI ANYAGOK, M.N.N.   | 1.5D         | 0482         |            |
| EZÜST-ARZENIT   | 6.1          | 1683         |            |
| EZÜST-CIANID  | 6.1          | 1684         |            |
| EZÜST-NITRÁT  | 5.1          | 1493         |            |
| EZÜST-PIKRÁT, legalább 30 tömeg% vízzel NEDVESÍTETT                                       | 4.1          | 1347         |            |
| F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID   | 5.2          | 3109         |            |
| F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL                            | 5.2          | 3119         |            |
| F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG  | 4.1          | 3229         |            |
| F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL                             | 4.1          | 3239         |            |
| F TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG  | 4.1          | 3230         |            |
| F TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL                               | 4.1          | 3240         |            |
| F TÍPUSÚ, SZILÁRD SZERVES PEROXID   | 5.2          | 3110         |            |
| F TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL                              | 5.2          | 3120         |            |
| F1, F2, F3 keverék: lásd HÚTÓGÁZ, M.N.N.  |              |              |            |
| FAKONZERVÁLÓ ANYAGOK, FOLYÉKONY   | 3            | 1306         |            |
| FEHÉR AZBESZT (krizotil, aktinolit, antofillit, tremolit)                                 | 9            | 2590         |            |
| FEHÉRFOSZFOR OLDATBAN   | 4.2          | 1381         |            |
| FEHÉRFOSZFOR, OLVASZTOTT  | 4.2          | 2447         |            |
| FEHÉRFOSZFOR, SZÁRAZ  | 4.2          | 1381         |            |
| FEHÉRFOSZFOR TARTALMÚ, FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel             | 1.2H<br>1.3H | 0245<br>0246 |            |
| FEHÉRFOSZFOR TARTALMÚ, GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel         | 1.2H<br>1.3H | 0243<br>0244 |            |
| FEHÉRFOSZFOR, VÍZ ALATT   | 4.2          | 1381         |            |
| FEKETE LŐPOR (PUSKAPOR), PELLET   | 1.1D         | 0028         |            |
| FEKETE LŐPOR (PUSKAPOR), SAJTOLT  | 1.1D         | 0028         |            |
| FEKETE LŐPOR (PUSKAPOR), szemcsés vagy por alakú  | 1.1D         | 0027         |            |
| Felületkezelő anyagok: lásd BEVONÓ OLDATOK  |              |              |            |
| FÉM KATALIZÁTOR, NEDVESÍTETT, látható folyadékfelesleggel                                 | 4.2          | 1378         |            |

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|--|---------|---------|------------|
| FÉM KATALIZÁTOR, SZÁRAZ  | 4.2     | 2881    |            |
| FÉM-KARBONILOK, FOLYÉKONY, M.N.N.  | 6.1     | 3281    |            |
| FÉM-KARBONILOK, SZILÁRD, M.N.N.  | 6.1     | 3466    |            |
| FÉMHIIDRIDEK, GYÚLÉKONY, M.N.N.  | 4.1     | 3182    |            |
| FÉMHIIDRIDEK, VÍZZEL REAKTÍV, M.N.N.   | 4.3     | 1409    |            |
| FÉMLÍTIUM AKKUMULÁTOROK (beleértve a lítiumötvözet akkumulátorokat is)                             | 9       | 3090    |            |
| FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKEKBEN (beleértve a lítiumötvözet akkumulátorokat is)               | 9       | 3091    |            |
| FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECSOMAGOLVA (beleértve a lítiumötvözet akkumulátorokat is) |         |         |            |
| FÉMPOR, GYÚLÉKONY, M.N.N.  | 4.1     | 3089    |            |
| FÉMPOR, ÖNMELEGEDŐ, M.N.N.   | 4.2     | 3189    |            |
| FENACIL-BROMID   | 6.1     | 2645    |            |
| Fenacil-klorid: lásd KLÓR-ACETOFENON   |         |         |            |
| FENETIDINEK  | 6.1     | 2311    |            |
| FENIL-ACETIL-KLORID  | 8       | 2577    |            |
| FENIL-ACETONITRIL, FOLYÉKONY   | 6.1     | 2470    |            |
| FENIL-FOSZFOR-DIKLORID   | 8       | 2798    |            |
| FENIL-HIDRAZIN   | 6.1     | 2572    |            |
| FENIL-HIGANY(II)-ACETÁT  | 6.1     | 1674    |            |
| FENIL-HIGANY(II)-HIDROXID  | 6.1     | 1894    |            |
| FENIL-HIGANY(II)-NITRÁT  | 6.1     | 1895    |            |
| FENIL-HIGANY VEGYÜLET, M.N.N.  | 6.1     | 2026    |            |
| FENIL-IZOCIANÁT  | 6.1     | 2487    |            |
| FENIL-KARBIL-AMIN-KLORID   | 6.1     | 1672    |            |
| FENIL-KLÓR-FORMIÁT   | 6.1     | 2746    |            |
| Fenil-klorid: lásd KLÓR-BENZOL   |         |         |            |
| FENIL-MERKAPTÁN (tiofenol)   | 6.1     | 2337    |            |
| Fenil-metil-éter: lásd ANIZOL  |         |         |            |
| FENIL-TIOFOSZFORIL-DIKLORID  | 8       | 2799    |            |
| FENIL-TRIKLÓR-SZILÁN   | 8       | 1804    |            |
| FENILÉN-DIAMINOK (o-, m-, p-)  | 6.1     | 1673    |            |
| FENOL OLDAT  | 6.1     | 2821    |            |
| FENOL, OLVASZTOTT  | 6.1     | 2312    |            |
| FENOL, SZILÁRD   | 6.1     | 1671    |            |
| FENOLÁTOK, FOLYÉKONY   | 8       | 2904    |            |
| FENOLÁTOK, SZILÁRD   | 8       | 2905    |            |
| FENOLSZULFONSAV, FOLYÉKONY   | 8       | 1803    |            |
| FENOXI-ECETSAV SZÁRMAZÉK PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)       | 3       | 3346    |            |
| FENOXI-ECETSAV SZÁRMAZÉK PESZTICID, FOLYÉKONY, MÉRGEZŐ   | 6.1     | 3348    |            |
| FENOXI-ECETSAV SZÁRMAZÉK PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)    | 6.1     | 3347    |            |
| FENOXI-ECETSAV SZÁRMAZÉK PESZTICID, SZILÁRD, MÉRGEZŐ   | 6.1     | 3345    |            |
| FENYŐOLAJ  | 3       | 1272    |            |
| FERROCÉRIUM  | 4.1     | 1323    |            |
| FERROSZILÍCIUM 30 tömeg% vagy több, de 90 tömeg%-nál kevesebb szilíciumtartalommal                 | 4.3     | 1408    |            |

| Megnevezés  | Osztály                      | UN szám                      | Megjegyzés |
|---|------------------------------|------------------------------|------------|
| FERTŐTLENÍTŐSZER, FOLYÉKONY, MARÓ, M.N.N.   | 8                            | 1903                         |            |
| FERTŐTLENÍTŐSZER, MÉRGEZŐ, FOLYÉKONY, M.N.N.  | 6.1                          | 3142                         |            |
| FERTŐTLENÍTŐSZER, SZILÁRD, MÉRGEZŐ, M.N.N.  | 6.1                          | 1601                         |            |
| FERTŐZŐ ANYAG, csak ÁLLATOKRA ÁRTALMAS  | 6.2                          | 2900                         |            |
| FERTŐZŐ ANYAG, EMBEREKRE ÁRTALMAS   | 6.2                          | 2814                         |            |
| FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist)                  | 3<br>8                       | 1263<br>3066                 |            |
| FESTÉK, GYÚLÉKONY, MARÓ (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) | 3                            | 3469                         |            |
| FESTÉK, MRÓ, GYÚLÉKONY (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist)  | 8                            | 3470                         |            |
| FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)   | 3<br>8                       | 1263<br>3066                 |            |
| FESTÉK SEGÉDANYAG, GYÚLÉKONY, MARÓ (beleértve a festékhígítókat és oldószereket)  | 3                            | 1263                         |            |
| FESTÉK SEGÉDANYAG, MARÓ, GYÚLÉKONY (beleértve a festékhígítókat és oldószereket)  | 8                            | 3470                         |            |
| Festékhígítók: lásd FESTÉK SEGÉDANYAG; NYOMDAFESTÉK SEGÉDANYAG  |                              |                              |            |
| Fischer-Tropsch gáz: lásd SZÉN-MONOXID ÉS HIDROGÉN KEVERÉKE   |                              |                              |            |
| FLUOR, SŰRÍTETT   | 2                            | 1045                         |            |
| FLUOR-ANILINEK  | 6.1                          | 2941                         |            |
| FLUOR-BENZOL  | 3                            | 2387                         |            |
| FLUOR-ECETSAV   | 6.1                          | 2642                         |            |
| FLUOR-HIDROGÉNSAV   | 8                            | 1790                         |            |
| FLUOR-HIDROGÉNSAV ÉS KÉNSAV KEVERÉK   | 8                            | 1786                         |            |
| FLUOR-KÉNSAV  | 8                            | 1777                         |            |
| FLUOR-TOLUOLOK  | 3                            | 2388                         |            |
| FLUORO-BÓRSAV   | 8                            | 1775                         |            |
| FLUORO-FOSZFORSAV, VÍZMENTES  | 8                            | 1776                         |            |
| FLUORO-KOVASAV  | 8                            | 1778                         |            |
| FLUORO-SZILIKÁTOK, M.N.N.   | 6.1                          | 2856                         |            |
| FOLYÉKONY, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.  | 5.1                          | 3139                         |            |
| FOLYÉKONY HAJTÓANYAG  | 1.3C<br>1.1C                 | 0495<br>0497                 |            |
| FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket                                       | 3                            | 1999                         |            |
| Folyékony lakkbázis: lásd FESTÉK  |                              |                              |            |
| FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.  | 5.1                          | 3098                         |            |
| FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   | 5.1                          | 3099                         |            |
| FOLYÉKONY, SZERVES, ÓNVEGYÜLET, M.N.N.  | 6.1                          | 2788                         |            |
| Folyékony töltőanyag: lásd FESTÉK   |                              |                              |            |
| FORMALDEHID OLDAT legalább 25% formaldehidtartalommal   | 8                            | 2209                         |            |
| FORMALDEHID OLDAT, GYÚLÉKONY  | 3                            | 1198                         |            |
| FORMÁZOTT TÖLTETEK detonátor nélkül   | 1.1D<br>1.2D<br>1.4D<br>1.4S | 0059<br>0439<br>0440<br>0441 |            |
| 9-FOSZFA-BICIKLONONÁNOK (CIKLOOKTADIÉN-FOSZFINEK)   | 4.2                          | 2940                         |            |



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|---|--------------------------------------|--------------------------------------|------------|
| FOSZFIN   | 2                                    | 2199                                 |            |
| FOSZFOR: lásd FEHÉRFOSZFOR; SÁRGAFOSZFOR  |                                      |                                      |            |
| FOSZFOR, AMORF  | 4.1                                  | 1338                                 |            |
| FOSZFOR-HEPTASZULFID, sárga- és fehérfoszfortól mentes                                    | 4.1                                  | 1339                                 |            |
| FOSZFOR-OXI-BROMID  | 8                                    | 1939                                 |            |
| FOSZFOR-OXI-BROMID, OLVASZTOTT  | 8                                    | 2576                                 |            |
| FOSZFOR-OXI-KLORID  | 8                                    | 1810                                 |            |
| FOSZFOR-PENTABROMID   | 8                                    | 2691                                 |            |
| FOSZFOR-PENTAFLUORID  | 2                                    | 2198                                 |            |
| FOSZFOR-PENTAKLORID   | 8                                    | 1806                                 |            |
| FOSZFOR-PENTASZULFID, sárga- és fehérfoszfortól mentes                                    | 4.3                                  | 1340                                 |            |
| FOSZFOR-PENTOXID (foszforsavanhidrid)   | 8                                    | 1807                                 |            |
| FOSZFOR-SZESZKVISZULFID, sárga- és fehérfoszfortól mentes                                 | 4.1                                  | 1341                                 |            |
| FOSZFOR-TRIBROMID   | 8                                    | 1808                                 |            |
| FOSZFOR-TRIKLORID   | 6.1                                  | 1809                                 |            |
| FOSZFOR-TRIOXID   | 8                                    | 2578                                 |            |
| FOSZFOR-TRISZULFID, sárga- és fehérfoszfortól mentes                                      | 4.1                                  | 1343                                 |            |
| FOSZFOROSSAV  | 8                                    | 2834                                 |            |
| FOSZFORSAV OLDAT  | 8                                    | 1805                                 |            |
| FOSZFORSAV, SZILÁRD   | 8                                    | 3453                                 |            |
| FOSZFORSAV-DIIZOOKTIL-ÉSZTER  | 8                                    | 1902                                 |            |
| FOSZFORSAV-MONOAMIL-ÉSZTER  | 8                                    | 2819                                 |            |
| FOSZFORSAV-MONOBUTIL-ÉSZTER   | 8                                    | 1718                                 |            |
| FOSZFORSAV-MONOIZOPROPIL-ÉSZTER   | 8                                    | 1793                                 |            |
| Foszforsavanhidrid: lásd FOSZFOR-PENTOXID   |                                      |                                      |            |
| FOSZGÉN   | 2                                    | 1076                                 |            |
| FÖLDGÁZ, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT magas metántartalommal                              | 2                                    | 1972                                 |            |
| FÖLDGÁZ, SŰRÍTETT magas metántartalommal  | 2                                    | 1971                                 |            |
| FÖLDI VILÁGÍTÓTESTEK  | 1.3G<br>1.1G<br>1.2G                 | 0092<br>0418<br>0419                 |            |
| FTÁLSAVANHIDRID 0,05%-nál több maleinsavanhidrid-tartalommal                              | 8                                    | 2214                                 |            |
| FUMARIL-KLORID  | 8                                    | 1780                                 |            |
| FURÁN   | 3                                    | 2389                                 |            |
| FURFURALDEHIDEK   | 6.1                                  | 1199                                 |            |
| FURFURIL-ALKOHOL  | 6.1                                  | 2874                                 |            |
| FURFURIL-AMIN   | 3                                    | 2526                                 |            |
| FÜSTJELZŐK  | 1.1G<br>1.4G<br>1.2G<br>1.3G<br>1.4S | 0196<br>0197<br>0313<br>0487<br>0507 |            |
| FÜSTKÉPZŐ LŐSZER robbanó, kidobó vagy hajtótöltettel vagy anélkül                         | 1.2G<br>1.3G<br>1.4G                 | 0015<br>0016<br>0303                 |            |
| FÜSTKÉPZŐ LŐSZER robbanó, kidobó vagy hajtótöltettel vagy anélkül, maró anyag tartalommal | 1.2G<br>1.3G<br>1.4G                 | 0015<br>0016<br>0303                 |            |
| FÜST NÉLKÜLI LŐPOR  | 1.1C<br>1.3C                         | 0160<br>0161                         |            |

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| FÜSTÖLGŐ KÉNSAV (óleum)  | 8                            | 1831                         |                                 |
| FÚTÓOLAJ, KÖNNYŰ   | 3                            | 1202                         |                                 |
| GALLIUM  | 8                            | 2803                         |                                 |
| GÁZMINTA, TÚLNYOMÁS NÉLKÜLI, GYÚLÉKONY, M.N.N., nem mélyhűtött, nem cseppfolyósított                                 | 2                            | 3167                         |                                 |
| GÁZMINTA, TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ, GYÚLÉKONY, M.N.N., nem mélyhűtött, nem cseppfolyósított                        | 2                            | 3168                         |                                 |
| GÁZMINTA, TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ, M.N.N., nem mélyhűtött, nem cseppfolyósított                                   | 2                            | 3169                         |                                 |
| GÁZOLAJ  | 3                            | 1202                         |                                 |
| GAZOLIN  | 3                            | 1203                         |                                 |
| GÁZOSÍTÓSZER HATÁSA ALATT ÁLLÓ EGYSÉG  | 9                            | 3359                         |                                 |
| GÁZPATRONOK adagolószerkezet nélkül, nem utántölthetők   | 2                            | 2037                         |                                 |
| GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők                          | 2                            | 2037                         |                                 |
| GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT MIKROORGANIZMUSOK   | 9                            | 3245                         |                                 |
| GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT ÉLŐ SZERVEZETEK   | 9                            | 3245                         |                                 |
| GERMÁN   | 2                            | 2192                         |                                 |
| GLICERIN-alfa-MONOKLÓRHIDRIN   | 6.1                          | 2689                         |                                 |
| GLICIDALDEHID  | 3                            | 2622                         |                                 |
| GOLYÓS PERFORÁTOR-TÖLTÉNY OLAJKUTAK FÚRÁSÁHOZ  | 1.3C<br>1.4.C                | 0277<br>0278                 |                                 |
| GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel  | 1.1D<br>1.2D<br>1.1F<br>1.2F | 0284<br>0285<br>0292<br>0293 |                                 |
| GUANIDIN-NITRÁT  | 5.1                          | 1467                         |                                 |
| GUANIL-NITRÓZAMINO-GUANILIDÉN-HIDRAZIN, legalább 30 tömeg% vízzel NEDVESÍTETT  | 1.1A                         | 0113                         |                                 |
| GUANIL-NITRÓZAMINO-GUANIL-TETRAZÉN (TETRAZÉN), legalább 30 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT | 1.1A                         | 0114                         |                                 |
| GUMI HULLADÉK, porított vagy granulált   | 4.1                          | 1345                         |                                 |
| GUMI ÖRLEMÉNY, porított vagy granulált   | 4.1                          | 1345                         |                                 |
| GUMIOLDAT  | 3                            | 1287                         |                                 |
| GYAKORLÓGRÁNÁTOK (kézi- vagy fegyvergránátok)  | 1.4S<br>1.3G<br>1.2G<br>1.4G | 0110<br>0318<br>0372<br>0452 |                                 |
| GYAKORLÓLŐSZER   | 1.4G<br>.1.3G                | 0362<br>0488                 |                                 |
| GYANTA OLDAT, gyúlékony  | 3                            | 1866                         |                                 |
| GYANTAOLAJ   | 3                            | 1286                         |                                 |
| GYAPJÚHULLADÉK, NEDVES   | 4.2                          | 1387                         | Nem tartozik az ADR hatálya alá |
| GYAPOT, NEDVES   | 4.2                          | 1365                         |                                 |
| GYENGÉN NITRÁLT NITROCELLULÓZZAL IMPREGNÁLT SZÁLAk vagy SZÖVETEK, M.N.N.   | 4.1                          | 1353                         |                                 |
| GYÓGYÁSZATI HULLADÉK, M.N.N.   | 6.2                          | 3291                         |                                 |
| GYÓGYÁSZATI HULLADÉK, SZABÁLYOZOTT, M.N.N.   | 6.2                          | 3291                         |                                 |
| GYÓGYÁSZATI TINKTÚRÁK  | 3                            | 1293                         |                                 |
| GYÓGYSZER, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ, M.N.N.   | 3                            | 3248                         |                                 |

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|--|---------------------------------------|--------------------------------------|---------------------------------|
| GYÓGYSZER, FOLYÉKONY, MÉRGEZŐ, M.N.N.  | 6.1                                   | 1851                                 |                                 |
| GYÓGYSZER, SZILÁRD, MÉRGEZŐ, M.N.N.  | 6.1                                   | 3249                                 |                                 |
| GYUFA, BIZTONSÁGI (levél, kártya, doboz formában)  | 4.1                                   | 1944                                 |                                 |
| GYUFA, MINDENÜTT GYULLADÓ  | 4.1                                   | 1331                                 |                                 |
| GYUFA, VESTA-VIASZ   | 4.1                                   | 1945                                 |                                 |
| GYÚJTÁSERŐSÍTŐK detonátor nélkül   | 1.1D<br>1.2D                          | 0042<br>0283                         |                                 |
| GYÚJTÁSERŐSÍTŐK DETONÁTORRAL   | 1.1B<br>1.2B                          | 0225<br>0268                         |                                 |
| GYÚJTÓ HATÁSÚ, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.   | 4.1                                   | 3097                                 | A szállításból ki van zárva     |
| GYÚJTÓ HATÁSÚ LŐSZER gyúlékony folyadék vagy gél tartalommal, robbanó, kidobó vagy hajótöltettel vagy anélkül                            | 1.3J                                  | 0247                                 |                                 |
| GYÚJTÓ HATÁSÚ LŐSZER robbanó, kidobó vagy hajótöltettel vagy anélkül   | 1-2G<br>1.3G<br>1.4G                  | 0009<br>0010<br>0300                 |                                 |
| GYÚJTÓ HATÁSÚ, MARÓ FOLYÉKONY ANYAG, M.N.N.  | 8                                     | 3093                                 |                                 |
| GYÚJTÓ HATÁSÚ, MARÓ SZILÁRD ANYAG, M.N.N.  | 8                                     | 3084                                 |                                 |
| GYÚJTÓ HATÁSÚ, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   | 6.1                                   | 3122                                 |                                 |
| GYÚJTÓ HATÁSÚ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   | 6.1                                   | 3086                                 |                                 |
| GYÚJTÓ HATÁSÚ, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.  | 4.2                                   | 3127                                 | A szállításból ki van zárva     |
| GYÚJTÓK  | 1.1G<br>1.2G<br>1.3G<br>1.4G<br>1..4S | 0121<br>0314<br>0315<br>0325<br>0454 |                                 |
| GYÚJTÓZSINÓR   | 1.1G                                  | 0066                                 |                                 |
| GYÚJTÓZSINÓR, BIZTONSÁGI   | 1.4S                                  | 0105                                 |                                 |
| GYÚJTÓZSINÓR-GYÚJTÓK   | 1.4S                                  | 0131                                 |                                 |
| GYÚJTÓZSINÓR-GYÚJTÓK cső alakú fémköpennyel  | 1.4G                                  | 0103                                 |                                 |
| GYÚLÉKONY FOLYADÉK TARTALMÚ SZILÁRD ANYAGOK vagy keverékek (készítmények és hulladékok), M.N.N., amelyek lobbanáspontja legfeljebb 60 °C | 4.1                                   | 3175                                 |                                 |
| GYÚLÉKONY FOLYADÉK ÜZEMŰ JÁRMŰ   | 9                                     | 3166                                 | Nem tartozik az ADR hatálya alá |
| GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.  | 3                                     | 1993                                 |                                 |
| GYÚLÉKONY GÁZ ÜZEMŰ JÁRMŰ  | 9                                     | 3166                                 | Nem tartozik az ADR hatálya alá |
| GYÚLÉKONY, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.   | 5.1                                   | 3137                                 | A szállításból ki van zárva     |
| GYÚLÉKONY, MARÓ FOLYÉKONY ANYAG, M.N.N.  | 8                                     | 2920                                 |                                 |
| GYÚLÉKONY, MARÓ SZILÁRD ANYAG, M.N.N.  | 8                                     | 2921                                 |                                 |
| GYÚLÉKONY, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   | 3                                     | 1992                                 |                                 |
| GYÚLÉKONY, SZERVES SZILÁRD ANYAG, M.N.N.   | 4.1                                   | 1325                                 |                                 |
| GYUTACSCSÖVEK  | 1.3G<br>1.4G<br>1.4S                  | 0319<br>0320<br>0376                 |                                 |
| GYUTACSKAPSZULÁK   | 1.4S<br>1.1B<br>1.4B                  | 0044<br>0377<br>0378                 |                                 |
| GYUTACSOK LŐSZEREKHEZ  | 1.1B<br>1.2B<br>1.4B<br>1.4S          | 0073<br>0364<br>0365<br>0366         |                                 |
| GYUTACSOK robbantáshoz, NEMVILLAMOS  | 1.1B<br>1.4B                          | 0029<br>0267                         |                                 |

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|---|------------------------------|------------------------------|---------------------------------|
|   | 1.4S                         | 0455                         |                                 |
| GYUTACSOK robbantáshoz, VILLAMOS  | 1.1B<br>1.4B<br>1.4S         | 0030<br>0255<br>0456         |                                 |
| GYUTACSSZELENCÉK  | 1.3G<br>1.4G<br>1.4S         | 0319<br>0320<br>0376         |                                 |
| HABOSÍTHATÓ POLIMER GYÖNGYÖK, amelyek gyúlékony gőzöket fejlesztenek                              | 9                            | 2211                         |                                 |
| HAFNIUMPOR legalább 25% vízzel NEDVESÍTETT  | 4.1                          | 1326                         |                                 |
| HAFNIUMPOR, SZÁRAZ  | 4.2                          | 2545                         |                                 |
| HAJTÓANYAG, FOLYÉKONY   | 1.3C<br>1.1C                 | 0495<br>0497                 |                                 |
| HAJTÓANYAG, SZILÁRD   | 11.C<br>1.3C<br>1.4C         | 0498<br>0499<br>0501         |                                 |
| HAJTÓTÖLTETEK   | 1.1C<br>1.3C<br>1.2C<br>1.4C | 0271<br>0272<br>0415<br>0491 |                                 |
| HALHULLADÉK, NEM STABILIZÁLT  | 4.2                          | 1374                         |                                 |
| HALHULLADÉK, STABILIZÁLT  | 9                            | 2216                         | Nem tartozik az ADR hatálya alá |
| HALLISZT (HALHULLADÉK), NEM STABILIZÁLT   | 4.2                          | 1374                         |                                 |
| HALLISZT (HALHULLADÉK), STABILIZÁLT   | 9                            | 2216                         | Nem tartozik az ADR hatálya alá |
| HANGYASAV legalább 5 tömeg%, de legfeljebb 85% savtartalommal                                     | 8                            | 3412                         |                                 |
| HANGYASAV 85%-nál több savtartalommal   | 8                            | 1779                         |                                 |
| HÉLIUM, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT  | 2                            | 1963                         |                                 |
| HÉLIUM, SŰRÍTETT  | 2                            | 1046                         |                                 |
| HELYETTESÍTETT NITRO-FENOL PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)    | 3                            | 2780                         |                                 |
| HELYETTESÍTETT NITRO-FENOL PESZTICID, FOLYÉKONY, MÉRGEZŐ  | 6.1                          | 3014                         |                                 |
| HELYETTESÍTETT NITRO-FENOL PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C) | 6.1                          | 3013                         |                                 |
| HELYETTESÍTETT NITRO-FENOL PESZTICID, SZILÁRD, MÉRGEZŐ  | 6.1                          | 2779                         |                                 |
| HEPTAFLUOR-PROPÁN (R 227 HŰTŐGÁZ)   | 2                            | 3296                         |                                 |
| n-HEPTALDEHID   | 3                            | 3056                         |                                 |
| HEPTÁNOK  | 3                            | 1206                         |                                 |
| n-HEPTÉN  | 3                            | 2278                         |                                 |
| HEXADECIL-TRIKLÓR-SZILÁN  | 8                            | 1781                         |                                 |
| HEXADIÉNEK  | 3                            | 2458                         |                                 |
| HEXAETIL-TETRAFOSZFÁT   | 6.1                          | 1611                         |                                 |
| HEXAETIL-TETRAFOSZFÁT ÉS SŰRÍTETT GÁZ KEVERÉK   | 2                            | 1612                         |                                 |
| HEXAFLUOR-ACETON  | 2                            | 2420                         |                                 |
| HEXAFLUOR-ACETON-HIDRÁT, FOLYÉKONY  | 6.1                          | 2552                         |                                 |
| HEXAFLUOR-ACETON-HIDRÁT, SZILÁRD  | 6.1                          | 3436                         |                                 |
| HEXAFLUOR-ETÁN (R 116 HŰTŐGÁZ)  | 2                            | 2193                         |                                 |
| HEXAFLUOR-PROPILÉN (R 1216 HŰTŐGÁZ)   | 2                            | 1858                         |                                 |
| HEXAFLUORO-FOSZFORSAV   | 8                            | 1782                         |                                 |

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| HEXAKLÓR-ACETON  | 6.1     | 2661    |            |
| HEXAKLÓR-BENZOL  | 6.1     | 2729    |            |
| HEXAKLÓR-BUTADIÉN  | 6.1     | 2279    |            |
| HEXAKLÓR-CIKLOPENTADIÉN  | 6.1     | 2646    |            |
| HEXAKLÓR-PLATINASAV, SZILÁRD   | 8       | 2507    |            |
| HEXAKLOROFÉN   | 6.1     | 2875    |            |
| HEXALDEHID   | 3       | 1207    |            |
| HEXAMETILÉN-DIAMIN OLDAT   | 8       | 1783    |            |
| HEXAMETILÉN-DIAMIN, SZILÁRD  | 8       | 2280    |            |
| HEXAMETILÉN-DIIZOCIANÁT  | 6.1     | 2281    |            |
| HEXAMETILÉN-IMIN   | 3       | 2493    |            |
| HEXAMETILÉN-TETRAMIN   | 4.1     | 1328    |            |
| HEXANITRO-DIFENIL-AMIN (DIPIKRIL-AMIN, HEXIL)  | 1.1D    | 0079    |            |
| HEXANITRO-SZTILBÉN   | 1.1D    | 0392    |            |
| HEXÁNOK  | 3       | 1208    |            |
| HEXANOLOK  | 3       | 2282    |            |
| 1-HEXÉN  | 3       | 2370    |            |
| HEXIL  | 1.1D    | 0079    |            |
| HEXIL-TRIKLÓR-SZILÁN   | 8       | 1784    |            |
| HEXOGÉN, DESZENZIBILIZÁLT  | 1.1D    | 0483    |            |
| HEXOGÉN, legalább 15 tömeg% vízzel NEDVESÍTETT   | 1.1D    | 0072    |            |
| HEXOLIT (HEXOTOL), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített   | 1.1D    | 0118    |            |
| HEXOTOL, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített   | 1.1D    | 0118    |            |
| HEXOTONAL  | 1.1D    | 0393    |            |
| HIDRAULIKUS NYOMÁS ALATTI TÁRGYAK (nem gyúlékony gáz tartalommal)  | 2       | 3164    |            |
| HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazintartalommal  | 8       | 2030    |            |
| HIDRAZIN VIZES OLDAT legfeljebb 37 tömeg% hidrazintartalommal  | 6.1     | 3293    |            |
| HIDRAZIN, VÍZMENTES  | 8       | 2029    |            |
| HIDRAZIN-HIDRÁT  | 8       | 2030    |            |
| HIDROGÉN ÉS METÁN KEVERÉKE, SŰRÍTETT   | 2       | 2034    |            |
| HIDROGÉN FÉMHIIDRID TÁROLÓ RENDSZERBEN<br>HIDROGÉN KÉSZÜLÉKBEN LÉVŐ FÉMHIIDRID TÁROLÓ RENDSZERBEN<br>HIDROGÉN KÉSZÜLÉKKEL EGYBECSOMAGOLT FÉMHIIDRID TÁROLÓ RENDSZERBEN | 2       | 3468    |            |
| HIDROGÉN, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT   | 2       | 1966    |            |
| HIDROGÉN, SŰRÍTETT   | 2       | 1049    |            |
| HIDROGÉN-BROMID, VÍZMENTES   | 2       | 1048    |            |
| HIDROGÉN-CIANID ALKOHOLOS OLDAT legfeljebb 45% hidrogén-cianid tartalommal   | 6.1     | 3294    |            |
| HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal   | 6.1     | 1051    |            |
| HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal és inert porózus anyagban abszorbeálva  | 6.1     | 1614    |            |
| HIDROGÉN-CIANID VIZES OLDAT (CIÁN-HIDROGÉNSAV VIZES OLDAT) legfeljebb 20% hidrogén-cianid tartalommal  | 6.1     | 1613    |            |
| HIDROGÉN-DIFLUORIDOK OLDA, M.N.N.  | 8       | 3471    |            |
| HIDROGÉN-DIFLUORIDOK, SZILÁRD, M.N.N.  | 8       | 1740    |            |

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| HIDROGÉN-FLUORID, VÍZMENTES  | 8       | 1052    |                             |
| HIDROGÉN-JODID, VÍZMENTES  | 2       | 2197    |                             |
| HIDROGÉN-KLORID, MÉLYHÚTÓTT, CSEPPFOLYÓSÍTOTT  | 2       | 2186    | A szállításból ki van zárva |
| HIDROGÉN-KLORID, VÍZMENTES   | 2       | 1050    |                             |
| HIDROGÉN-PEROXID ÉS PEROXI-ECETSAV KEVERÉK savakkal, vízzel és legfeljebb 5% peroxi-ecetsavval, STABILIZÁLT              | 5.1     | 3149    |                             |
| HIDROGÉN-PEROXID VIZES OLDAT legalább 8%, de legfeljebb 20% hidrogén-peroxid tartalommal (szükség szerint stabilizálva)  | 5.1     | 2984    |                             |
| HIDROGÉN-PEROXID VIZES OLDAT legalább 20%, de legfeljebb 60% hidrogén-peroxid tartalommal (szükség szerint stabilizálva) | 5.1     | 2014    |                             |
| HIDROGÉN-PEROXID VIZES OLDAT, STABILIZÁLT, 60%-nál több hidrogén-peroxid tartalommal                                     | 5.1     | 2015    |                             |
| HIDROGÉN-SZELENID, VÍZMENTES   | 2       | 2202    |                             |
| HIDROGÉN-SZULFID   | 2       | 1053    |                             |
| 1-HIDROXIBENZOTRIAZOL, VÍZMENTES, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített                                  | 1.3C    | 0508    |                             |
| 1-HIDROXIBENZOTRIAZOL, VÍZMENTES, legalább 20 tömeg% vízzel NEDVESÍTETT  | 4.1     | 3474    |                             |
| 3-Hidroxi-butiraldehid: lásd ALDOL   |         |         |                             |
| HIDROXIL-AMMÓNIUM-SZULFÁT  | 8       | 2865    |                             |
| HIGANY   | 8       | 2809    |                             |
| HIGANY-ACETÁT  | 6.1     | 1629    |                             |
| HIGANY ALAPÚ PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)   | 3       | 2778    |                             |
| HIGANY ALAPÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ   | 6.1     | 3012    |                             |
| HIGANY ALAPÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)                                      | 6.1     | 3011    |                             |
| HIGANY ALAPÚ PESZTICID, SZILÁRD, MÉRGEZŐ   | 6.1     | 2777    |                             |
| HIGANY(II)-AMMÓNIUM-KLORID   | 6.1     | 1630    |                             |
| HIGANY(II)-ARZENÁT   | 6.1     | 1623    |                             |
| HIGANY(II)-BENZOÁT   | 6.1     | 1631    |                             |
| HIGANY-BROMIDOK  | 6.1     | 1634    |                             |
| HIGANY-CIANID  | 6.1     | 1636    |                             |
| HIGANY-FULMINÁT, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT                                   | 1.1A    | 0135    |                             |
| HIGANY-GLUKONÁT  | 6.1     | 1637    |                             |
| HIGANY-JODID   | 6.1     | 1638    |                             |
| HIGANY(II)-KLORID  | 6.1     | 1624    |                             |
| HIGANY(I)-NITRÁT   | 6.1     | 1627    |                             |
| HIGANY(II)-NITRÁT  | 6.1     | 1625    |                             |
| HIGANY-NUKLEÁT   | 6.1     | 1639    |                             |
| HIGANY-OLEÁT   | 6.1     | 1640    |                             |
| HIGANY-OXI-CIANID, ÉRZÉKETLENÍTETT   | 6.1     | 1642    |                             |
| HIGANY-OXID  | 6.1     | 1641    |                             |
| HIGANY-SZALICILÁT  | 6.1     | 1644    |                             |
| HIGANY-SZULFÁT   | 6.1     | 1645    |                             |
| HIGANY-TIOCIANÁT   | 6.1     | 1646    |                             |
| HIGANYVEGYÜLET, FOLYÉKONY, M.N.N.  | 6.1     | 2024    |                             |
| HIGANYVEGYÜLET, SZILÁRD, M.N.N.  | 6.1     | 2025    |                             |
| HIPOKLORIT OLDAT   | 8       | 1791    |                             |
| HIPOKLORITOK, SZERVETLEN, M.N.N.   | 5.1     | 3212    |                             |
| HMX, DESZENZIBILIZÁLT  | 1.1D    | 0484    |                             |

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|--|------------------------------|------------------------------|------------|
| HMX, legalább 15 tömeg% vízzel NEDVESÍTETT   | 1.1D                         | 0226                         |            |
| Hordóbélelő anyagok: lásd BEVONÓ OLDAT   |                              |                              |            |
| HULLADÉK KÉNSAV  | 8                            | 1906                         |            |
| HŰTŐGÁZ: lásd R... HŰTŐGÁZ is  |                              |                              |            |
| HŰTŐGÁZ, M.N.N., mint F1 keverék, F2 keverék vagy F3 keverék                       | 2                            | 1078                         |            |
| HŰTŐGÉPEK, gyúlékony, nem mérgező, cseppfolyósított gáz tartalommal                | 2                            | 3358                         |            |
| HŰTŐGÉPEK, nem gyúlékony, nem mérgező gáz vagy ammónia oldat (UN 2672) tartalommal | 2                            | 2857                         |            |
| 3,3'-IMINO-BISZPROPIL-AMIN   | 8                            | 2269                         |            |
| INDÍTÓGYÚJTÓK  | 1.3G<br>1.4G<br>1.4S         | 0316<br>0317<br>0368         |            |
| IPARI ROBBANÓTÖLTETEK detonátor nélkül   | 1.1D<br>1.2D<br>1.4D<br>1.4S | 0442<br>0443<br>0444<br>0445 |            |
| ÍZANYAG KIVONATOK, FOLYÉKONY   | 3                            | 1197                         |            |
| IZOBUTÁN   | 2                            | 1969                         |            |
| IZOBUTANOL (IZOBUTIL-ALKOHOL)  | 3                            | 1212                         |            |
| IZOBUTÉN   | 2                            | 1055                         |            |
| IZOBUTIL-ACETÁT  | 3                            | 1213                         |            |
| IZOBUTIL-AKRILÁT, STABILIZÁLT  | 3                            | 2527                         |            |
| IZOBUTIL-ALKOHOL   | 3                            | 1212                         |            |
| IZOBUTIL-AMIN  | 3                            | 1214                         |            |
| IZOBUTIL-FORMIÁT   | 3                            | 2393                         |            |
| IZOBUTIL-IZOBUTIRÁT  | 3                            | 2528                         |            |
| IZOBUTIL-IZOCIANÁT   | 3                            | 2486                         |            |
| IZOBUTIL-METAKRILÁT, STABILIZÁLT   | 3                            | 2283                         |            |
| IZOBUTIL-PROPIONÁT   | 3                            | 2394                         |            |
| IZOBUTIL-VINIL-ÉTER, STABILIZÁLT   | 3                            | 1304                         |            |
| IZOBUTILALDEHID  | 3                            | 2045                         |            |
| IZOBUTIRALDEHID (IZOBUTILALDEHID)  | 3                            | 2045                         |            |
| IZOBUTIRIL-KLORID  | 3                            | 2395                         |            |
| IZOBUTIRONITRIL  | 3                            | 2284                         |            |
| IZOCIANÁT OLDAT, GYÚLÉKONY, MÉRGEZŐ, M.N.N.  | 3                            | 2478                         |            |
| IZOCIANÁT OLDAT, MÉRGEZŐ, GYÚLÉKONY, M.N.N.  | 6.1                          | 3080                         |            |
| IZOCIANÁT OLDAT, MÉRGEZŐ, M.N.N.   | 6.1                          | 2206                         |            |
| IZOCIANÁTO-BENZO-TRIFLUORIDOK  | 6.1                          | 2285                         |            |
| IZOCIANÁTOK, GYÚLÉKONY, MÉRGEZŐ, M.N.N.  | 3                            | 2478                         |            |
| IZOCIANÁTOK, MÉRGEZŐ, GYÚLÉKONY, M.N.N.  | 6.1                          | 3080                         |            |
| IZOCIANÁTOK, MÉRGEZŐ, M.N.N.   | 6.1                          | 2206                         |            |
| Izododekán: lásd PENTAMETIL-HEPTÁN   |                              |                              |            |
| IZOFORON-DIAMIN  | 8                            | 2289                         |            |
| IZOFORON-DIIZOCIANÁT   | 6.1                          | 2290                         |            |
| IZOHEPTÉNEK  | 3                            | 2287                         |            |
| IZOHEXÉNEK   | 3                            | 2288                         |            |
| IZOOKTÉNEK   | 3                            | 1216                         |            |
| IZOPENTÉNEK  | 3                            | 2371                         |            |
| IZOPRÉN, STABILIZÁLT   | 3                            | 1218                         |            |
| IZOPROPANOL (IZOPROPIL-ALKOHOL)  | 3                            | 1219                         |            |

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| IZOPROPENIL-ACETÁT   | 3                    | 2403                 |            |
| IZOPROPENIL-BENZOL   | 3                    | 2303                 |            |
| IZOPROPIL-ACETÁT   | 3                    | 1220                 |            |
| IZOPROPIL-ALKOHOL  | 3                    | 1219                 |            |
| IZOPROPIL-AMIN   | 3                    | 1221                 |            |
| IZOPROPIL-BENZOL (kumol)   | 3                    | 1918                 |            |
| IZOPROPIL-BUTIRÁT  | 3                    | 2405                 |            |
| IZOPROPIL-IZOBUTIRÁT   | 3                    | 2406                 |            |
| IZOPROPIL-IZOCIANÁT  | 3                    | 2483                 |            |
| IZOPROPIL-KLÓR-ACETÁT  | 3                    | 2947                 |            |
| IZOPROPIL-KLÓR-FORMIÁT   | 6.1                  | 2407                 |            |
| IZOPROPIL-2-KLÓR-PROPIONÁT   | 3                    | 2934                 |            |
| IZOPROPIL-NITRÁT   | 3                    | 1222                 |            |
| IZOPROPIL-PROPIONÁT  | 3                    | 2409                 |            |
| IZOSZORBID-DINITRÁT KEVERÉK legalább 60% laktózzal, mannózzal, keményítővel vagy kalcium-hidrogén-foszfáttal | 4.1                  | 2907                 |            |
| IZOSZORBID-5-MONONITRÁT  | 4.1                  | 3251                 |            |
| IZOVAJSAV  | 3                    | 2529                 |            |
| JÉGECET  | 8                    | 2789                 |            |
| JELZŐPATRONOK  | 1.3G<br>1.4G<br>1.4S | 0054<br>0312<br>0405 |            |
| JELZŐTESTEK, KÉZI  | 1.4G<br>1.4S         | 0191<br>0373         |            |
| 2-JÓD-BUTÁN  | 3                    | 2390                 |            |
| JÓD-HIDROGÉNSAV  | 8                    | 1787                 |            |
| JÓD-METIL-PROPÁNOK   | 3                    | 2391                 |            |
| JÓD-MONOKLORID   | 8                    | 1792                 |            |
| JÓD-PENTAFLUORID   | 5.1                  | 2495                 |            |
| JÓD-PROPÁNOK   | 3                    | 2392                 |            |
| KÁBELVÁGÓ SZERKEZET ROBBANÓANYAGGAL  | 1.4S                 | 0070                 |            |
| KADMIUMVEGYÜLET  | 6.1                  | 2570                 |            |
| KAKODILSAV   | 6.1                  | 1572                 |            |
| KALCIUM  | 4.3                  | 1401                 |            |
| KALCIUM-ARZENÁT  | 6.1                  | 1573                 |            |
| KALCIUM-ARZENÁT ÉS KALCIUM-ARZENIT SZILÁRD KEVERÉK   | 6.1                  | 1574                 |            |
| KALCIUM-CIÁNAMID 0,1%-nál nagyobb kalcium-karbid tartalommal   | 4.3                  | 1403                 |            |
| KALCIUM-CIANID   | 6.1                  | 1575                 |            |
| KALCIUM-DITIONIT (KALCIUM-HIPODISZULFIT)   | 4.2                  | 1923                 |            |
| KALCIUM-FOSZFID  | 4.3                  | 1360                 |            |
| KALCIUM-HIDRID   | 4.3                  | 1404                 |            |
| KALCIUM-HIPODISZULFIT  | 4.2                  | 1923                 |            |
| KALCIUM-HIPOKLORIT HIDRATÁLT KEVERÉK legalább 5,5%, de legfeljebb 16% vízzel                                 | 5.1                  | 2880                 |            |
| KALCIUM-HIPOKLORIT, HIDRATÁLT legalább 5,5%, de legfeljebb 16% vízzel  | 5.1                  | 2880                 |            |
| KALCIUM-HIPOKLORIT KEVERÉK, SZÁRAZ, 10%-nál több, de legfeljebb 39% szabad klórtartalommal                   | 5.1                  | 2208                 |            |
| KALCIUM-HIPOKLORIT KEVERÉK, SZÁRAZ, 39%-nál több   | 5.1                  | 1748                 |            |



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|---|---------|---------|---------------------------------|
| szabad klórtartalommal (8,8% szabad oxigénnel)        |         |         |                                 |
| KALCIUM-HIPOKLORIT, SZÁRAZ                            | 5.1     | 1748    |                                 |
| KALCIUM-KARBID  | 4.3     | 1402    |                                 |
| KALCIUM-KLORÁT  | 5.1     | 1452    |                                 |
| KALCIUM-KLORÁT VIZES OLDAT                            | 5.1     | 2429    |                                 |
| KALCIUM-KLORIT  | 5.1     | 1453    |                                 |
| KALCIUM-MANGÁN-SZILÍCIUM                              | 4.3     | 2844    |                                 |
| KALCIUM-NITRÁT  | 5.1     | 1454    |                                 |
| KALCIUM-OXID  | 8       | 1910    | Nem tartozik az ADR hatálya alá |
| KALCIUM ÖTVÖZETEK, PIROFOROS                          | 4.2     | 1855    |                                 |
| KALCIUM-PERKLORÁT                                     | 5.1     | 1455    |                                 |
| KALCIUM-PERMANGANÁT                                   | 5.1     | 1456    |                                 |
| KALCIUM-PEROXID                                       | 5.1     | 1457    |                                 |
| KALCIUM, PIROFOROS                                    | 4.2     | 1855    |                                 |
| KALCIUM-REZINÁT                                       | 4.1     | 1313    |                                 |
| KALCIUM-REZINÁT, OLVASZTOTT                           | 4.1     | 1314    |                                 |
| KALCIUM-SZILICID                                      | 4.3     | 1405    |                                 |
| Kálilúg: lásd KÁLIUM-HIDROXID OLDAT                   |         |         |                                 |
| KÁLIUM  | 4.3     | 2257    |                                 |
| KÁLIUM-ARZENÁT  | 6.1     | 1677    |                                 |
| KÁLIUM-ARZENIT  | 6.1     | 1678    |                                 |
| Kálium-bifluorid: lásd KÁLIUM-HIDROGÉN-FLUORID        |         |         |                                 |
| Kálium-biszulfát: lásd KÁLIUM-HIDROGÉN-SZULFÁT        |         |         |                                 |
| KÁLIUM-BÓR-HIDRID                                     | 4.3     | 1870    |                                 |
| KÁLIUM-BROMÁT   | 5.1     | 1484    |                                 |
| KÁLIUM-CIANID OLDAT                                   | 6.1     | 3413    |                                 |
| KÁLIUM-CIANID, SZILÁRD                                | 6.1     | 1680    |                                 |
| KÁLIUM-DITIONIT (KÁLIUM-HIPODISZULFIT)                | 4.2     | 1929    |                                 |
| KÁLIUM-FLUOR-ACETÁT                                   | 6.1     | 2628    |                                 |
| KÁLIUM-FLUORID OLDAT                                  | 6.1     | 3422    |                                 |
| KÁLIUM-FLUORID, SZILÁRD                               | 6.1     | 1812    |                                 |
| KÁLIUM-FLUORO-SZILIKÁT                                | 6.1     | 2655    |                                 |
| KÁLIUM-FOSZFID  | 4.3     | 2012    |                                 |
| KÁLIUM-HIDROGÉN-DIFLUORID OLDAT (kálium-bifluorid)    | 8       | 3421    |                                 |
| KÁLIUM-HIDROGÉN-DIFLUORID, SZILÁRD (kálium-bifluorid) | 8       | 1811    |                                 |
| KÁLIUM-HIDROGÉN-SZULFÁT (kálium-biszulfát)            | 8       | 2509    |                                 |
| KÁLIUM-HIPODISZULFIT                                  | 4.2     | 1929    |                                 |
| KÁLIUM-HIDROXID OLDAT (kálilúg)                       | 8       | 1814    |                                 |
| KÁLIUM-HIDROXID, SZILÁRD (marókáli)                   | 8       | 1813    |                                 |
| KÁLIUM-HIGANY-CIANID                                  | 6.1     | 1626    |                                 |
| KÁLIUM-HIGANY-JODID                                   | 6.1     | 1643    |                                 |
| KÁLIUM-HIPEROXID                                      | 5.1     | 2466    |                                 |
| KÁLIUM-KLORÁT   | 5.1     | 1485    |                                 |
| KÁLIUM-KLORÁT VIZES OLDAT                             | 5.1     | 2427    |                                 |
| KÁLIUM-METAVANADÁT                                    | 6.1     | 2864    |                                 |
| KÁLIUM-MONOXID  | 8       | 2033    |                                 |
| KÁLIUM-NÁTRIUM ÖTVÖZETEK, FOLYÉKONY                   | 4.3     | 1422    |                                 |
| KÁLIUM-NÁTRIUM ÖTVÖZETEK, SZILÁRD                     | 4.3     | 3404    |                                 |
| KÁLIUM-NITRÁT   | 5.1     | 1486    |                                 |

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|---|---------|---------|------------|
| KÁLIUM-NITRÁT ÉS NÁTRIUM-NITRIT KEVERÉK   | 5.1     | 1487    |            |
| KÁLIUM-NITRIT   | 5.1     | 1488    |            |
| Kálium-oxid: lásd KÁLIUM-MONOXID  |         |         |            |
| KÁLIUM-PERKLORÁT  | 5.1     | 1489    |            |
| KÁLIUM-PERMANGANÁT  | 5.1     | 1490    |            |
| KÁLIUM-PEROXID  | 5.1     | 1491    |            |
| KÁLIUM-PERSZULFÁT   | 5.1     | 1492    |            |
| KÁLIUM-RÉZ(I)-CIANID  | 6.1     | 1679    |            |
| KÁLIUM-SZULFID 30%-nál kevesebb kristályvíz-tartalommal                         | 4.2     | 1382    |            |
| KÁLIUM-SZULFID, HIDRATÁLT, legalább 30% kristályvíz-tartalommal                 | 8       | 1847    |            |
| KÁLIUM-SZULFID, VÍZMENTES   | 4.2     | 1382    |            |
| KÁLIUMFÉM ÖTVÖZETEK, FOLYÉKONY  | 4.3     | 1420    |            |
| KÁLIUMFÉM ÖTVÖZETEK, SZILÁRD  | 4.3     | 3403    |            |
| KÁMFOR, szintetikus   | 4.1     | 2717    |            |
| KÁMFOROLAJ  | 3       | 1130    |            |
| KAPRONSAV   | 8       | 2829    |            |
| KARBAMÁT PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)    | 3       | 2758    |            |
| KARBAMÁT PESZTICID, FOLYÉKONY, MÉRGEZŐ  | 6.1     | 2992    |            |
| KARBAMÁT PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C) | 6.1     | 2991    |            |
| KARBAMÁT PESZTICID, SZILÁRD, MÉRGEZŐ  | 6.1     | 2757    |            |
| KARBAMID-HIDROGÉN-PEROXID   | 5.1     | 1511    |            |
| KARBAMID-NITRÁT, legalább 10 tömeg% vízzel NEDVESÍTETT                          | 4.1     | 3370    |            |
| KARBAMID-NITRÁT, legalább 20 tömeg% vízzel NEDVESÍTETT                          | 4.1     | 1357    |            |
| KARBAMID-NITRÁT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített          | 1.1D    | 0220    |            |
| KARBONIL-FLUORID, SŰRÍTETT  | 2       | 2417    |            |
| KARBONIL-SZULFID  | 2       | 2204    |            |
| Karbonpapír: lásd TELÍTETLEN OLAJJAL KEZELT PAPÍR                               |         |         |            |
| KÁTRÁNYOK, FOLYÉKONY: lásd FOLYÉKONY KÁTRÁNYOK                                  |         |         |            |
| Kátrányolaj: lásd FOLYÉKONY KÁTRÁNYOK   |         |         |            |
| KÉK AZBESZT (krokidolit)  | 9       | 2212    |            |
| KÉMIAI OXIGÉNFEJLESZTŐ  | 5.1     | 3356    |            |
| KÉN   | 4.1     | 1350    |            |
| KÉN, OLVASZTOTT   | 4.1     | 2448    |            |
| KÉN-DIOXID  | 2       | 1079    |            |
| KÉN-HEXAFLUORID   | 2       | 1080    |            |
| KÉN-KLORIDOK  | 8       | 1828    |            |
| KÉN-TETRAFLUORID  | 2       | 2418    |            |
| KÉN-TRIOXID, STABILIZÁLT  | 8       | 1829    |            |
| Kence: lásd FESTÉK  |         |         |            |
| KÉNESSAV  | 8       | 1833    |            |
| KÉNSAV 51%-nál több savtartalommal  | 8       | 1830    |            |
| KÉNSAV legfeljebb 51% savtartalommal  | 8       | 2796    |            |
| KÉNSAV, FÜSTÖLGŐ (óleum)  | 8       | 1831    |            |
| KÉNSAV, HULLADÉK  | 8       | 1906    |            |
| KÉNSAV, KIMERÜLT  | 8       | 1832    |            |
| KEROZIN   | 3       | 1223    |            |

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| KETONOK, FOLYÉKONY, M.N.N.   | 3                    | 1224                 |                             |
| KÉZI JELZŐTESTEK   | 1.4G<br>1.4S         | 0191<br>0373         |                             |
| KÉZIFEGYVER TÖLTÉNYEK  | 1.3C                 | 0417                 |                             |
| KIDOBÓTÖLTETEK LÖVEGEKHEZ  | 1.3C<br>1.1C<br>1.2C | 0242<br>0279<br>0414 |                             |
| KIEGÉSZÍTŐ ROBBANÓTÖLTETEK   | 1.1D                 | 0060                 |                             |
| KIMERÜLT KÉNSAV  | 8                    | 1832                 |                             |
| KIMERÜLT VAS-OXID vagy KIMERÜLT VASSZIVACS a generátorgáz tisztításából  | 4.2                  | 1376                 |                             |
| KINOLIN  | 6.1                  | 2656                 |                             |
| KIOLDÓSZERKEZETEK, ROBBANÓANYAG TARTALMÚ   | 1.4S                 | 0173                 |                             |
| KIRÁLYVÍZ (salétromsav és sósav keveréke)  | 8                    | 1798                 | A szállításból ki van zárva |
| KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-I), nem hasadó vagy hasadó-engedményes   | 7                    | 2912                 |                             |
| KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), nem hasadó vagy hasadó-engedményes  | 7                    | 3321                 |                             |
| KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), nem hasadó vagy hasadó-engedményes   | 7                    | 3322                 |                             |
| KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), HASADÓ  | 7                    | 3324                 |                             |
| KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), HASADÓ   | 7                    | 3325                 |                             |
| KISMÉRETŰ ESZKÖZÖK SZÉNHIDROGÉN-GÁZ TÖLTETTEL, adagolószerkezettel   | 2                    | 3150                 |                             |
| KLÓR   | 2                    | 1017                 |                             |
| 2-KLÓR-ACETALDEHID   | 6.1                  | 2232                 |                             |
| KLÓR-ACETIL-KLORID   | 6.1                  | 1752                 |                             |
| KLÓR-ACETOFENON, FOLYÉKONY   | 6.1                  | 3416                 |                             |
| KLÓR-ACETOFENON, SZILÁRD   | 6.1                  | 1697                 |                             |
| KLÓR-ACETON, STABILIZÁLT   | 6.1                  | 1695                 |                             |
| KLÓR-ACETONITRIL   | 6.1                  | 2668                 |                             |
| KLÓR-ANILINEK, FOLYÉKONY   | 6.1                  | 2019                 |                             |
| KLÓR-ANILINEK, SZILÁRD   | 6.1                  | 2018                 |                             |
| KLÓR-ANIZIDINEK  | 6.1                  | 2233                 |                             |
| KLÓR-BENZIL-KLORIDOK, FOLYÉKONY  | 6.1                  | 2235                 |                             |
| KLÓR-BENZIL-KLORIDOK, SZILÁRD  | 6.1                  | 3427                 |                             |
| KLÓR-BENZO-TRIFLUORIDOK  | 3                    | 2234                 |                             |
| KLÓR-BENZOL  | 3                    | 1134                 |                             |
| KLÓR-BUTÁNOK   | 3                    | 1127                 |                             |
| KLÓR-CIÁN, STABILIZÁLT   | 2                    | 1589                 |                             |
| 1-KLÓR-1,1-DIFLUOR-ETÁN (R 142b HŰTŐGÁZ)   | 2                    | 2517                 |                             |
| KLÓR-DIFLUOR-METÁN (R 22 HŰTŐGÁZ)  | 2                    | 1018                 |                             |
| KLÓR-DIFLUOR-METÁN ÉS KLÓR-PENTAFLUOR-ETÁN KEVERÉK állandó forrásponttal, kb. 49% klór-difluor-metán tartalommal (R 502 HŰTŐGÁZ) | 2                    | 1973                 |                             |
| KLÓR-DINITRO-BENZOLOK, FOLYÉKONY   | 6.1                  | 1577                 |                             |
| KLÓR-DINITRO-BENZOLOK, SZILÁRD   | 6.1                  | 3441                 |                             |
| KLÓR-ECETSAV OLDAT   | 6.1                  | 1750                 |                             |
| KLÓR-ECETSAV, OLVASZTOTT   | 6.1                  | 3250                 |                             |
| KLÓR-ECETSAV, SZILÁRD  | 6.1                  | 1751                 |                             |

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|---|---------|---------|------------|
| 2-Klór-etanal: lásd 2-KLÓR-ACETALDEHID  |         |         |            |
| 2-Klór-etanol: lásd ETILÉN-KLÓRHIDRIN   |         |         |            |
| KLÓR-FENIL-TRIKLÓR-SZILÁN   | 8       | 1753    |            |
| KLÓR-FENOLÁTOK, FOLYÉKONY   | 8       | 2904    |            |
| KLÓR-FENOLÁTOK, SZILÁRD   | 8       | 2905    |            |
| KLÓR-FENOLOK, FOLYÉKONY   | 6.1     | 2021    |            |
| KLÓR-FENOLOK, SZILÁRD   | 6.1     | 2020    |            |
| KLÓR-FORMIÁTOK, MÉRGEZŐ, MARÓ, GYÚLÉKONY, M.N.N.  | 6.1     | 2742    |            |
| KLÓR-FORMIÁTOK, MÉRGEZŐ, MARÓ, M.N.N.   | 6.1     | 3277    |            |
| KLÓR-HIDROGÉNSAV (SÓSAV)  | 8       | 1789    |            |
| KLÓR-KREZOL OLDATOK   | 6.1     | 2669    |            |
| KLÓR-KREZOLOK, SZILÁRD  | 6.1     | 3437    |            |
| KLÓR-METIL-ETIL-ÉTER  | 3       | 2354    |            |
| 3-KLÓR-4-METIL-FENIL-IZOCIANÁT, FOLYÉKONY   | 6.1     | 2236    |            |
| 3-KLÓR-4-METIL-FENIL-IZOCIANÁT, SZILÁRD   | 6.1     | 3428    |            |
| KLÓR-METIL-KLÓR-FORMIÁT   | 6.1     | 2745    |            |
| KLÓR-NITRO-ANILINEK   | 6.1     | 2237    |            |
| KLÓR-NITRO-BENZOLOK, FOLYÉKONY  | 6.1     | 3409    |            |
| KLÓR-NITRO-BENZOLOK, SZILÁRD  | 6.1     | 1578    |            |
| KLÓR-NITRO-TOLUOLOK, FOLYÉKONY  | 6.1     | 2433    |            |
| KLÓR-NITRO-TOLUOLOK, SZILÁRD  | 6.1     | 3457    |            |
| KLÓR-PENTAFLUOR-ETÁN (R 115 HŰTŐGÁZ)  | 2       | 1020    |            |
| KLÓR-PENTAFLUORID   | 2       | 2548    |            |
| 2-KLÓR-PIRIDIN  | 6.1     | 2822    |            |
| 1-KLÓR-PROPÁN   | 3       | 1278    |            |
| 2-KLÓR-PROPÁN (izopropil-klorid)  | 3       | 2356    |            |
| 3-KLÓR-1-PROPANOL   | 6.1     | 2849    |            |
| 2-KLÓR-PROPÉN   | 3       | 2456    |            |
| 2-KLÓR-PROPIONSAV   | 8       | 2511    |            |
| KLÓR-SZILÁNOK, GYÚLÉKONY, MARÓ, M.N.N. (lobbanáspont 23 °C alatt)                                     | 3       | 2985    |            |
| KLÓR-SZILÁNOK, MARÓ, GYÚLÉKONY, M.N.N.  | 8       | 2986    |            |
| KLÓR-SZILÁNOK, MARÓ, M.N.N.   | 8       | 2987    |            |
| KLÓR-SZILÁNOK, MÉRGEZŐ, MARÓ, GYÚLÉKONY, M.N.N.   | 6.1     | 3362    |            |
| KLÓR-SZILÁNOK, MÉRGEZŐ, MARÓ, M.N.N.  | 6.1     | 3361    |            |
| KLÓR-SZILÁNOK, VÍZZEL REAKTÍV, GYÚLÉKONY, MARÓ, M.N.N.  | 4.3     | 2988    |            |
| KLÓR-SZULFONSAV (kén-trioxiddal vagy anélkül)   | 8       | 1754    |            |
| 1-KLÓR-1,2,2,2-TETRAFLUOR-ETÁN (R 124 HŰTŐGÁZ)  | 2       | 1021    |            |
| KLÓR-TOLUIDINEK, FOLYÉKONY  | 6.1     | 3429    |            |
| KLÓR-TOLUIDINEK, SZILÁRD  | 6.1     | 2239    |            |
| 4-KLÓR-o-TOLUIDIN-HIDROKLORID OLDAT   | 6.1     | 3410    |            |
| 4-KLÓR-o-TOLUIDIN-HIDROKLORID, SZILÁRD  | 6.1     | 1579    |            |
| KLÓR-TOLUOLOK   | 3       | 2238    |            |
| 1-KLÓR-2,2,2-TRIFLUOR-ETÁN (R 133a HŰTŐGÁZ)   | 2       | 1983    |            |
| Klór-trifluor-etilén: lásd TRIFLUOR-KLÓR-ETILÉN, STABILIZÁLT  |         |         |            |
| KLÓR-TRIFLUORID   | 2       | 1749    |            |
| KLÓR-TRIFLUOR-METÁN (R 13 HŰTŐGÁZ)  | 2       | 1022    |            |
| KLÓR-TRIFLUOR-METÁN ÉS TRIFLUOR-METÁN AZEOTRÓP KEVERÉK kb. 60% klór-trifluor-metán tartalommal (R 503 | 2       | 2599    |            |

| Megnevezés   | Osztály              | UN szám              | Megjegyzés |
|--|----------------------|----------------------|------------|
| HŰTŐGÁZ)   |                      |                      |            |
| KLORÁL, VÍZMENTES, STABILIZÁLT   | 6.1                  | 2075                 |            |
| KLORÁT ÉS BORÁT KEVERÉK  | 5.1                  | 1458                 |            |
| KLORÁT ÉS MAGNÉZIUM-KLORID KEVERÉK, OLDOTT                               | 5.1                  | 3407                 |            |
| KLORÁT ÉS MAGNÉZIUM-KLORID SZILÁRD KEVERÉK                               | 5.1                  | 1459                 |            |
| KLORÁTOK, SZERVETLEN, M.N.N.   | 5.1                  | 1461                 |            |
| KLORÁTOK, SZERVETLEN, VIZES OLDA, M.N.N.                                 | 5.1                  | 3210                 |            |
| KLORIT OLDAT   | 8                    | 1908                 |            |
| KLORITOK, SZERVETLEN M.N.N.  | 5.1                  | 1462                 |            |
| KLOROFORM  | 6.1                  | 1888                 |            |
| KLOROPRÉN, STABILIZÁLT   | 3                    | 1991                 |            |
| KLÓRPIKRIN   | 6.1                  | 1580                 |            |
| KLÓRPIKRIN ÉS METIL-BROMID KEVERÉK 2%-nál nagyobb klórpikrin tartalommal | 2                    | 1581                 |            |
| KLÓRPIKRIN ÉS METIL-KLORID KEVERÉK                                       | 2                    | 1582                 |            |
| KLÓRPIKRIN KEVERÉK, M.N.N.   | 6.1                  | 1583                 |            |
| KLÓRSAV VIZES OLDAT legfeljebb 10% klórsav-tartalommal                   | 5.1                  | 2626                 |            |
| KOBALT-NAFTENÁT POR  | 4.1                  | 2001                 |            |
| KOBALT-REZINÁT, LECSAPATOTT  | 4.1                  | 1318                 |            |
| KOPOGÁSGÁTLÓ KEVERÉK TŰZELŐANYAGOKHOZ                                    | 6.1                  | 1649                 |            |
| KOPRA  | 4.2                  | 1363                 |            |
| KÓRHÁZI HULLADÉK, NEM SPECIFIKÁLT, M.N.N.                                | 6.2                  | 3291                 |            |
| Kórházi minták: lásd DIAGNOSZTIKAI MINTÁK                                |                      |                      |            |
| KOROM (állati vagy növényi eredetű)                                      | 4.2                  | 1361                 |            |
| KOZMAOLAJ  | 3                    | 1201                 |            |
| KÖNNYEZTETŐ HATÁSÚ LŐSZER robbanó, kidobó vagy hajtótöltettel            | 1.2G<br>1.3G<br>1.4G | 0018<br>0019<br>0301 |            |
| KÖNNYGÁZ ANYAG, FOLYÉKONY, M.N.N.  | 6.1                  | 1693                 |            |
| KÖNNYGÁZ ANYAG, SZILÁRD, M.N.N.  | 6.1                  | 3448                 |            |
| KÖNNYGÁZGYERTYÁK   | 6.1                  | 1700                 |            |
| KÖNNYŰ FŰTŐOLAJ  | 3                    | 1202                 |            |
| KÖRNYEZETRE VESZÉLYES FOLYÉKONY ANYAG, M.N.N.                            | 9                    | 3082                 |            |
| KÖRNYEZETRE VESZÉLYES SZILÁRD ANYAG, M.N.N.                              | 9                    | 3077                 |            |
| KŐSZÉNKÁTRÁNY PÁRLATOK, GYÚLÉKONY  | 3                    | 1136                 |            |
| KÖTÉLVETŐ RAKÉTÁK  | 1.2G<br>1.3G<br>1.4G | 0238<br>0240<br>0453 |            |
| KÖZETREPESZTŐ TORPEDÓK detonátor nélkül, olajkutak fúrásához             | 1.1D                 | 0099                 |            |
| KRAKKGÁZ, SŰRÍTETT   | 2                    | 1071                 |            |
| KREZILSAV  | 6.1                  | 2022                 |            |
| KREZOLOK, FOLYÉKONY  | 6.1                  | 2076                 |            |
| KREZOLOK, SZILÁRD  | 6.1                  | 3455                 |            |
| KRIPTON, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT                                    | 2                    | 1970                 |            |
| KRIPTON, SŰRÍTETT  | 2                    | 1056                 |            |
| Krizotil: lásd FEHÉRAZBESZT  |                      |                      |            |
| Krokidolit: lásd KÉK AZBESZT   |                      |                      |            |
| KRÓM-FLUORID OLDAT   | 8                    | 1757                 |            |
| KRÓM-FLUORID, SZILÁRD  | 8                    | 1756                 |            |
| KRÓM-NITRÁT  | 5.1                  | 2720                 |            |

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|--|--------------------------------------|--------------------------------------|---------------------------------|
| KRÓM-OXI-KLORID  | 8                                    | 1758                                 |                                 |
| Króm-trifluorid: lásd KRÓM-FLUORID   |                                      |                                      |                                 |
| KRÓM-TRIOXID, VÍZMENTES  | 5.1                                  | 1463                                 |                                 |
| Kromil-klorid: lásd KRÓM-OXI-KLORID  |                                      |                                      |                                 |
| KRÓMKÉNSAV   | 8                                    | 2240                                 |                                 |
| KRÓMSAV OLDAT  | 8                                    | 1755                                 |                                 |
| KROTONALDEHID, STABILIZÁLT   | 6.1                                  | 1143                                 |                                 |
| KROTONSAV, FOLYÉKONY   | 8                                    | 3472                                 |                                 |
| KROTONILÉN   | 3                                    | 1144                                 |                                 |
| KROTONSAV  | 8                                    | 2823                                 |                                 |
| KUMARIN SZÁRMAZÉK PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)                  | 3                                    | 3024                                 |                                 |
| KUMARIN SZÁRMAZÉK PESZTICID, FOLYÉKONY, MÉRGEZŐ  | 6.1                                  | 3026                                 |                                 |
| KUMARIN SZÁRMAZÉK PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)               | 6.1                                  | 3025                                 |                                 |
| KUMARIN SZÁRMAZÉK PESZTICID, SZILÁRD, MÉRGEZŐ  | 6.1                                  | 3027                                 |                                 |
| Lakk: lásd FESTÉK  |                                      |                                      |                                 |
| LÉGI FORGALOMBAN SZABÁLYOZOTT FOLYADÉK, M.N.N.   | 9                                    | 3334                                 | Nem tartozik az ADR hatálya alá |
| LÉGI FORGALOMBAN SZABÁLYOZOTT SZILÁRD ANYAG, M.N.N.  | 9                                    | 3335                                 | Nem tartozik az ADR hatálya alá |
| LÉGI VILÁGÍTÓTESTEK  | 1.3G<br>1.4G<br>1.4S<br>1.1G<br>1.2G | 0093<br>0403<br>0404<br>0420<br>0421 |                                 |
| LÉGZSÁK GÁZGENERÁTOR   | 1.4G<br>9                            | 0503<br>3268                         |                                 |
| LÉGZSÁK MODUL  | 1.4G<br>9                            | 0503<br>3268                         |                                 |
| LEVEGŐ, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT   | 2                                    | 1003                                 |                                 |
| LEVEGŐ, SŰRÍTETT   | 2                                    | 1002                                 |                                 |
| Limonén: lásd  | 3                                    | 2052                                 |                                 |
| LÍTIUM   | 4.3                                  | 1415                                 |                                 |
| lítium akkumulátorok: lásd<br>FÉMLÍTIUM AKKUMULÁTOROK vagy<br>LÍTIUMINON AKKUMULÁTOROK                 |                                      |                                      |                                 |
| LÍTIUM-ALUMÍNÍUM-HIDRID  | 4.3                                  | 1410                                 |                                 |
| LÍTIUM-ALUMÍNÍUM-HIDRID ÉTERBEN  | 4.3                                  | 1411                                 |                                 |
| LÍTIUM-BÓR-HIDRID  | 4.3                                  | 1413                                 |                                 |
| LÍTIUM-FERROSZILÍCIUM  | 4.3                                  | 2830                                 |                                 |
| LÍTIUM-HIDRID  | 4.3                                  | 1414                                 |                                 |
| LÍTIUM-HIDRID, OLVASZTOTT, SZILÁRD   | 4.3                                  | 2805                                 |                                 |
| LÍTIUM-HIDROXID  | 8                                    | 2680                                 |                                 |
| LÍTIUM-HIDROXID OLDAT  | 8                                    | 2679                                 |                                 |
| LÍTIUM-HIPOKLORIT KEVERÉK  | 5.1                                  | 1471                                 |                                 |
| LÍTIUM-HIPOKLORIT, SZÁRAZ  | 5.1                                  | 1471                                 |                                 |
| LÍTIUMION AKKUMULÁTOROK (beleértve a lítiumion polimer akkumulátorokat is)                             | 9                                    | 3480                                 |                                 |
| LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKBEN (beleértve a lítiumion polimer akkumulátorokat is)                 | 9                                    | 3481                                 |                                 |
| LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECSOMAGOLVA (beleértve a lítiumion polimer akkumulátorokat is) |                                      |                                      |                                 |

| Megnevezés  | Osztály                                      | UN szám                                      | Megjegyzés                  |
|---|--|--|-----------------------------|
| LÍTIUM-NITRÁT   | 5.1  | 2722   |                             |
| LÍTIUM-NITRID   | 4.3  | 2806   |                             |
| LÍTIUM-PEROXID  | 5.1  | 1472   |                             |
| LÍTIUM-SZILÍCIUM  | 4.3  | 1417   |                             |
| LONDON VÖRÖS  | 6.1  | 1621   |                             |
| LŐPOR: lásd FEKETE LŐPOR; FÜST NÉLKÜLI LŐPOR  |  |  |                             |
| LŐPORBRIKETT (LŐPORPASZTA), legalább 17 tömeg% alkohollal NEDVESÍTETT   | 1.1C   | 0433   |                             |
| LŐPORBRIKETT (LŐPORPASZTA), legalább 25 tömeg% vízzel NEDVESÍTETT   | 1.3C   | 0159   |                             |
| LŐPORPASZTA, legalább 17 tömeg% alkohollal NEDVESÍTETT  | 1.1C   | 0433   |                             |
| LŐPORPASZTA, legalább 25 tömeg% vízzel NEDVESÍTETT  | 1.3C   | 0159   |                             |
| LŐSZER, FEHÉRFOSZFOR TARTALMÚ, GYÚJTÓ HATÁSÚ, robbanó-, kidobó- vagy hajtótöltettel   | 1.2H<br>1.3H                                 | 0243<br>0244                                 |                             |
| LŐSZER, FÜSTKÉPZŐ, robbanó-, kidobó- vagy hajtótöltettel vagy anélkül   | 1.2G<br>1.3G<br>1.4G                         | 0015<br>0016<br>0303                         |                             |
| LŐSZER, GYÚJTÓ HATÁSÚ, gyúlékony folyadék vagy gél tartalommal, robbanó-, kidobó- vagy hajtótöltettel   | 1.3J   | 0247   |                             |
| LŐSZER, GYÚJTÓ HATÁSÚ, robbanó-, kidobó- vagy hajtótöltettel vagy anélkül   | 1.2G<br>1.3G<br>1.4G                         | 0009<br>0010<br>0300                         |                             |
| LŐSZER, KÖNNYEZTETŐ HATÁSÚ, robbanó-, kidobó- vagy hajtótöltettel   | 1.2G<br>1.3G<br>1.4G                         | 0018<br>0019<br>0301                         |                             |
| LŐSZER, KÖNNYGÁZFEJLESZTŐ, NEM ROBBANÓ, robbanó- vagy kidobótöltet nélkül, gyújtószerkezet nélkül   | 6.1  | 2017   |                             |
| LŐSZER, MÉRGEZŐ HATÁSÚ, robbanó-, kidobó- vagy hajtótöltettel   | 1.2K<br>1.3K                                 | 0020<br>0021                                 | A szállításból ki van zárva |
| LŐSZER, MÉRGEZŐ, NEM ROBBANÓ robbanó- vagy hajtótöltet nélkül, gyújtószerkezet nélkül   | 6.1  | 2016   |                             |
| LŐSZER, VILÁGÍTÓ HATÁSÚ, robbanó-, kidobó- vagy hajtótöltettel vagy anélkül   | 1.2G<br>1.3G<br>1.4G                         | 0171<br>0254<br>0297                         |                             |
| LÖVEDÉKEK (inertek, nyomjelzőszerrel)   | 1.3G<br>1.4G<br>1.4S                         | 0424<br>0425<br>0345                         |                             |
| LÖVEDÉKEK robbanó- vagy kidobótöltettel   | 1.2D<br>1.4D<br>1.2F<br>1.4F<br>1.2G<br>1.4G | 0346<br>0347<br>0426<br>0427<br>0434<br>0435 |                             |
| LÖVEDÉKEK robbanótöltettel  | 1.1F<br>1.1D<br>1.2D<br>1.2F<br>1.4D         | 0167<br>0168<br>0169<br>0324<br>0344         |                             |
| MAGAS HŐMÉRSÉKLETŰ FOLYÉKONY ANYAG, M.N.N., 100 °C-on vagy magasabb hőmérsékleten, de a lobbanáspont alatti hőmérsékleten (beleértve az olvasztott fémeket, olvasztott sókat, stb.) | 9  | 3257   |                             |
| MAGAS HŐMÉRSÉKLETŰ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N., 60 °C feletti lobbanásponttal, a lobbanásponton vagy magasabb hőmérsékleten  | 3  | 3256   |                             |
| MAGAS HŐMÉRSÉKLETŰ SZILÁRD ANYAG, M.N.N., 240 °C-on vagy magasabb hőmérsékleten   | 9  | 3258   |                             |

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|--|---------|---------|---------------------------------|
| MÁGNESEZETT ANYAG  | 9       | 2807    | Nem tartozik az ADR hatálya alá |
| MAGNÉZIUM pellet, forgács vagy szalag formában   | 4.1     | 1869    |                                 |
| MAGNÉZIUM ÖTVÖZET 50%-nál több magnéziumtartalommal pellet, forgács vagy szalag formában               | 4.1     | 1869    |                                 |
| MAGNÉZIUM ÖTVÖZET POR  | 4.3     | 1418    |                                 |
| MAGNÉZIUM SZEMCSÉK, BEVONT, legalább 149 mikron szemcsemérettel  | 4.3     | 2950    |                                 |
| MAGNÉZIUM-ALUMÍNIUM-FOSZFID  | 4.3     | 1419    |                                 |
| MAGNÉZIUM-ARZENÁT  | 6.1     | 1622    |                                 |
| MAGNÉZIUM-BROMÁT   | 5.1     | 1473    |                                 |
| MAGNÉZIUM-DIAMID   | 4.2     | 2004    |                                 |
| MAGNÉZIUM-FLUORO-SZILIKÁT  | 6.1     | 2853    |                                 |
| MAGNÉZIUM-FOSZFID  | 4.3     | 2011    |                                 |
| MAGNÉZIUM-HIDRID   | 4.3     | 2010    |                                 |
| MAGNÉZIUM-KLORÁT   | 5.1     | 2723    |                                 |
| MAGNÉZIUM-NITRÁT   | 5.1     | 1474    |                                 |
| MAGNÉZIUM-PERKLORÁT  | 5.1     | 1475    |                                 |
| MAGNÉZIUM-PEROXID  | 5.1     | 1476    |                                 |
| MAGNÉZIUMPOR   | 4.3     | 1418    |                                 |
| MAGNÉZIUM-SZILICID   | 4.3     | 2624    |                                 |
| MALEINSAVANHIDRID  | 8       | 2215    |                                 |
| MALEINSAVANHIDRID, OLVASZTOTT  | 8       | 2215    |                                 |
| MALONITRIL   | 6.1     | 2647    |                                 |
| MANEB  | 4.2     | 2210    |                                 |
| MANEB, önmelegedéssel szemben STABILIZÁLT  | 4.3     | 2968    |                                 |
| MANEB KÉSZÍTMÉNY legalább 60% manebtartalommal   | 4.2     | 2210    |                                 |
| MANEB KÉSZÍTMÉNY, önmelegedéssel szemben STABILIZÁLT   | 4.3     | 2968    |                                 |
| Mangán-etilén-1,2-bisz-ditiokarbamát: lásd MANEB   |         |         |                                 |
| MANGÁN-NITRÁT  | 5.1     | 2724    |                                 |
| MANGÁN-REZINÁT   | 4.1     | 1330    |                                 |
| MANNIT-HEXANITRÁT (NITROMANNIT), legalább 40 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT | 1.1D    | 0133    |                                 |
| MARÓ FOLYADÉK, M.N.N.  | 8       | 1760    |                                 |
| MARÓ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N.   | 8       | 3244    |                                 |
| MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.   | 8       | 3267    |                                 |
| MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.  | 8       | 3266    |                                 |
| MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.   | 8       | 3265    |                                 |
| MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.  | 8       | 3264    |                                 |
| MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.  | 3       | 2924    |                                 |
| MARÓ, LÚGOS FOLYÉKONY ANYAG, M.N.N.  | 8       | 1719    |                                 |
| MARÓ, ÖNMELEGEDŐ ALKÁLIFÉM-ALKOHOLÁTOK, M.N.N.   | 4.2     | 3206    |                                 |
| MARÓ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.  | 4.2     | 3185    |                                 |
| MARÓ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.  | 4.2     | 3126    |                                 |
| MARÓ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.   | 4.2     | 3188    |                                 |
| MARÓ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.   | 4.2     | 3192    |                                 |
| MARÓ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.   | 4.1     | 2925    |                                 |
| MARÓ, SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   | 6.1     | 2927    |                                 |



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|---|--------------|--------------|-----------------------------|
| MARÓ, SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.                                | 6.1          | 2928         |                             |
| MARÓ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.                           | 4.1          | 3180         |                             |
| MARÓ, SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.                           | 6.1          | 3289         |                             |
| MARÓ, SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.                             | 6.1          | 3290         |                             |
| MARÓ SZILÁRD ANYAG, M.N.N.  | 8            | 1759         |                             |
| MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.                                  | 8            | 3263         |                             |
| MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.                               | 8            | 3262         |                             |
| MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.                                  | 8            | 3261         |                             |
| MARÓ, SZILÁRD, SAVAS SZERVETLEN ANYAG, M.N.N.                               | 8            | 3260         |                             |
| Marónátron: lásd NÁTRIUM-HIDROXID, SZILÁRD                                  |              |              |                             |
| MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.                                    | 2            | 3158         |                             |
| MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT, GYÚJTÓ HATÁSÚ GÁZ, M.N.N.                     | 2            | 3311         |                             |
| MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT, GYÚLÉKONY GÁZ, M.N.N.                         | 2            | 3312         |                             |
| MENTŐESZKÖZ, NEM ÖNFELFÚVÓ, mely tartozékként veszélyes anyagokat tartalmaz | 9            | 3072         |                             |
| MENTŐESZKÖZ, ÖNFELFÚVÓ  | 9            | 2990         |                             |
| MÉRGEZŐ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N.                             | 6.1          | 3243         |                             |
| MÉRGEZŐ, FOLYÉKONY, GYÚLÉKONY SZERVES ANYAG, M.N.N.                         | 6.1          | 2929         |                             |
| MÉRGEZŐ HATÁSÚ LŐSZER robbanó, kidobó vagy hajtótöltettel                   | 1.2K<br>1.3K | 0020<br>0021 | A szállításból ki van zárva |
| MÉRGEZŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.                                       | 8            | 2922         |                             |
| MÉRGEZŐ, MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.                            | 3            | 3286         |                             |
| MÉRGEZŐ, MARÓ SZILÁRD ANYAG, M.N.N.   | 8            | 2923         |                             |
| MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.                        | 4.2          | 3184         |                             |
| MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.                          | 4.2          | 3128         |                             |
| MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.                     | 4.2          | 3187         |                             |
| MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.                       | 4.2          | 3191         |                             |
| MÉRGEZŐ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.                           | 4.1          | 2926         |                             |
| MÉRGEZŐ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.                        | 4.1          | 3179         |                             |
| MÉRGEZŐ, SZILÁRD, GYÚLÉKONY SZERVES ANYAG, M.N.N.                           | 6.1          | 2930         |                             |
| MERKAPTÁN KEVERÉK, FOLYÉKONY, GYÚLÉKONY, M.N.N.                             | 3            | 3336         |                             |
| MERKAPTÁN KEVERÉK, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ, M.N.N.                    | 3            | 1228         |                             |
| MERKAPTÁN KEVERÉK, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY, M.N.N.                    | 6.1          | 3071         |                             |
| MERKAPTÁNOK, FOLYÉKONY, GYÚLÉKONY, M.N.N.                                   | 3            | 3336         |                             |
| MERKAPTÁNOK, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ, M.N.N.                          | 3            | 1228         |                             |
| MERKAPTÁNOK, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY, M.N.N.                          | 6.1          | 3071         |                             |
| 5-MERKAPTOTETRAZOL-1-ECETSAV  | 1.4C         | 0448         |                             |
| METAKRILALDEHID, STABILIZÁLT  | 3            | 2396         |                             |
| METAKRILNITRIL, STABILIZÁLT   | 3            | 3079         |                             |

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|--|---------|---------|------------|
| METAKRILSAV, STABILIZÁLT   | 8       | 2531    |            |
| METALDEHID   | 4.1     | 1332    |            |
| METÁN, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT  | 2       | 1972    |            |
| METÁN, SŰRÍTETT  | 2       | 1971    |            |
| METÁN-SZULFONIL-KLORID   | 6.1     | 3246    |            |
| METANOL  | 3       | 1230    |            |
| METIL-ACETÁT   | 3       | 1231    |            |
| METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK, STABILIZÁLT, mint P1 keverék vagy P2 keverék is             | 2       | 1060    |            |
| Metil-acetilén és propadién keveréke szénhidrogénekkal: lásd METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK |         |         |            |
| METIL-AKRILÁT, STABILIZÁLT   | 3       | 1919    |            |
| METIL-ALLIL-ALKOHOL  | 3       | 2614    |            |
| METIL-ALLIL-KLORID   | 3       | 2554    |            |
| METIL-AMIL-ACETÁT  | 3       | 1233    |            |
| Metil-amil-alkohol: lásd METIL-IZOBUTIL-KARBINOL   |         |         |            |
| METIL-AMIN VIZES OLDAT   | 3       | 1235    |            |
| METIL-AMIN, VÍZMENTES  | 2       | 1061    |            |
| N-METIL-ANILIN   | 6.1     | 2294    |            |
| alfa-METIL-BENZIL-ALKOHOL, FOLYÉKONY   | 6.1     | 2937    |            |
| alfa-METIL-BENZIL-ALKOHOL, SZILÁRD   | 6.1     | 3438    |            |
| METIL-BRÓM-ACETÁT  | 6.1     | 2643    |            |
| METIL-BROMID ÉS ETILÉN-DIBROMID FOLYÉKONY KEVERÉK  | 6.1     | 1647    |            |
| METIL-BROMID legfeljebb 2% klórpikrin tartalommal  | 2       | 1062    |            |
| 3-METIL-2-BUTANON  | 3       | 2397    |            |
| 2-METIL-1-BUTÉN  | 3       | 2459    |            |
| 2-METIL-2-BUTÉN  | 3       | 2460    |            |
| 3-METIL-1-BUTÉN  | 3       | 2561    |            |
| N-METIL-BUTIL-AMIN   | 3       | 2945    |            |
| METIL-terc-BUTIL-ÉTER  | 3       | 2398    |            |
| 2-METIL-BUTIRALDEHID   | 3       | 3371    |            |
| METIL-BUTIRÁT  | 3       | 1237    |            |
| Metil-cianid: lásd ACETONITRIL   |         |         |            |
| METIL-CIKLOHEXÁN   | 3       | 2296    |            |
| METIL-CIKLOHEXANOLOK, gyúlékony  | 3       | 2617    |            |
| METIL-CIKLOHEXANON   | 3       | 2297    |            |
| METIL-CIKLOPENTÁN  | 3       | 2298    |            |
| METIL-DIKLÓR-ACETÁT  | 6.1     | 2299    |            |
| METIL-DIKLÓR-SZILÁN  | 4.3     | 1242    |            |
| METIL-ETIL-KETON   | 3       | 1193    |            |
| 2-METIL-5-ETIL-PIRIDIN   | 6.1     | 2300    |            |
| METIL-FENIL-DIKLÓR-SZILÁN  | 8       | 2437    |            |
| METIL-FLUORID (R 41 HŰTŐGÁZ)   | 2       | 2454    |            |
| METIL-FORMIÁT  | 3       | 1243    |            |
| 2-METIL-FURÁN  | 3       | 2301    |            |
| 2-METIL-2-HEPTÁNTIOL   | 6.1     | 3023    |            |
| 5-METIL-2-HEXANON  | 3       | 2302    |            |
| METIL-HIDRAZIN   | 6.1     | 1244    |            |
| METIL-IZOBUTIL-KARBINOL (metil-amil-alkohol)   | 3       | 2053    |            |

| Megnevezés   | Osztály                      | UN szám                      | Megjegyzés                  |
|--|------------------------------|------------------------------|-----------------------------|
| METIL-IZOBUTIL-KETON                                 | 3                            | 1245                         |                             |
| METIL-IZOCIANÁT                                      | 6.1                          | 2480                         |                             |
| METIL-IZOPROPENIL-KETON, STABILIZÁLT                 | 3                            | 1246                         |                             |
| Metil-izopropil-benzolok: lásd CIMOLOK               |                              |                              |                             |
| ETIL-IZOTIOCIANÁT                                    | 6.1                          | 2477                         |                             |
| METIL-IZOVALERÁT                                     | 3                            | 2400                         |                             |
| METIL-JODID  | 6.1                          | 2644                         |                             |
| METIL-KLÓR-ACETÁT                                    | 6.1                          | 2295                         |                             |
| METIL-KLÓR-FORMIÁT                                   | 6.1                          | 1238                         |                             |
| METIL-KLORID (R 40 HÚTÓGÁZ)                          | 2                            | 1063                         |                             |
| METIL-KLORID ÉS DIKLÓR-METÁN KEVERÉK                 | 2                            | 1912                         |                             |
| METIL-KLÓR-METIL-ÉTER                                | 6.1                          | 1239                         |                             |
| METIL-2-KLÓR-PROPIONÁT                               | 3                            | 2933                         |                             |
| METIL-KLÓR-SZILÁN                                    | 2                            | 2534                         |                             |
| METIL-MAGNÉZIUM-BROMID DIETIL-ÉTERBEN                | 4.3                          | 1928                         |                             |
| METIL-MERKAPTÁN                                      | 2                            | 1064                         |                             |
| 2-Metil-merkaptó-propionaldehid: lásd 4-TIA-PENTANAL |                              |                              |                             |
| METIL-METAKRILÁT MONOMER, STABILIZÁLT                | 3                            | 1247                         |                             |
| 4-METIL-MORFOLIN (N-METIL-MORFOLIN)                  | 3                            | 2535                         |                             |
| METIL-NITRIT   | 2                            | 2455                         | A szállításból ki van zárva |
| METIL-ORTOSZILIKÁT                                   | 6.1                          | 2606                         |                             |
| METIL-PENTADIÉN                                      | 3                            | 2461                         |                             |
| 2-METIL-2-PENTANOL                                   | 3                            | 2560                         |                             |
| 3-Metil-2-pentén-4-in-1-ol: lásd 1-PENTOL            |                              |                              |                             |
| 1-METIL-PIPERIDIN                                    | 3                            | 2399                         |                             |
| Metil-piridinek: lásd PIKOLINOK                      |                              |                              |                             |
| METIL-PROPIL-ÉTER                                    | 3                            | 2612                         |                             |
| METIL-PROPIL-KETON                                   | 3                            | 1249                         |                             |
| METIL-PROPIONÁT                                      | 3                            | 1248                         |                             |
| METIL-TETRAHIDRO-FURÁN                               | 3                            | 2536                         |                             |
| METIL-TRIKLÓR-ACETÁT                                 | 6.1                          | 2533                         |                             |
| METIL-TRIKLÓR-SZILÁN                                 | 3                            | 1250                         |                             |
| alfa-METIL-VALERALDEHID                              | 3                            | 2367                         |                             |
| METIL-VINIL-KETON, STABILIZÁLT                       | 6.1                          | 1251                         |                             |
| METILÁL  | 3                            | 1234                         |                             |
| Metilén-klorid: lásd DIKLÓR-METÁN                    |                              |                              |                             |
| METOXI-METIL-IZOCIANÁT                               | 3                            | 2605                         |                             |
| 4-METOXI-4-METIL-2-PENTANON                          | 3                            | 2293                         |                             |
| 1-METOXI-2-PROPANOL                                  | 3                            | 3092                         |                             |
| MEZITIL-OXID   | 3                            | 1229                         |                             |
| Mezitolén: lásd 1,3,5-TRIMETIL-BENZOL                |                              |                              |                             |
| MINDENÜTT GYULLADÓ GYUFA                             | 4.1                          | 1331                         |                             |
| MOLIBDÉN-PENTAKLORID                                 | 8                            | 2508                         |                             |
| MORFOLIN   | 8                            | 2054                         |                             |
| MOTORBENZIN  | 3                            | 1203                         |                             |
| MUNKAVÉGZŐ TÖLTETEK                                  | 1.3C<br>1.4G<br>1.4S<br>1.2C | 0275<br>0276<br>0323<br>0381 |                             |
| MŰANYAG KÖTÉSŰ ROBBANÓTÖLTETEK                       | 1.4D                         | 0457                         |                             |

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|---|----------------------|----------------------|---------------------------------|
|   | 1.2D<br>1.4D<br>1.4S | 0458<br>0459<br>0460 |                                 |
| MŰANYAG SAJTOLÓANYAG, gyúlékony gőzt fejlesztő massa, lemez vagy extrudált profil formában  | 9                    | 3314                 |                                 |
| NAFTALIN, FINOMÍTOTT vagy NYERS   | 4.1                  | 1334                 |                                 |
| NAFTALIN, OLVASZTOTT  | 4.1                  | 2304                 |                                 |
| alfa-NAFTIL-AMIN  | 6.1                  | 2077                 |                                 |
| béta-NAFTIL-AMIN OLDAT  | 6.1                  | 3411                 |                                 |
| béta-NAFTIL-AMIN, SZILÁRD   | 6.1                  | 1650                 |                                 |
| NAFTIL-KARBAMID   | 6.1                  | 1652                 |                                 |
| NAFTIL-TIOKARBAMID  | 6.1                  | 1651                 |                                 |
| NAGYON ÉRZÉKETLEN ROBBANÓANYAGOK (EVI ANYAGOK), M.N.N.  | 1.5D                 | 0482                 |                                 |
| NÁTRIUM   | 4.3                  | 1428                 |                                 |
| NÁTRIUM-ALUMINÁT OLDAT  | 8                    | 1819                 |                                 |
| NÁTRIUM-ALUMINÁT, SZILÁRD   | 8                    | 2812                 | Nem tartozik az ADR hatálya alá |
| NÁTRIUM-ALUMÍNIUM-HIDRID  | 4.3                  | 2835                 |                                 |
| NÁTRIUM-AMMÓNIUM-VANADÁT  | 6.1                  | 2863                 |                                 |
| NÁTRIUM-ARZANILÁT   | 6.1                  | 2473                 |                                 |
| NÁTRIUM-ARZENÁT   | 6.1                  | 1685                 |                                 |
| NÁTRIUM-ARZENIT, SZILÁRD  | 6.1                  | 2027                 |                                 |
| NÁTRIUM-ARZENIT, VIZES OLDAT  | 6.1                  | 1686                 |                                 |
| NÁTRIUM-AZID  | 6.1                  | 1687                 |                                 |
| Nátrium-bifluorid: lásd NÁTRIUM-HIDROGÉN-DIFLUORID  |                      |                      |                                 |
| NÁTRIUM-BÓR-HIDRID  | 4.3                  | 1426                 |                                 |
| NÁTRIUM-BÓR-HIDRID ÉS NÁTRIUM-HIDROXID OLDAT legfeljebb 12 tömeg% nátrium-bór-hidrid és legfeljebb 40 tömeg% nátrium-hidroxid tartalommal | 8                    | 3320                 |                                 |
| NÁTRIUM-BROMÁT  | 5.1                  | 1494                 |                                 |
| NÁTRIUM-CIANID OLDAT  | 6.1                  | 3414                 |                                 |
| NÁTRIUM-CIANID, SZILÁRD   | 6.1                  | 1689                 |                                 |
| NÁTRIUM-DINITRO-o-KREZOLÁT, legalább 15 tömeg% vízzel NEDVESÍTETT   | 4.1                  | 1348                 |                                 |
| NÁTRIUM-DINITRO-o-KREZOLÁT, legalább 10 tömeg% vízzel NEDVESÍTETT   | 4.1                  | 3369                 |                                 |
| NÁTRIUM-DINITRO-o-KREZOLÁT, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített   | 1.3C                 | 0234                 |                                 |
| NÁTRIUM-DITIONIT (NÁTRIUM-HIPODISZULFIT)  | 4.2                  | 1384                 |                                 |
| NÁTRIUM-FLUOR-ACETÁT  | 6.1                  | 2629                 |                                 |
| NÁTRIUM-FLUORID OLDAT   | 6.1                  | 3415                 |                                 |
| NÁTRIUM-FLUORID, SZILÁRD  | 6.1                  | 1690                 |                                 |
| NÁTRIUM-FLUORO-SZILIKÁT   | 6.1                  | 2674                 |                                 |
| NÁTRIUM-FOSZFID   | 4.3                  | 1432                 |                                 |
| NÁTRIUM-HIDRID  | 4.3                  | 1427                 |                                 |
| NÁTRIUM-HIDROGÉN-DIFLUORID (nátrium-bifluorid)  | 8                    | 2439                 |                                 |
| NÁTRIUM-HIDROGÉN-SZULFID 25%-nál kevesebb kristályvíz-tartalommal   | 4.2                  | 2318                 |                                 |
| NÁTRIUM-HIDROGÉN-SZULFID, HIDRATÁLT legalább 25% kristályvíz-tartalommal  | 8                    | 2949                 |                                 |
| NÁTRIUM-HIDROXID OLDAT (nátronlúg)  | 8                    | 1824                 |                                 |

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|--|----------------------|----------------------|---------------------------------|
| NÁTRIUM-HIDROXID, SZILÁRD (marónátron)                                     | 8                    | 1823                 |                                 |
| NÁTRIUM-HIPEROXID  | 5.1                  | 2547                 |                                 |
| NÁTRIUM-HIPODISZULFIT  | 4.2                  | 1384                 |                                 |
| NÁTRIUM-KAKODILÁT  | 6.1                  | 1688                 |                                 |
| NÁTRIUM-KARBONÁT-PEROXIHIDRÁT  | 5.1                  | 3378                 |                                 |
| NÁTRIUM-KLÓR-ACETÁT  | 6.1                  | 2659                 |                                 |
| NÁTRIUM-KLORÁT   | 5.1                  | 1495                 |                                 |
| NÁTRIUM-KLORÁT VIZES OLDAT   | 5.1                  | 2428                 |                                 |
| NÁTRIUM-KLORIT   | 5.1                  | 1496                 |                                 |
| NÁTRIUM-METILÁT  | 4.2                  | 1431                 |                                 |
| NÁTRIUM-METILÁT alkoholos OLDAT  | 3                    | 1289                 |                                 |
| NÁTRIUM-MONOXID  | 8                    | 1825                 |                                 |
| NÁTRIUM-NITRÁT   | 5.1                  | 1498                 |                                 |
| NÁTRIUM-NITRÁT ÉS KÁLIUM-NITRÁT KEVERÉK                                    | 5.1                  | 1499                 |                                 |
| NÁTRIUM-NITRIT   | 5.1                  | 1500                 |                                 |
| NÁTRIUM-PENTAKLÓR-FENOLÁT  | 6.1                  | 2567                 |                                 |
| NÁTRIUM-PERBORÁT-MONOHIDRÁT  | 5.1                  | 3377                 |                                 |
| NÁTRIUM-PERKLORÁT  | 5.1                  | 1502                 |                                 |
| NÁTRIUM-PERMANGANÁT  | 5.1                  | 1503                 |                                 |
| NÁTRIUM-PEROXID  | 5.1                  | 1504                 |                                 |
| NÁTRIUM-PEROXO-BORÁT, VÍZMENTES  | 5.1                  | 3247                 |                                 |
| NÁTRIUM-PERSZULFÁT   | 5.1                  | 1505                 |                                 |
| NÁTRIUM-PIKRAMÁT, legalább 20 tömeg% vízzel NEDVESÍTETT                    | 4.1                  | 1349                 |                                 |
| NÁTRIUM-PIKRAMÁT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített    | 1.3C                 | 0235                 |                                 |
| NÁTRIUM-RÉZ(I)-CIANID OLDAT  | 6.1                  | 2317                 |                                 |
| NÁTRIUM-RÉZ(I)-CIANID, SZILÁRD   | 6.1                  | 2316                 |                                 |
| NÁTRIUM-SZULFID 30%-nál kevesebb kristályvíz-tartalommal                   | 4.2                  | 1385                 |                                 |
| NÁTRIUM-SZULFID, HIDRATÁLT, legalább 30% kristályvíz-tartalommal           | 8                    | 1849                 |                                 |
| NÁTRIUM-SZULFID, VÍZMENTES   | 4.2                  | 1385                 |                                 |
| NÁTRIUMAKKUMULÁTOROK   | 4.3                  | 3292                 |                                 |
| NÁTRIUMCELLÁK  | 4.3                  | 3292                 |                                 |
| Nátronlúg: lásd NÁTRIUM-HIDROXID OLDAT                                     |                      |                      |                                 |
| NÁTRONMÉSZ 4%-nál több nátrium-hidroxid tartalommal                        | 8                    | 1907                 |                                 |
| NEDVES TEXTILHULLADÉK  | 4.2                  | 1857                 | Nem tartozik az ADR hatálya alá |
| NEM ÖNFELFÚVÓ MENTŐESZKÖZ, mely tartozékként veszélyes anyagokat tartalmaz | 9                    | 3072                 |                                 |
| NEM ROBBANÓ PILLANATGYÚJTÓK  | 1.3G                 | 0101                 |                                 |
| NEM SPECIFIKÁLT KÓRHÁZI HULLADÉK, M.N.N.                                   | 6.2                  | 3291                 |                                 |
| NEMVILLAMOS DETONÁTORSZERKEZETEK robbantáshoz                              | 1.1B<br>1.4B<br>1.4S | 0360<br>0361<br>0500 |                                 |
| NEMVILLAMOS GYUTACSOK robbantáshoz   | 1.1B<br>1.4B<br>1.4S | 0029<br>0267<br>0455 |                                 |
| NEON, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT   | 2                    | 1913                 |                                 |
| NEON, SŰRÍTETT   | 2                    | 1065                 |                                 |
| NIKKEL-CIANID  | 6.1                  | 1653                 |                                 |
| NIKKEL-NITRÁT  | 5.1                  | 2725                 |                                 |

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|--|---------|---------|------------|
| NIKKEL-NITRIT  | 5.1     | 2726    |            |
| NIKKEL-TETRAKARBONIL   | 6.1     | 1259    |            |
| NIKOTIN  | 6.1     | 1654    |            |
| NIKOTIN-HIDROKLORID, FOLYÉKONY   | 6.1     | 1656    |            |
| NIKOTIN-HIDROKLORID OLDAT  | 6.1     | 1656    |            |
| NIKOTIN-HIDROKLORID, SZILÁRD   | 6.1     | 3444    |            |
| NIKOTIN-KÉSZÍTMÉNY, FOLYÉKONY, M.N.N.  | 6.1     | 3144    |            |
| NIKOTIN-KÉSZÍTMÉNY, SZILÁRD, M.N.N.  | 6.1     | 1655    |            |
| NIKOTIN-SZALICILÁT   | 6.1     | 1657    |            |
| NIKOTIN-SZULFÁT OLDAT  | 6.1     | 1658    |            |
| NIKOTIN-SZULFÁT, SZILÁRD   | 6.1     | 3445    |            |
| NIKOTIN-TARTARÁT   | 6.1     | 1659    |            |
| NIKOTIN-VEGYÜLET, FOLYÉKONY, M.N.N.  | 6.1     | 3144    |            |
| NIKOTIN-VEGYÜLET, SZILÁRD, M.N.N.  | 6.1     | 1655    |            |
| NITRÁLÓSAV KEVERÉK   | 8       | 1796    |            |
| NITRÁLÓSAV KEVERÉK, ELHASZNÁLT   | 8       | 1826    |            |
| NITRÁTOK, SZERVETLEN, M.N.N.   | 5.1     | 1477    |            |
| NITRÁTOK, SZERVETLEN, VIZES OLDATA, M.N.N.                                     | 5.1     | 3218    |            |
| NITRILEK, GYÚLÉKONY, MÉRGEZŐ, M.N.N.   | 3       | 3273    |            |
| NITRILEK, MÉRGEZŐ, FOLYÉKONY, M.N.N.   | 6.1     | 3276    |            |
| NITRILEK, MÉRGEZŐ, GYÚLÉKONY, M.N.N.   | 6.1     | 3275    |            |
| NITRILEK, MÉRGEZŐ, SZILÁRD, M.N.N.   | 6.1     | 3439    |            |
| NITRITEK, SZERVETLEN, M.N.N.   | 5.1     | 2627    |            |
| NITRITEK, SZERVETLEN, VIZES OLDATA, M.N.N.                                     | 5.1     | 3219    |            |
| NITRO-ANILINEK (o-, m-, p-)  | 6.1     | 1661    |            |
| NITRO-ANIZOLOK, FOLYÉKONY  | 6.1     | 2730    |            |
| NITRO-ANIZOLOK, SZILÁRD  | 6.1     | 3458    |            |
| 5-NITRO-BENZO-TRIAZOL  | 1.1.D   | 0385    |            |
| NITRO-BENZO-TRIFLUORIDOK, FOLYÉKONY  | 6.1     | 2306    |            |
| NITRO-BENZO-TRIFLUORIDOK, SZILÁRD  | 6.1     | 3431    |            |
| NITRO-BENZOL   | 6.1     | 1662    |            |
| NITRO-BENZOL-SZULFONSAV  | 8       | 2305    |            |
| NITRO-BRÓM-BENZOLOK, FOLYÉKONY   | 6.1     | 2732    |            |
| NITRO-BRÓM-BENZOLOK, SZILÁRD   | 6.1     | 3459    |            |
| NITRO-ETÁN   | 3       | 2842    |            |
| 4-NITRO-FENIL-HIDRAZIN legalább 30 tömeg% vízzel                               | 4.1     | 3376    |            |
| NITRO-FENOLOK (o-, m-, p-)   | 6.1     | 1663    |            |
| NITRO-GUANIDIN (PIKRIT), legalább 20 tömeg% vízzel NEDVESÍTETT                 | 4.1     | 1336    |            |
| NITRO-GUANIDIN (PIKRIT), száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített | 1.1D    | 0282    |            |
| 3-NITRO-4-KLÓR-BENZO-TRIFLUORID  | 6.1     | 2307    |            |
| NITRO-KREZOLOK, FOLYÉKONY  | 6.1     | 3434    |            |
| NITRO-KREZOLOK, SZILÁRD  | 6.1     | 2446    |            |
| NITRO-METÁN  | 3       | 1261    |            |
| NITRO-NAFTALIN   | 4.1     | 2538    |            |
| NITRO-PROPÁNOK   | 3       | 2608    |            |
| NITRO-TOLUIDINEK (MONO)  | 6.1     | 2660    |            |
| NITRO-TOLUOLOK, FOLYÉKONY  | 6.1     | 1664    |            |
| NITRO-TOLUOLOK, SZILÁRD  | 6.1     | 3446    |            |

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|--|---------|---------|-----------------------------|
| NITRO-TRIAZOLON (NTO)  | 1.1D    | 0490    |                             |
| NITRO-XILOLOK, FOLYÉKONY   | 6.1     | 1665    |                             |
| NITRO-XILOLOK, SZILÁRD   | 6.1     | 3447    |                             |
| NITROCELLULÓZ ALAPÚ FILMEK zselatin bevonattal, a hulladék kivételével   | 4.1     | 1324    |                             |
| NITROCELLULÓZ ALAPÚ, ÖNMELEGEDŐ MŰANYAGOK, M.N.N.  | 4.2     | 2006    |                             |
| NITROCELLULÓZ ALKOHOLLAL (legalább 25 tömeg% alkohollal és a szárazanyagra vetítve legfeljebb 12,6% nitrogéntartalommal)                           | 4.1     | 2556    |                             |
| NITROCELLULÓZ MEMBRÁNSZŰRŐK száraz tömegre vetítve legfeljebb 12,6% nitrogén-tartalommal   | 4.1     | 3270    |                             |
| NITROCELLULÓZ, legalább 25 tömeg% alkohollal NEDVESÍTETT   | 1.3C    | 0342    |                             |
| NITROCELLULÓZ, módosítás nélkül vagy 18 tömeg%-nál kevesebb lágyítóval plasztifikálva  | 1..1D   | 0341    |                             |
| NITROCELLULÓZ OLDAT, GYÚLÉKONY, a száraz tömegre vetítve legfeljebb 12,6% nitrogéntartalommal és legfeljebb 55% nitrocellulóz-tartalommal          | 3       | 2059    |                             |
| NITROCELLULÓZ, PLASZTIFIKÁLT legalább 18 tömeg% plasztifikálóval   | 1.3C    | 0343    |                             |
| NITROCELLULÓZ, száraz vagy 25 tömeg%-nál kevesebb vízzel (vagy alkohollal) nedvesített   | 1.1D    | 0340    |                             |
| NITROCELLULÓZ KEVERÉK a szárazanyagra vetítve legfeljebb 12,6% nitrogéntartalommal, LÁGYÍTÓVAL vagy LÁGYÍTÓ NÉLKÜL, PIGMENTTEL vagy PIGMENT NÉLKÜL | 4.1     | 2557    |                             |
| NITROCELLULÓZ VÍZZEL (legalább 25 tömeg% vízzel)   | 4.1     | 2555    |                             |
| NITROGÉN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT   | 2       | 1977    |                             |
| NITROGÉN, SŰRÍTETT   | 2       | 1066    |                             |
| NITROGÉN-DIOXID  | 2       | 1067    |                             |
| NITROGÉN-MONOXID ÉS DINITROGÉN-TETROXID KEVERÉKE (NITROGÉN-MONOXID ÉS NITROGÉN-DIOXID KEVERÉKE)  | 2       | 1975    |                             |
| NITROGÉN-MONOXID ÉS NITROGÉN-DIOXID KEVERÉKE   | 2       | 1975    |                             |
| NITROGÉN-MONOXID, SŰRÍTETT   | 2       | 1660    |                             |
| NITROGÉN-TRIFLUORID  | 2       | 2451    |                             |
| NITROGÉN-TRIOXID   | 2       | 2421    | A szállításból ki van zárva |
| NITROGLICERIN ALKOHOLOS OLDATBAN 1%-nál több, de legfeljebb 10% nitroglicerintartalommal   | 1.1D    | 0144    |                             |
| NITROGLICERIN ALKOHOLOS OLDATBAN 1%-nál több, de legfeljebb 5% nitroglicerintartalommal  | 3       | 3064    |                             |
| NITROGLICERIN ALKOHOLOS OLDATBAN, legfeljebb 1% nitroglicerintartalommal   | 3       | 1204    |                             |
| NITROGLICERIN, legalább 40 tömeg% nem illó, vízben oldhatatlan flegmatizálószerrel DESZENZIBILIZÁLT  | 1.1D    | 0143    |                             |
| NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, GYÚLÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerintartalommal                                | 3       | 3343    |                             |
| NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerintartalommal   | 3       | 3357    |                             |
| NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, M.N.N., 2 tömeg%-nál több, de legfeljebb 10 tömeg% nitroglicerintartalommal                                | 4.1     | 3319    |                             |
| NITROKARBAMID  | 1.1D    | 0147    |                             |
| NITROKEMÉNYÍTŐ, legalább 20 tömeg% vízzel NEDVESÍTETT  | 4.1     | 1337    |                             |
| NITROKEMÉNYÍTŐ, száraz vagy 20 tömeg%-nál kevesebb vízzel  | 1.1D    | 0146    |                             |

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|---|--------------|--------------|---------------------------------|
| nedvesített   |              |              |                                 |
| NITROMANNIT, legalább 40 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT              | 1.1D         | 0133         |                                 |
| NITROZILKÉNSAV, FOLYÉKONY   | 8            | 2308         |                                 |
| NITROZILKÉNSAV, SZILÁRD   | 8            | 3456         |                                 |
| NITROZIL-KLORID   | 2            | 1069         |                                 |
| p-NITROZO-DIMETIL-ANILIN  | 4.2          | 1369         |                                 |
| NONÁNOK   | 3            | 1920         |                                 |
| NONIL-TRIKLÓR-SZILÁN  | 8            | 1799         |                                 |
| 2,5-NORBORNADIÉN, STABILIZÁLT   | 3            | 2251         |                                 |
| NÖVÉNYI EREDETŰ SZÁLAK, égett, nedves vagy vizes  | 4.2          | 1372         | Nem tartozik az ADR hatálya alá |
| NÖVÉNYI EREDETŰ SZÁLAK, SZÁRAZ  | 4.1          | 3360         | Nem tartozik az ADR hatálya alá |
| NÖVÉNYI EREDETŰ SZÁLAK vagy SZÖVETEK, M.N.N., olajjal   | 4.2          | 1373         |                                 |
| NTO   | 1.1D         | 0490         |                                 |
| NYERSOLAJ (PETRÓLEUM)   | 3            | 1267         |                                 |
| NYERSOLAJ (PETRÓLEUM) PÁRLATOK, M.N.N.  | 3            | 1268         |                                 |
| NYERSOLAJ (PETRÓLEUM) TERMÉKEK, M.N.N.  | 3            | 1268         |                                 |
| NYOMDAFESTÉK, gyúlékony   | 3            | 1210         |                                 |
| NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony                | 3            | 1210         |                                 |
| NYOMJELZŐK LŐSZEREKHEZ  | 1.3G<br>1.4G | 0212<br>0306 |                                 |
| OKTADECIL-TRIKLÓR-SZILÁN  | 8            | 1800         |                                 |
| OKTADIÉNEK  | 3            | 2309         |                                 |
| OKTAFLUOR-2-BUTÉN (R 1318 HŰTŐGÁZ)  | 2            | 2422         |                                 |
| OKTAFLUOR-CIKLOBUTÁN (R 318 HŰTŐGÁZ)  | 2            | 1976         |                                 |
| OKTAFLUOR-PROPÁN (R 218 HŰTŐGÁZ)  | 2            | 2424         |                                 |
| OKTÁNOK   | 3            | 1262         |                                 |
| OKTILALDEHIDEK  | 3            | 1191         |                                 |
| OKTIL-TRIKLÓR-SZILÁN  | 8            | 1801         |                                 |
| OKTOGÉN, DESZENZIBILIZÁLT   | 1.1D         | 0484         |                                 |
| OKTOGÉN, legalább 15 tömeg% vízzel NEDVESÍTETT  | 1.1D         | 0226         |                                 |
| OKTOL, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített                                    | 1.1D         | 0266         |                                 |
| OKTOLIT (OKTOL), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített                          | 1,1D         | 0266         |                                 |
| OKTONAL   | 1.1D         | 0496         |                                 |
| OLAJOS GYAPOT HULLADÉK  | 4.2          | 1364         |                                 |
| OLAJOS RONGY  | 4.2          | 1856         | Nem tartozik az ADR hatálya alá |
| OLAJPOGÁCSA 1,5 tömeg%-nál nagyobb olajtartalommal és legfeljebb 11 tömeg% nedvességtartalommal | 4.2          | 1386         |                                 |
| OLAJPOGÁCSA legfeljebb 1,5 tömeg% olaj- és legfeljebb 11 tömeg% nedvességtartalommal            | 4.2          | 2217         |                                 |
| Oldószerek festékekhez: lásd FESTÉK SEGÉDANYAG; NYOMDAFESTÉK SEGÉDANYAG                         |              |              |                                 |
| OLDÓSZERMENTES ACETILÉN   | 2            | 3374         |                                 |
| Óleum: lásd KÉNSAV, FÜSTÖLGŐ  |              |              |                                 |
| ÓLOM-ACETÁT   | 6.1          | 1616         |                                 |
| ÓLOM-ARZENÁTOK  | 6.1          | 1617         |                                 |
| ÓLOM-ARZENITEK  | 6.1          | 1618         |                                 |



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|---|---------|---------|-----------------------------|
| ÓLOM-AZID, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT                                | 1.1A    | 0129    |                             |
| ÓLOM-CIANID   | 6.1     | 1620    |                             |
| ÓLOM-DIOXID   | 5.1     | 1872    |                             |
| ÓLOM-FOSZFIT, DIBÁZIKUS   | 4.1     | 2989    |                             |
| ÓLOM-NITRÁT   | 5.1     | 1469    |                             |
| ÓLOM-PERKLORÁT OLDAT  | 5.1     | 3408    |                             |
| ÓLOM-PERKLORÁT, SZILÁRD   | 5.1     | 1470    |                             |
| ÓLOM-SZTIFNÁT (ÓLOM-TRINITRO-REZORCINÁT), legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT | 1.1A    | 0130    |                             |
| ÓLOM-SZULFÁT 3%-nál több szabad savtartalommal  | 8       | 1794    |                             |
| ÓLOM-TRINITRO-REZORCINÁT, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT                 | 1.1A    | 0130    |                             |
| ÓLOMVEGYÜLET, OLDHATÓ, M.N.N.   | 6.1     | 2291    |                             |
| ÓN-FOSZFIDEK  | 4.3     | 1433    |                             |
| ÓN-TETRAKLORID, VÍZMENTES   | 8       | 1827    |                             |
| ÓN-TETRAKLORID-PENTAHIDRÁT  | 8       | 2440    |                             |
| ÓNVEGYÜLET, SZERVES, FOLYÉKONY, M.N.N.  | 6.1     | 2788    |                             |
| ÓNVEGYÜLET, SZERVES, SZILÁRD, M.N.N.  | 6.1     | 3146    |                             |
| OXIGÉN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT  | 2       | 1073    |                             |
| OXIGÉN, SŰRÍTETT  | 2       | 1072    |                             |
| OXIGÉN-DIFLUORID, SŰRÍTETT  | 2       | 2190    |                             |
| OZMIUM-TETROXID   | 6.1     | 2471    |                             |
| ÖNFELFÚVÓ MENTŐESZKÖZ   | 9       | 2990    |                             |
| ÖNGYÚJTÓ UTÁNTÖLTŐK gyúlékony gáz tartalommal   | 2       | 1057    |                             |
| ÖNGYÚJTÓK gyúlékony gáz tartalommal   | 2       | 1057    |                             |
| ÖNMELEGEDŐ, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.   | 5.1     | 3100    | A szállításból ki van zárva |
| ÖNMELEGEDŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.  | 8       | 3301    |                             |
| ÖNMELEGEDŐ, MARÓ SZILÁRD ANYAG, M.N.N.  | 8       | 3095    |                             |
| ÖNMELEGEDŐ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   | 6.1     | 3124    |                             |
| ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.   | 4.2     | 3183    |                             |
| ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.   | 4.2     | 3088    |                             |
| ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.  | 4.2     | 3186    |                             |
| ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.  | 4.2     | 3190    |                             |
| Önreaktív anyagok: lásd a felsorolást a 2.2.41.4 bekezdésben  |         |         |                             |
| P1, P2 keverék: lásd METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK, STABILIZÁLT   |         |         |                             |
| PALAOLAJ  | 3       | 1288    |                             |
| PAPÍR, TELÍTETLEN OLAJJAL KEZELT, nem teljesen száraz (beleértve a karbonpapírt)                                | 4.2     | 1379    |                             |
| PARAFORMALDEHID   | 4.1     | 2213    |                             |
| PARALDEHID  | 3       | 1264    |                             |
| PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel   | 3       | 1266    |                             |
| PENTABORÁN  | 4.2     | 1380    |                             |
| PENTAERITRIT-TETRANITRÁT (PENTRIT, PETN), legalább 15 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT               | 1.1D    | 0150    |                             |
| PENTAERITRIT-TETRANITRÁT (PENTRIT, PETN), legalább 25 tömeg% vízzel NEDVESÍTETT                                 | 1.1D    | 0150    |                             |
| PENTAERITRIT-TETRANITRÁT (PETN) legalább 7 tömeg% viasszal  | 1.1D    | 0411    |                             |

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| PENTAERITRIT-TETRANITRÁT (PETN) KEVERÉK, ÉRZÉKETLENÍTETT, SZILÁRD, M.N.N., 10 tömeg%-nál több, de legfeljebb 20 tömeg% PETN tartalommal | 4.1          | 3344         |            |
| PENTAFLUOR-ETÁN (R 125 HŰTŐGÁZ)   | 2            | 3220         |            |
| PENTAKLÓR-ETÁN  | 6.1          | 1669         |            |
| PENTAKLÓR-FENOL   | 6.1          | 3155         |            |
| PENTAMETIL-HEPTÁN (izododekán)  | 3            | 2286         |            |
| 2,4-PENTÁNDION (acetil-aceton)  | 3            | 2310         |            |
| PENTÁNOK, folyékony   | 3            | 1265         |            |
| PENTANOLOK  | 3            | 1105         |            |
| 1-PENTÉN (n-AMILÉN)   | 3            | 1108         |            |
| 1-PENTOL  | 8            | 2705         |            |
| PENTOLIT, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített   | 1.1D         | 0151         |            |
| PENTRIT, legalább 15 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT  | 1.1D         | 0150         |            |
| PENTRIT, legalább 25 tömeg% vízzel NEDVESÍTETT  | 1.1D         | 0150         |            |
| PERFLUOR-(ÉTIL-VINIL-ÉTER)  | 2            | 3154         |            |
| PERFLUOR-(METIL-VINIL-ÉTER)   | 2            | 3153         |            |
| PERFORÁTOR PUSKÁK TÖLTETTEL, detonátor nélkül, olajkutak fúráshoz   | 1.1D<br>1.4D | 0124<br>0494 |            |
| PERKLORÁTOK, SZERVETLEN, M.N.N.   | 5.1          | 1481         |            |
| PERKLORÁTOK, SZERVETLEN, VIZES OLDATA, M.N.N.   | 5.1          | 3211         |            |
| PERKLORIL-FLUORID   | 2            | 3083         |            |
| PERKLÓR-METIL-MERKAPTÁN   | 6.1          | 1670         |            |
| PERKLÓRSAV 50 tömeg%-nál több, de legfeljebb 72 tömeg% savtartalommal   | 5.1          | 1873         |            |
| PERKLÓRSAV legfeljebb 50 tömeg% savtartalommal  | 8            | 1802         |            |
| PERMANGANÁTOK, SZERVETLEN, M.N.N.   | 5.1          | 1482         |            |
| PERMANGANÁTOK, SZERVETLEN, VIZES OLDAT, M.N.N.  | 5.1          | 3214         |            |
| PEROXIDOK, SZERVETLEN, M.N.N.   | 5.1          | 1483         |            |
| PERSZULFÁTOK, SZERVETLEN, M.N.N.  | 5.1          | 3215         |            |
| PERSZULFÁTOK, SZERVETLEN, VIZES OLDAT, M.N.N.   | 5.1          | 3216         |            |
| PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ, M.N.N. (lobbanáspont 23 °C alatt)   | 3            | 3021         |            |
| PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY, M.N.N. (lobbanáspont legalább 23 °C)  | 6.1          | 2903         |            |
| PESZTICID, FOLYÉKONY, MÉRGEZŐ, M.N.N.   | 6.1          | 2902         |            |
| PESZTICID, SZILÁRD, MÉRGEZŐ, M.N.N.   | 6.1          | 2588         |            |
| PETN, legalább 15 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT   | 1.1D         | 0150         |            |
| PETN, legalább 25 tömeg% vízzel NEDVESÍTETT   | 1.1D         | 0150         |            |
| PETN legalább 7 tömeg% viasszal   | 1.4D         | 0411         |            |
| PETN KEVERÉK, ÉRZÉKETLENÍTETT, SZILÁRD, M.N.N., 10 tömeg%-nál több, de legfeljebb 20 tömeg% PETN tartalommal                            | 4.1          | 3344         |            |
| PETRÓLEUM: lásd NYERSOLAJ   |              |              |            |
| PETRÓLEUMGÁZ, CSEPPFOLYÓSÍTOTT  | 2            | 1075         |            |
| PIKOLINOK (metil-piridinek)   | 3            | 2313         |            |
| PIKRAMID  | 1.1D         | 0153         |            |
| PIKRIL-KLORID   | 1.1D         | 0155         |            |
| PIKRIL-KLORID, legalább 10 tömeg% vízzel NEDVESÍTETT  | 4.1          | 3365         |            |
| PIKRINSAV, legalább 10 tömeg% vízzel NEDVESÍTETT  | 4.1          | 3364         |            |
| PIKRINSAV, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített  | 1.1D         | 0154         |            |

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| PIKRINSAV, legalább 30 tömeg% vízzel NEDVESÍTETT                                    | 4.1          | 1344         |            |
| PIKRIT, legalább 20 tömeg% vízzel NEDVESÍTETT                                       | 4.1          | 1336         |            |
| PIKRIT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített                       | 1.1D         | 0282         |            |
| PILLANATGYÚJTÓK, NEM ROBBANÓ  | 1.3G         | 0101         |            |
| alfa-PINÉN  | 3            | 2368         |            |
| PIPERAZIN   | 8            | 2579         |            |
| PIPERIDIN   | 8            | 2401         |            |
| PIRETROID PESZTICID,FOLYÉKONY, GYÚLÉKONY,<br>MÉRGEZŐ (lobbanáspont 23 °C alatt)     | 3            | 3350         |            |
| PIRETROID PESZTICID, FOLYÉKONY, MÉRGEZŐ   | 6.1          | 3352         |            |
| PIRETROID PESZTICID, FOLYÉKONY, MÉRGEZŐ,<br>GYÚLÉKONY (lobbanáspont legalább 23 °C) | 6.1          | 3351         |            |
| PIRETROID PESZTICID, SZILÁRD, MÉRGEZŐ   | 6.1          | 3349         |            |
| PIRIDIN   | 3            | 1282         |            |
| PIROFOROS FÉM, M.N.N.   | 4.2          | 1383         |            |
| PIROFOROS ÖTVÖZET, M.N.N.   | 4.2          | 1383         |            |
| PIROFOROS, SZERVES FOLYÉKONY ANYAG, M.N.N.  | 4.2          | 2845         |            |
| PIROFOROS, SZERVES SZILÁRD ANYAG, M.N.N.  | 4.2          | 2846         |            |
| PIROFOROS, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.                                       | 4.2          | 3194         |            |
| PIROFOROS, SZERVETLEN SZILÁRD ANYAG, M.N.N.   | 4.2          | 3200         |            |
| PIROFOROS TÁRGYAK   | 1.2L         | 0380         |            |
| PIROSZULFURIL-KLORID  | 8            | 1817         |            |
| PIROTECHNIKAI TÁRGYAK műszaki célokra   | 1.1G         | 0428         |            |
|   | 1.2G         | 0429         |            |
|   | 1.3G         | 0430         |            |
|   | 1.4G         | 0431         |            |
|   | 1.4S         | 0432         |            |
| PIRROLIDIN  | 3            | 1922         |            |
| Pivaloil-klorid: lásd TRIMETIL-ACETIL-KLORID  |              |              |            |
| PNEUMATIKUS NYOMÁS ALATTI TÁRGYAK (nem gyúlékony<br>gáz tartalommal)                | 2            | 3164         |            |
| POLIAMINOK, SZILÁRD, MARÓ, M.N.N.   | 8            | 3259         |            |
| POLIAMINOK, FOLYÉKONY, MARÓ, GYÚLÉKONY, M.N.N.                                      | 8            | 2734         |            |
| POLIAMINOK, FOLYÉKONY, MARÓ, M.N.N.   | 8            | 2735         |            |
| POLIAMINOK, GYÚLÉKONY, MARÓ, M.N.N.   | 3            | 2733         |            |
| POLIÉSZTER-GYANTA KÉSZLET   | 3            | 3269         |            |
| POLIHALOGÉNEZETT BIFENILEK, FOLYÉKONY   | 9            | 3151         |            |
| POLIHALOGÉNEZETT BIFENILEK, SZILÁRD   | 9            | 3152         |            |
| POLIHALOGÉNEZETT TERFENILEK, FOLYÉKONY  | 9            | 3151         |            |
| POLIHALOGÉNEZETT TERFENILEK, SZILÁRD  | 9            | 3152         |            |
| POLIKLÓROZOTT BIFENILEK, FOLYÉKONY  | 9            | 2315         |            |
| POLIKLÓROZOTT BIFENILEK, SZILÁRD  | 9            | 3432         |            |
| Polírozó anyag: lásd FESTÉK   |              |              |            |
| PRÓBALÓSZER   | 1.4G         | 0363         |            |
| PROFILOZOTT, HAJLÉKONY, VONAL ALAKÚ<br>ROBBANTÓTÖLTETEK                             | 1.4D<br>1.1D | 0237<br>0288 |            |
| PROPADIÉN, STABILIZÁLT  | 2            | 2200         |            |
| PROPÁN  | 2            | 1978         |            |
| PROPÁN-TIOLOK (propil-merkaptánok)  | 3            | 2402         |            |
| n-PROPANOL (NORMÁL PROPIL-ALKOHOL)  | 3            | 1274         |            |
| n-PROPIL-ACETÁT   | 3            | 1276         |            |

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|---|---------|---------|------------|
| PROPIL-ALKOHOL, NORMÁL  | 3       | 1274    |            |
| PROPIL-AMIN   | 3       | 1277    |            |
| n-PROPIL-BENZOL   | 3       | 2364    |            |
| PROPIL-FORMIÁTOK  | 3       | 1281    |            |
| n-PROPIL-IZOCIANÁT  | 6.1     | 2482    |            |
| n-PROPIL-KLÓR-FORMIÁT   | 6.1     | 2740    |            |
| Propil-klorid: lásd 1-KLÓR-PROPÁN                                     |         |         |            |
| Propil-merkaptánok: lásd PROPÁN-TIOLOK                                |         |         |            |
| n-PROPIL-NITRÁT   | 3       | 1865    |            |
| PROPIL-TRIKLÓR-SZILÁN   | 8       | 1816    |            |
| PROPILEN  | 2       | 1077    |            |
| 1,2-PROPILEN-DIAMIN   | 8       | 2258    |            |
| PROPILEN-IMIN, STABILIZÁLT  | 3       | 1921    |            |
| PROPILEN-KLÓRHIDRIN   | 6.1     | 2611    |            |
| PROPILEN-OXID   | 3       | 1280    |            |
| PROPILEN-TETRAMER   | 3       | 2850    |            |
| PROPILEN-TRIMER   | 3       | 2057    |            |
| PROPIONALDEHID  | 3       | 1275    |            |
| PROPIONIL-KLORID  | 3       | 1815    |            |
| PROPIONITRIL  | 3       | 2404    |            |
| PROPIONSAV legalább 10 tömeg%, de 90 tömeg%-nál kisebb savtartalommal | 8       | 1848    |            |
| PROPIONSAV legalább 90 tömeg% savtartalommal                          | 8       | 3463    |            |
| PROPIONSAVANHIDRID  | 8       | 2496    |            |
| PUSKAPOR, PELLET  | 1.1D    | 0028    |            |
| PUSKAPOR, SAJTOLT   | 1.1D    | 0028    |            |
| PUSKAPOR, szemcsés vagy por alakú                                     | 1.1D    | 0027    |            |
| R 1113 HŰTŐGÁZ  | 2       | 1082    |            |
| R 1132a HŰTŐGÁZ   | 2       | 1959    |            |
| R 114 HŰTŐGÁZ   | 2       | 1958    |            |
| R 115 HŰTŐGÁZ   | 2       | 1020    |            |
| R 116 HŰTŐGÁZ   | 2       | 2193    |            |
| R 12 HŰTŐGÁZ  | 2       | 1028    |            |
| R 1216 HŰTŐGÁZ  | 2       | 1858    |            |
| R 124 HŰTŐGÁZ   | 2       | 1021    |            |
| R 125 HŰTŐGÁZ   | 2       | 3220    |            |
| R 12B1 HŰTŐGÁZ  | 2       | 1974    |            |
| R 13 HŰTŐGÁZ  | 2       | 1022    |            |
| R 1318 HŰTŐGÁZ  | 2       | 2422    |            |
| R 133a HŰTŐGÁZ  | 2       | 1983    |            |
| R 134a HŰTŐGÁZ  | 2       | 3159    |            |
| R 13B1 HŰTŐGÁZ  | 2       | 1009    |            |
| R 14 HŰTŐGÁZ  | 2       | 1982    |            |
| R 142b HŰTŐGÁZ  | 2       | 2517    |            |
| R 143a HŰTŐGÁZ  | 2       | 2035    |            |
| R 152a HŰTŐGÁZ  | 2       | 1030    |            |
| R 161 HŰTŐGÁZ   | 2       | 2453    |            |
| R 21 HŰTŐGÁZ  | 2       | 1029    |            |
| R 218 HŰTŐGÁZ   | 2       | 2424    |            |
| R 22 HŰTŐGÁZ  | 2       | 1018    |            |

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| R 227 HŰTŐGÁZ  | 2       | 3296    |            |
| R 23 HŰTŐGÁZ   | 2       | 1984    |            |
| R 32 HŰTŐGÁZ   | 2       | 3252    |            |
| R 40 HŰTŐGÁZ   | 2       | 1063    |            |
| R 404A HŰTŐGÁZ   | 2       | 3337    |            |
| R 407A HŰTŐGÁZ   | 2       | 3338    |            |
| R 407B HŰTŐGÁZ   | 2       | 3339    |            |
| R 407C HŰTŐGÁZ   | 2       | 3340    |            |
| R 41 HŰTŐGÁZ   | 2       | 2454    |            |
| R 500 HŰTŐGÁZ  | 2       | 2602    |            |
| R 502 HŰTŐGÁZ  | 2       | 1973    |            |
| R 503 HŰTŐGÁZ  | 2       | 2599    |            |
| RC 318 HŰTŐGÁZ   | 2       | 1976    |            |
| RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNYDARABBAN,<br>nem különleges formában, nem hasadó vagy hasadó-engedményes | 7       | 2915    |            |
| RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNYDARABBAN,<br>KÜLÖNLEGES FORMÁBAN, nem hasadó vagy hasadó-engedményes     | 7       | 3332    |            |
| RADIOAKTÍV ANYAG, B(M) TÍPUSÚ<br>KÜLDEMÉNYDARABBAN, nem hasadó vagy hasadó-engedményes                       | 7       | 2917    |            |
| RADIOAKTÍV ANYAG, B(U) TÍPUSÚ<br>KÜLDEMÉNYDARABBAN, nem hasadó vagy hasadó-engedményes                       | 7       | 2916    |            |
| RADIOAKTÍV ANYAG, C TÍPUSÚ KÜLDEMÉNYDARABBAN,<br>nem hasadó vagy hasadó-engedményes                          | 7       | 3323    |            |
| RADIOAKTÍV ANYAG ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN - GYÁRTMÁNYOK  | 7       | 2911    |            |
| RADIOAKTÍV ANYAG ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN - KÉSZÜLÉKEK   | 7       | 2911    |            |
| RADIOAKTÍV ANYAG ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN - KORLÁTOZOTT<br>ANYAGMENNYISÉG                            | 7       | 2910    |            |
| RADIOAKTÍV ANYAG ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN - SZEGÉNYÍTETT URÁNBÓL<br>KÉSZÜLT GYÁRTMÁNYOK              | 7       | 2909    |            |
| RADIOAKTÍV ANYAG ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN - TERMÉSZETES TÓRIUMBÓL<br>KÉSZÜLT GYÁRTMÁNYOK             | 7       | 2909    |            |
| RADIOAKTÍV ANYAG ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN - TERMÉSZETES URÁNBÓL<br>KÉSZÜLT GYÁRTMÁNYOK               | 7       | 2909    |            |
| RADIOAKTÍV ANYAG, ENGEDMÉNYES<br>KÜLDEMÉNYDARABBAN - ÜRES CSOMAGOLÓESZKÖZ                                    | 7       | 2908    |            |
| RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ<br>KÜLDEMÉNYDARABBAN, KÜLÖNLEGES FORMÁBAN                                 | 7       | 3333    |            |
| RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ<br>KÜLDEMÉNYDARABBAN, nem különleges formában                             | 7       | 3327    |            |
| RADIOAKTÍV ANYAG, HASADÓ, B(M) TÍPUSÚ<br>KÜLDEMÉNYDARABBAN   | 7       | 3329    |            |
| RADIOAKTÍV ANYAG, HASADÓ, B(U) TÍPUSÚ<br>KÜLDEMÉNYDARABBAN   | 7       | 3328    |            |
| RADIOAKTÍV ANYAG, HASADÓ, C TÍPUSÚ<br>KÜLDEMÉNYDARABBAN  | 7       | 3330    |            |
| RADIOAKTÍV ANYAG, HASADÓ, KÜLÖN MEGEGYEZÉS<br>ALAPJÁN SZÁLLÍTOTT   | 7       | 3331    |            |
| RADIOAKTÍV ANYAG, HASADÓ, SZENNYEZETT FELÜLETŰ   | 7       | 3326    |            |

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| TÁRGYAK, (SCO-I vagy SCO-II)  |                      |                      |            |
| RADIOAKTÍV ANYAG, KÜLÖN MEGEGYEZÉS ALAPJÁN SZÁLLÍTOTT, nem hasadó vagy hasadó-engedményes                               | 7                    | 2919                 |            |
| RADIOAKTÍV ANYAG, HASADÓ URÁN-HEXAFLUORID   | 7                    | 2977                 |            |
| RADIOAKTÍV ANYAG, URÁN-HEXAFLUORID, nem hasadó vagy hasadó-engedményes  | 7                    | 2978                 |            |
| RADIOAKTÍV ANYAG, SZENNYEZETT FELÜLETŰ TÁRGYAK (SCO-I vagy SCO-II), nem hasadó vagy hasadó-engedményes                  | 7                    | 2913                 |            |
| RAGASZTÓK gyúlékony folyadék tartalommal  | 3                    | 1133                 |            |
| RAKÉTAHAJTÓMŰVEK  | 1.3G<br>1.1C<br>1.2C | 0186<br>0280<br>0281 |            |
| RAKÉTAHAJTÓMŰVEK FOLYÉKONY HAJTÓANYAGGAL  | 1.2J<br>1.3J         | 0395<br>0396         |            |
| RAKÉTAHAJTÓMŰVEK HIPERGOL FOLYADÉKOKKAL, kidobótöltettel vagy anélkül   | 1.3L<br>1.2L         | 0250<br>0322         |            |
| RAKÉTÁK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel   | 1.1J<br>1.2J         | 0397<br>0398         |            |
| RAKÉTÁK inert fejjel  | 1.3C<br>1.2C         | 0183<br>0502         |            |
| RAKÉTÁK kidobótöltettel   | 1.2C<br>1.3C<br>1.4C | 0436<br>0437<br>0438 |            |
| RAKÉTÁK robbanótöltettel  | 1.1F<br>1.1E<br>1.2F | 0180<br>0181<br>0295 |            |
| RDX, legalább 15 tömeg% vízzel NEDVESÍTETT  | 1.1D                 | 0072                 |            |
| RDX, DESZENZIBILIZÁLT   | 1.1D                 | 0483                 |            |
| RDX ÉS HMX KEVERÉKE, legalább 15 tömeg% vízzel NEDVESÍTETT vagy legalább 10 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT | 1.1D                 | 0391                 |            |
| RENDKÍVÜL ÉRZÉKETLEN ROBBANÓTÁRGYAK (EEI TÁRGYAK)   | 1.6N                 | 0486                 |            |
| Repülőgépcsúszdák: lásd MENTŐESZKÖZ   |                      |                      |            |
| REPÜLŐGÉP HIDRAULIKA FOLYADÉK TARTÁLY (vízmentes hidrazin és metil-hidrazin keveréket tartalmazó) (M86 tüzelőanyag)     | 3                    | 3165                 |            |
| Repülőgép mentőfelszerelések: lásd MENTŐESZKÖZ  |                      |                      |            |
| RÉZ ALAPÚ PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)   | 3                    | 2776                 |            |
| RÉZ ALAPÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ   | 6.1                  | 3010                 |            |
| RÉZ ALAPÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)  | 6.1                  | 3009                 |            |
| RÉZ ALAPÚ PESZTICID, SZILÁRD, MÉRGEZŐ   | 6.1                  | 2775                 |            |
| RÉZ-ACETO-ARZENIT   | 6.1                  | 1585                 |            |
| RÉZ-ARZENIT   | 6.1                  | 1586                 |            |
| RÉZ-CIANID  | 6.1                  | 1587                 |            |
| RÉZ-KLORÁT  | 5.1                  | 2721                 |            |
| RÉZ-KLORID  | 8                    | 2802                 |            |
| REZORCIN  | 6.1                  | 2876                 |            |
| RICINUSMAG; RICINUSMAG LISZT, PEHELY vagy POGÁCSA   | 9                    | 2969                 |            |
| ROBBANÓANYAG, FOLYÉKONY, ÉRZÉKETLENÍTETT, M.N.N.  | 3                    | 3379                 |            |
| ROBBANÓANYAG MINTÁK, az indító robbanóanyagok kivételével   | 1                    | 0190                 |            |
| ROBBANÓANYAG, SZILÁRD, ÉRZÉKETLENÍTETT, M.N.N.  | 4.1                  | 3380                 |            |
| ROBBANÓANYAG TARTALMÚ KIOLDÓSZERKEZETEK   | 1.4S                 | 0173                 |            |

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| ROBBANÓANYAGOK, M.N.N.   | 1.1L<br>1.2L<br>1.3L<br>1.1A<br>1.1C<br>1.1D<br>1.1G<br>1.3C<br>1.3G<br>1.4C<br>1.4D<br>1.4S<br>1.4G   | 0357<br>0358<br>0359<br>0473<br>0474<br>0475<br>0476<br>0477<br>0478<br>0479<br>0480<br>0481<br>0485   |            |
| ROBBANÓANYAGOK, NAGYON ÉRZÉKETLEN (EVI ANYAGOK), M.N.N.              | 1.5D   | 0482   |            |
| ROBBANÓGYÚJTÓK   | 1.1B<br>1.2B<br>1.4B<br>1.4S   | 0106<br>0107<br>0257<br>0367   |            |
| ROBBANÓGYÚJTÓK biztonsági szerkezettel                               | 1.1D<br>1.2D<br>1.4D   | 0408<br>0409<br>0410   |            |
| ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.                                     | 1.2B<br>1.4B<br>1.4S<br>1.1B   | 0382<br>0383<br>0384<br>0461   |            |
| ROBBANÓSZEGECSEK   | 1.4S   | 0174   |            |
| ROBBANÓSZONDÁK   | 1.2F<br>1.1F<br>1.1D<br>1.2D   | 0204<br>0296<br>0374<br>0375   |            |
| ROBBANÓTÁRGYAK, M.N.N.   | 1.4S<br>1.4B<br>1.4C<br>1.4D<br>1.4G<br>1.1L<br>1.2L<br>1.3L<br>1.1C<br>1.1D<br>1.1E<br>1.1F<br>1.2C<br>1.2D<br>1.2E<br>1.2F<br>1.3C<br>1.4E<br>1.4F | 0349<br>0350<br>0351<br>0352<br>0353<br>0354<br>0355<br>0356<br>0462<br>0463<br>0464<br>0465<br>0466<br>0467<br>0468<br>0469<br>0470<br>0471<br>0472 |            |
| ROBBANÓTÁRGYAK, RENDKÍVÜL ÉRZÉKETLEN (EEI TÁRGYAK)                   | 1.6N   | 0486   |            |
| ROBBANÓTÖLTETEK  | 1.1D   | 0048   |            |
| ROBBANÓTÖLTETEK, IPARI: lásd IPARI ROBBANÓTÖLTETEK                   |  |  |            |
| ROBBANÓTÖLTETEK, KIEGÉSZÍTŐ  | 1.1D   | 0060   |            |
| ROBBANÓTÖLTETEK, MŰANYAG KÖTÉSŰ: lásd MŰANYAG KÖTÉSŰ ROBBANÓTÖLTETEK |  |  |            |
| ROBBANÓZSINÓR, fémköpenyes   | 1.2D<br>1.1D   | 0102<br>0290   |            |

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|--|--------------|--------------|---------------------------------|
| ROBBANÓZSINÓR, hajlékony   | 1.1D<br>1.4D | 0065<br>0289 |                                 |
| ROBBANÓZSINÓR, KISHATÁSÚ fémköpennyel  | 1.1D         | 0104         |                                 |
| ROBBANTÓANYAG, A TÍPUSÚ  | 1.1D         | 0081         |                                 |
| ROBBANTÓANYAG, B TÍPUSÚ  | 1.1D<br>1.5D | 0082<br>0331 |                                 |
| ROBBANTÓANYAG, C TÍPUSÚ  | 1.1D         | 0083         |                                 |
| ROBBANTÓANYAG, D TÍPUSÚ  | 1.1D         | 0084         |                                 |
| ROBBANTÓANYAG, E TÍPUSÚ  | 1.1D<br>1.5D | 0241<br>0332 |                                 |
| ROBBANTÓTÖLTETEK, PROFILOZOTT, HAJLÉKONY, VONAL ALAKÚ  | 1.4D<br>1.1D | 0237<br>0288 |                                 |
| ROVARIRTÓ GÁZ, GYÚLÉKONY, M.N.N.   | 2            | 3354         |                                 |
| ROVARIRTÓ GÁZ, M.N.N.  | 2            | 1968         |                                 |
| ROVARIRTÓ GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.  | 2            | 3355         |                                 |
| ROVARIRTÓ GÁZ, MÉRGEZŐ, M.N.N.   | 2            | 1967         |                                 |
| RUBÍDIUM   | 4.3          | 1423         |                                 |
| RUBÍDIUM-HIDROXID  | 8            | 2678         |                                 |
| RUBÍDIUM-HIDROXID OLDAT  | 8            | 2677         |                                 |
| SAJTOLÓANYAG, MŰANYAG, gyúlékony gőzt fejlesztő massa, lemez vagy extrudált profil formában  | 9            | 3314         |                                 |
| SALÉTROMSAV, a vörösen füstölő salétromsav kivételével, 70%-nál több salétromsav-tartalommal | 8            | 2031         |                                 |
| SALÉTROMSAV, VÖRÖSEN FÜSTÖLGŐ  | 8            | 2032         |                                 |
| SÁRGAFOSZFOR, SZÁRAZ   | 4.2          | 1381         |                                 |
| SÁRGAFOSZFOR, OLVASZTOTT   | 4.2          | 2447         |                                 |
| SÁRGAFOSZFOR, VÍZ ALATT vagy OLDATBAN  | 4.2          | 1381         |                                 |
| Sellak: lásd FESTÉK  |              |              |                                 |
| SÓSAV  | 8            | 1789         |                                 |
| STRONCIUM-ARZENIT  | 6.1          | 1691         |                                 |
| STRONCIUM-FOSZFID  | 4.3          | 2013         |                                 |
| STRONCIUM-KLORÁT   | 5.1          | 1506         |                                 |
| STRONCIUM-NITRÁT   | 5.1          | 1507         |                                 |
| STRONCIUM-PERKLORÁT  | 5.1          | 1508         |                                 |
| STRONCIUM-PEROXID  | 5.1          | 1509         |                                 |
| SÚRÍTETT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.  | 2            | 3156         |                                 |
| SÚRÍTETT GÁZ, GYÚLÉKONY, M.N.N.  | 2            | 1954         |                                 |
| SÚRÍTETT GÁZ, M.N.N.   | 2            | 1956         |                                 |
| SÚRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.   | 2            | 3303         |                                 |
| SÚRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.   | 2            | 3306         |                                 |
| SÚRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.   | 2            | 1953         |                                 |
| SÚRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.   | 2            | 3305         |                                 |
| SÚRÍTETT GÁZ, MÉRGEZŐ, M.N.N.  | 2            | 1955         |                                 |
| SÚRÍTETT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.  | 2            | 3304         |                                 |
| SÚRÍTETT LEVEGŐ  | 2            | 1002         |                                 |
| SZABÁLYOZOTT GYÓGYÁSZATI HULLADÉK, M.N.N.  | 6.2          | 3291         |                                 |
| SZÁLAK, ÁLLATI, NÖVÉNYI vagy SZINTETIKUS EREDETŰ, M.N.N., olajjal                            | 4.2          | 1373         |                                 |
| SZÁLAK, ÁLLATI vagy NÖVÉNYI EREDETŰ, égett, nedves vagy vizes                                | 4.2          | 1372         | Nem tartozik az ADR hatálya alá |



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|--|---------|---------|---------------------------------|
| SZALMA   | 4.1     | 1327    | Nem tartozik az ADR hatálya alá |
| SZÁRAZJÉG  | 9       | 1845    | Nem tartozik az ADR hatálya alá |
| SZÁRAZ TITÁNPOR  | 4.2     | 2546    |                                 |
| SZELÉN-DISZULFID   | 6.1     | 2657    |                                 |
| SZELÉN-HEXAFLUORID   | 2       | 2194    |                                 |
| SZELÉN-OXI-KLORID  | 8       | 2879    |                                 |
| SZELENÁTOK vagy SZELENITEK   | 6.1     | 2630    |                                 |
| SZELÉNSAV  | 8       | 1905    |                                 |
| SZELÉNVEGYÜLET, FOLYÉKONY, M.N.N.  | 6.1     | 3440    |                                 |
| SZELÉNVEGYÜLET, SZILÁRD, M.N.N.  | 6.1     | 3283    |                                 |
| SZÉN (állati vagy növényi eredetű)   | 4.2     | 1361    |                                 |
| SZÉNA  | 4.1     | 1327    | Nem tartozik az ADR hatálya alá |
| SZÉN-DIOXID  | 2       | 1013    |                                 |
| SZÉN-DIOXID, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT  | 2       | 2187    |                                 |
| SZÉN-DIOXID, SZILÁRD (SZÁRAZJÉG)   | 9       | 1845    | Nem tartozik az ADR hatálya alá |
| SZÉN-DISZULFID   | 3       | 1131    |                                 |
| SZÉN-MONOXID, SŰRÍTETT   | 2       | 1016    |                                 |
| Szén-oxi-klorid: lásd FOSZGÉN  |         |         |                                 |
| SZÉN-TETRABROMID   | 6.1     | 2516    |                                 |
| SZÉN-TETRAKLORID   | 6.1     | 1846    |                                 |
| SZÉNHIDROGÉNEK, FOLYÉKONY, M.N.N.  | 3       | 3295    |                                 |
| SZÉNHIDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N., mint A, A01, A02, A0, A1, B1, B2, B vagy C keverék | 2       | 1965    |                                 |
| SZÉNHIDROGÉN-GÁZ KEVERÉK, SŰRÍTETT, M.N.N.   | 2       | 1964    |                                 |
| SZÉNHIDROGÉN-GÁZ UTÁNTÖLTŐ PATRONOK KISMÉRETŰ ESZKÖZÖKHÖZ, adagolószerkezettel                         | 2       | 3150    |                                 |
| SZERVES ARZÉNVEGYÜLET, FOLYÉKONY, M.N.N.   | 6.1     | 3280    |                                 |
| SZERVES ARZÉNVEGYÜLET, SZILÁRD, M.N.N.   | 6.1     | 3465    |                                 |
| SZERVES FÉMVEGYÜLET, MÉRGEZŐ, FOLYÉKONY, M.N.N.  | 6.1     | 3282    |                                 |
| SZERVES FÉMVEGYÜLET, MÉRGEZŐ, SZILÁRD, M.N.N.  | 6.1     | 3467    |                                 |
| SZERVES FÉMVEGYÜLET, ÖNMELEGEDŐ, SZILÁRD   | 4.2     | 3400    |                                 |
| SZERVES FÉMVEGYÜLET, PIROFOROS, FOLYÉKONY  | 4.2     | 3392    |                                 |
| SZERVES FÉMVEGYÜLET, PIROFOROS, SZILÁRD  | 4.2     | 3391    |                                 |
| SZERVES FÉMVEGYÜLET, PIROFOROS, VÍZZEL REAKTÍV, FOLYÉKONY  | 4.2     | 3394    |                                 |
| SZERVES FÉMVEGYÜLET, PIROFOROS, VÍZZEL REAKTÍV, SZILÁRD  | 4.2     | 3393    |                                 |
| SZERVES FÉMVEGYÜLET, VÍZZEL REAKTÍV, FOLYÉKONY   | 4.3     | 3398    |                                 |
| SZERVES FÉMVEGYÜLET, VÍZZEL REAKTÍV, SZILÁRD   | 4.3     | 3395    |                                 |
| SZERVES FÉMVEGYÜLET, VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY  | 4.3     | 3399    |                                 |
| SZERVES FÉMVEGYÜLET, VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD  | 4.3     | 3396    |                                 |
| SZERVES FÉMVEGYÜLET, VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD   | 4.3     | 3397    |                                 |
| SZERVES FOSZFORTARTALMÚ PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)            | 3       | 2784    |                                 |
| SZERVES FOSZFORTARTALMÚ PESZTICID, FOLYÉKONY,  | 6.1     | 3018    |                                 |

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|--|---------|---------|------------|
| MÉRGEZŐ  |         |         |            |
| SZERVES FOSZFORTARTALMÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C) | 6.1     | 3017    |            |
| SZERVES FOSZFOR-TARTALMÚ PESZTICID SZILÁRD, MÉRGEZŐ  | 6.1     | 2783    |            |
| SZERVES FOSZFORVEGYÜLET, MÉRGEZŐ, FOLYÉKONY, M.N.N.  | 6.1     | 3278    |            |
| SZERVES FOSZFOR-VEGYÜLET, MÉRGEZŐ, GYÚLÉKONY, M.N.N.   | 6.1     | 3279    |            |
| SZERVES FOSZFORVEGYÜLET, MÉRGEZŐ, SZILÁRD, M.N.N.  | 6.1     | 3464    |            |
| SZERVES, GYÚLÉKONY SZILÁRD ANYAG OLVASZTOTT ÁLLAPOTBAN, M.N.N.                                 | 4.1     | 3176    |            |
| SZERVES KLÓRTARTALMÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ   | 6.1     | 2996    |            |
| SZERVES KLÓRTARTALMÚ PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt.)      | 3       | 2762    |            |
| SZERVES KLÓRTARTALMÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)    | 6.1     | 2995    |            |
| SZERVES KLÓRTARTALMÚ PESZTICID, SZILÁRD, MÉRGEZŐ   | 6.1     | 2761    |            |
| SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.   | 6.1     | 2810    |            |
| SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.   | 6.1     | 2811    |            |
| SZERVES ÓN PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)                 | 3       | 2787    |            |
| SZERVES ÓN PESZTICID, FOLYÉKONY, MÉRGEZŐ   | 6.1     | 3020    |            |
| SZERVES ÓN PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)              | 6.1     | 3019    |            |
| SZERVES ÓN PESZTICID, SZILÁRD, MÉRGEZŐ   | 6.1     | 2786    |            |
| Szerves peroxidok: lásd a felsorolást az 2.2.52.4 bekezdésben                                  | 5.2     |         |            |
| SZERVES PIGMENTEK, ÖNMELEGEDŐ  | 4.2     | 3313    |            |
| SZERVES VEGYÜLETEK GYÚLÉKONY FÉMSÓI, M.N.N.  | 4.1     | 3181    |            |
| SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.  | 4.1     | 3178    |            |
| SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.  | 6.1     | 3287    |            |
| SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.  | 6.1     | 3288    |            |
| SZERVETLEN, SZILÁRD ANTIMONVEGYÜLET, M.N.N.  | 6.1     | 1549    |            |
| SZÉTVETŐK robbanótöltettel   | 1.1D    | 0043    |            |
| SZILÁN   | 2       | 2203    |            |
| SZILÁRD ALÁGYÚJTÓS gyúlékony folyadékkal impregnálva   | 4.1     | 2623    |            |
| SZILÁRD, ÉRZÉKETLENÍTETT ROBBANÓANYAG, M.N.N.  | 4.1     | 3380    |            |
| SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   | 5.1     | 1479    |            |
| SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.   | 5.1     | 3085    |            |
| SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.  | 5.1     | 3087    |            |
| SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N.  | 6.1     | 3146    |            |
| SZILÍCIUM-HIDROGÉN (SZILÁN)  | 2       | 2203    |            |
| SZILÍCIUMPOR, AMORF  | 4.1     | 1346    |            |
| SZILÍCIUM-TETRAFLUORID   | 2       | 1859    |            |
| SZILÍCIUM-TETRAKLORID  | 8       | 1818    |            |
| SZÍNEZÉK, FOLYÉKONY, MARÓ, M.N.N.  | 8       | 2801    |            |
| SZÍNEZÉK, FOLYÉKONY, MÉRGEZŐ, M.N.N.   | 6.1     | 1602    |            |
| SZÍNEZÉK INTERMEDIER, FOLYÉKONY, MARÓ, M.N.N.  | 8       | 2801    |            |
| SZÍNEZÉK INTERMEDIER, FOLYÉKONY, MÉRGEZŐ, M.N.N.   | 6.1     | 1602    |            |
| SZÍNEZÉK INTERMEDIER, SZILÁRD, MARÓ, M.N.N.  | 8       | 3147    |            |
| SZÍNEZÉK INTERMEDIER, SZILÁRD, MÉRGEZŐ, M.N.N.   | 6.1     | 3143    |            |

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|--|----------------------|----------------------|------------|
| SZÍNEZÉK, SZILÁRD, MARÓ, M.N.N.  | 8                    | 3147                 |            |
| SZÍNEZÉK, SZILÁRD, MÉRGEZŐ, M.N.N.   | 6.1                  | 3143                 |            |
| SZINTETIKUS EREDETŰ SZÁLAK vagy SZÖVETEK, M.N.N., olajjal  | 4.2                  | 1373                 |            |
| Szintézis-gáz: lásd SZÉN-MONOXID ÉS HIDROGÉN KEVERÉKE  |                      |                      |            |
| SZÖVETEK, ÁLLATI, NÖVÉNYI vagy SZINTETIKUS EREDETŰ, M.N.N., olajjal                                | 4.2                  | 1373                 |            |
| SZTIBIN  | 2                    | 2676                 |            |
| SZTIFNINSÁV, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT                 | 1.1D                 | 0394                 |            |
| SZTIFNINSÁV, száraz vagy 20 tömeg%-nál kevesebb vízzel vagy alkohol és víz keverékével nedvesített | 1.1D                 | 0219                 |            |
| SZTIROL MONOMER, STABILIZÁLT   | 3                    | 2055                 |            |
| SZTRICHNIN vagy SZTRICHNIN SÓK   | 6.1                  | 1692                 |            |
| SZULFAMINSÁV   | 8                    | 2967                 |            |
| SZULFURIL-FLUORID  | 2                    | 2191                 |            |
| SZULFURIL-KLORID   | 8                    | 1834                 |            |
| TALLIUM-KLORÁT   | 5.1                  | 2573                 |            |
| TALLIUM-NITRÁT   | 6.1                  | 2727                 |            |
| TALLIUMVEGYÜLET, M.N.N.  | 6.1                  | 1707                 |            |
| TÁMADÓFEJEK RAKÉTÁKHOZ robbanó- vagy kidobótöltettel   | 1.4D<br>1.4F         | 0370<br>0371         |            |
| TÁMADÓFEJEK RAKÉTÁKHOZ robbanótöltettel  | 1.1D<br>1.2D<br>1.1F | 0286<br>0287<br>0369 |            |
| TÁMADÓFEJEK TORPEDÓKHOZ robbanótöltettel   | 1.1D                 | 0221                 |            |
| TELÍTETLEN OLAJJAL KEZELT PAPÍR, nem teljesen száraz (beleértve a karbonpapírt)                    | 4.2                  | 1379                 |            |
| TELLUR-HEXAFLUORID   | 2                    | 2195                 |            |
| TELLÚRVEGYÜLET, M.N.N.   | 6.1                  | 3284                 |            |
| TERPÉN SZÉNHIDROGÉNEK, M.N.N.  | 3                    | 2319                 |            |
| TERPENTIN  | 3                    | 1299                 |            |
| TERPENTINPÓTLÓ   | 3                    | 1300                 |            |
| TERPINOLÉN   | 3                    | 2541                 |            |
| TETRABRÓM-ETÁN   | 6.1                  | 2504                 |            |
| TETRAETIL-DITIO-PIROFOSZFÁT  | 6.1                  | 1704                 |            |
| TETRAETIL-SZILIKÁT   | 3                    | 1292                 |            |
| TETRAETILÉN-PENTAMIN   | 8                    | 2320                 |            |
| 1,1,1,2-TETRAFLUOR-ETÁN (R 134a HŰTŐGÁZ)   | 2                    | 3159                 |            |
| TETRAFLUOR-ETILÉN, STABILIZÁLT   | 2                    | 1081                 |            |
| TETRAFLUOR-METÁN (R 14 HŰTŐGÁZ)  | 2                    | 1982                 |            |
| 1,2,3,6-TETRAHIDRO-BENZALDEHID   | 3                    | 2498                 |            |
| TETRAHIDRO-FTÁLSAVANHIDRIDEK 0,05%-nál több maleinsavanhidriddel                                   | 8                    | 2698                 |            |
| TETRAHIDRO-FURÁN   | 3                    | 2056                 |            |
| TETRAHIDRO-FURFURIL-AMIN   | 3                    | 2943                 |            |
| 1,2,3,6-TETRAHIDRO-PIRIDIN   | 3                    | 2410                 |            |
| TETRAHIDRO-TIOFÉN (tetrametilén-szulfid)   | 3                    | 2412                 |            |
| 1,1,2,2-TETRAKLÓR-ETÁN   | 6.1                  | 1702                 |            |
| TETRAKLÓR-ETILÉN   | 6.1                  | 1897                 |            |
| TETRAMETIL-AMMÓNIUM-HIDROXID OLDAT   | 8                    | 1835                 |            |

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|--|----------------------|----------------------|------------|
| TETRAMETIL-AMMÓNIUM-HIDROXID, SZILÁRD  | 8                    | 3423                 |            |
| TETRAMETIL-SZILÁN  | 3                    | 2749                 |            |
| TETRANITRO-ANILIN  | 1.1D                 | 0207                 |            |
| TETRANITRO-METÁN   | 5.1                  | 1510                 |            |
| TETRAPROPIL-ORTOTITANÁT  | 3                    | 2413                 |            |
| TETRAPROPILÉN (PROPILÉN-TETRAMER)  | 3                    | 2850                 |            |
| TETRAZÉN, legalább 30 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT    | 1.1A                 | 0114                 |            |
| 1H-TETRAZOL  | 1.1D                 | 0504                 |            |
| TETRAZOL-1-ECETSAV   | 1.4C                 | 0407                 |            |
| TETRIL   | 1.1D                 | 0208                 |            |
| 4-TIA-PENTANAL   | 6.1                  | 2785                 |            |
| TIOECETSAV   | 3                    | 2436                 |            |
| TIOFÉN   | 3                    | 2414                 |            |
| Tiofenol: lásd FENIL-MERKAPTÁN   |                      |                      |            |
| TIOFOSZFORIL-KLORID  | 8                    | 1837                 |            |
| TIOFOSZGÉN   | 6.1                  | 2474                 |            |
| TIOGLIKOL  | 6.1                  | 2966                 |            |
| TIOGLIKOLSAV   | 8                    | 1940                 |            |
| TIOKARBAMÁT PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)    | 3                    | 2772                 |            |
| TIOKARBAMÁT PESZTICID, FOLYÉKONY, MÉRGEZŐ  | 6.1                  | 3006                 |            |
| TIOKARBAMÁT PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C) | 6.1                  | 3005                 |            |
| TIOKARBAMÁT PESZTICID, SZILÁRD, MÉRGEZŐ  | 6.1                  | 2771                 |            |
| TIOKARBAMID-DIOXID   | 4.2                  | 3341                 |            |
| TIOAKTONSAV  | 6.1                  | 2936                 |            |
| TIONIL-KLORID  | 8                    | 1836                 |            |
| TITÁNPOR, nedvesített  | 4.1                  | 1352                 |            |
| TITÁN SZIVACS POROK  | 4.1                  | 2878                 |            |
| TITÁN SZIVACS SZEMCSÉK   | 4.1                  | 2878                 |            |
| TITÁN-DISZULFID  | 4.2                  | 3174                 |            |
| TITÁN-HIDRID   | 4.1                  | 1871                 |            |
| TITÁN-TETRAKLORID  | 8                    | 1838                 |            |
| TITÁN-TRIKLORID KEVERÉK  | 8                    | 2869                 |            |
| TITÁN-TRIKLORID KEVERÉK, PIROFOROS   | 4.2                  | 2441                 |            |
| TITÁN-TRIKLORID, PIROFOROS   | 4.2                  | 2441                 |            |
| TITÁNPOR, SZÁRAZ   | 4.2                  | 2546                 |            |
| TNT, legalább 10 tömeg% vízzel NEDVESÍTETT   | 4.1                  | 3366                 |            |
| TNT, legalább 30 tömeg% vízzel NEDVESÍTETT   | 4.1                  | 1356                 |            |
| TNT, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített                         | 1.1D                 | 0209                 |            |
| TOLUIDINEK, FOLYÉKONY  | 6.1                  | 1708                 |            |
| TOLUIDINEK, SZILÁRD  | 6.1                  | 3451                 |            |
| 2,4-TOLUILÉN-DIAMIN OLDAT  | 6.1                  | 3418                 |            |
| 2,4-TOLUILÉN-DIAMIN, SZILÁRD   | 6.1                  | 1709                 |            |
| TOLUILÉN-DIIZOCIANÁT   | 6.1                  | 2078                 |            |
| TOLUOL   | 3                    | 1294                 |            |
| TORPEDÓK robbanótöltettel  | 1.1E<br>1.1F<br>1.1D | 0329<br>0330<br>0451 |            |

| Megnevezés   | Osztály                                      | UN szám                                      | Megjegyzés |
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| TORPEDÓK FOLYÉKONY HAJTÓANYAGGAL, inert fejjel                                 | 1.3J   | 0450   |            |
| TORPEDÓK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel vagy anélkül                | 1.1J   | 0449   |            |
| TORPEDÓK, KÖZETREPESZTŐ detonátor nélkül, olajkutak fúrásához                  | 1.1D   | 0099   |            |
| TOXINOK, ÉLŐ SZERVEZETEKBŐL KIVONT, FOLYÉKONY, M.N.N.                          | 6.1  | 3172   |            |
| TOXINOK, ÉLŐ SZERVEZETEKBŐL KIVONT, SZILÁRD, M.N.N.                            | 6.1  | 3462   |            |
| TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL  | 1.4S<br>1.2C<br>1.3C<br>1.4C                 | 0012<br>0328<br>0417<br>0339                 |            |
| TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékkel                                       | 1.1F<br>1.1E<br>1.2F<br>1.2E<br>1.4F<br>1.4E | 0005<br>0006<br>0007<br>0321<br>0348<br>0412 |            |
| TÖLTÉNYEK KÉZIFEGYVEREKHEZ   | 1.4S<br>1.4C                                 | 0012<br>0339                                 |            |
| TÖLTÉNYHÜVELYEK, ÉGHETŐK, GYUTACS NÉLKÜL, ÜRES                                 | 1.4C<br>1.3C                                 | 0446<br>0447                                 |            |
| TÖLTÉNYHÜVELYEK GYUTACCSAL, ÜRES   | 1.4S<br>1.4C                                 | 0055<br>0379                                 |            |
| TÖLTETEK, FORMÁZOTT: lásd FORMÁZOTT TÖLTETEK                                   |  |  |            |
| Tremolit: lásd FEHÉR AZBESZT   |  |  |            |
| TRIALLIL-AMIN  | 3  | 2610   |            |
| TRIALLIL-BORÁT   | 6.1  | 2609   |            |
| TRIAZIN PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)    | 3  | 2764   |            |
| TRIAZIN PESZTICID, FOLYÉKONY, MÉRGEZŐ  | 6.1  | 2998   |            |
| TRIAZIN PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C) | 6.1  | 2997   |            |
| TRIAZIN PESZTICID, SZILÁRD, MÉRGEZŐ  | 6.1  | 2763   |            |
| TRIBUTIL-AMIN  | 6.1  | 2542   |            |
| TRIBUTIL-FOSZFÁN   | 4.2  | 3254   |            |
| TRIETIL-AMIN   | 3  | 1296   |            |
| TRIETIL-BORÁT  | 3  | 1176   |            |
| TRIETIL-FOSZFIT  | 3  | 2323   |            |
| TRIETILÉN-TETRAMIN   | 8  | 2259   |            |
| TRIFLUOR-ACETIL-KLORID   | 2  | 3057   |            |
| TRIFLUOR-ECETSAV   | 8  | 2699   |            |
| 1,1,1-TRIFLUOR-ETÁN (R 143a HŰTŐGÁZ)   | 2  | 2035   |            |
| TRIFLUOR-KLÓR-ETILÉN, STABILIZÁLT  | 2  | 1082   |            |
| TRIFLUOR-METÁN (R 23 HŰTŐGÁZ)  | 2  | 1984   |            |
| TRIFLUOR-METÁN, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT                                   | 2  | 3136   |            |
| 2-TRIFLUOR-METIL-ANILIN  | 6.1  | 2942   |            |
| 3-TRIFLUOR-METIL-ANILIN  | 6.1  | 2948   |            |
| TRIIZOBUTILÉN  | 3  | 2324   |            |
| TRIIZOPROPIL-BORÁT   | 3  | 2616   |            |
| TRIKLÓR-ACETIL-KLORID  | 8  | 2442   |            |
| TRIKLÓR-BENZOLOK, FOLYÉKONY  | 6.1  | 2321   |            |
| TRIKLÓR-BUTÉN  | 6.1  | 2322   |            |

| Megnevezés   | Osztály | UN szám | Megjegyzés |
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| TRIKLÓR-ECETSAV  | 8       | 1839    |            |
| TRIKLÓR-ECETSAV OLDAT  | 8       | 2564    |            |
| 1,1,1-TRIKLÓR-ETÁN   | 6.1     | 2831    |            |
| TRIKLÓR-ETILÉN   | 6.1     | 1710    |            |
| TRIKLÓR-IZOCIANURSAV, SZÁRAZ   | 5.1     | 2468    |            |
| (Triklór-metil)-benzol: lásd BENZO-TRIKLORID   |         |         |            |
| TRIKLÓR-SZILÁN   | 4.3     | 1295    |            |
| TRIKREZIL-FOSZFÁT 3%-nál több ortoizomer-tartalommal   | 6.1     | 2574    |            |
| TRIMETIL-ACETIL-KLORID   | 6.1     | 2438    |            |
| TRIMETIL-AMIN VIZES OLDAT legfeljebb 50 tömeg% trimetil-amin tartalommal   | 3       | 1297    |            |
| TRIMETIL-AMIN, VÍZMENTES   | 2       | 1083    |            |
| 1,3,5-TRIMETIL-BENZOL  | 3       | 2325    |            |
| TRIMETIL-BORÁT   | 3       | 2416    |            |
| TRIMETIL-CIKLOHEXIL-AMIN   | 8       | 2326    |            |
| TRIMETIL-FOSZFIT   | 3       | 2329    |            |
| TRIMETIL-HEXAMETILÉN-DIAMINOK  | 8       | 2327    |            |
| TRIMETIL-HEXAMETILÉN-DIIZOCIANÁT   | 6.1     | 2328    |            |
| TRIMETIL-KLÓR-SZILÁN   | 3       | 1298    |            |
| TRINITRO-ANILIN (PIKRAMID)   | 1.1D    | 0153    |            |
| TRINITRO-ANIZOL  | 1.1D    | 0213    |            |
| TRINITRO-BENZOESAV, legalább 10 tömeg% vízzel NEDVESÍTETT  | 4.1     | 3368    |            |
| TRINITRO-BENZOÉSAV, legalább 30 tömeg% vízzel NEDVESÍTETT  | 4.1     | 1355    |            |
| TRINITRO-BENZOESAV, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített  | 1.1D    | 0215    |            |
| TRINITRO-BENZOL, legalább 10 tömeg% vízzel NEDVESÍTETT   | 4.1     | 3367    |            |
| TRINITRO-BENZOL, legalább 30 tömeg% vízzel NEDVESÍTETT   | 4.1     | 1354    |            |
| TRINITRO-BENZOL, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített   | 1.1D    | 0214    |            |
| TRINITRO-BENZOL-SZULFONSAV   | 1.1D    | 0386    |            |
| TRINITRO-FENETOL   | 1.1D    | 0218    |            |
| TRINITRO-FENIL-METIL-NITRAMIN (TETRIL)   | 1.1D    | 0208    |            |
| TRINITRO-FENOL (PIKRINSAV), legalább 10 tömeg% vízzel nedvesített  | 4.1     | 3364    |            |
| TRINITRO-FENOL (PIKRINSAV), száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített                                      | 1.1D    | 0154    |            |
| TRINITRO-FENOL (PIKRINSAV), legalább 30 tömeg% vízzel NEDVESÍTETT  | 4.1     | 1344    |            |
| TRINITRO-FLUORENON   | 1.1D    | 0387    |            |
| TRINITRO-KLÓR-BENZOL (PIKRIL-KLORID)   | 1.1D    | 0155    |            |
| TRINITRO-KLÓR-BENZOL (PIKRIL-KLORID), legalább 10 tömeg% vízzel NEDVESÍTETT  | 4.1     | 3365    |            |
| TRINITRO-m-KREZOL  | 1.1D    | 0216    |            |
| TRINITRO-NAFTALIN  | 1.1D    | 0217    |            |
| TRINITRO-REZORCIN (SZTIFNINSAV), legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT                 | 1.1D    | 0394    |            |
| TRINITRO-REZORCIN (SZTIFNINSAV), száraz vagy 20 tömeg%-nál kevesebb vízzel vagy alkohol és víz keverékével nedvesített | 1.1D    | 0219    |            |
| TRINITRO-TOLUOL (TNT) ÉS HEXANITRO-SZTILBÉN KEVERÉKE   | 1.1D    | 0388    |            |

| Megnevezés   | Osztály                              | UN szám                              | Megjegyzés |
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| TRINITRO-TOLUOL (TNT) ÉS TRINITRO-BENZOL KEVERÉKE  | 1.1D                                 | 0388                                 |            |
| TRINITRO-TOLUOL (TNT) KEVERÉK TRINITRO-BENZOL ÉS HEXANITRO-SZTILBÉN TARTALOMMAL  | 1.1D                                 | 0389                                 |            |
| TRINITRO-TOLUOL (TROTIL, TNT), legalább 30 tömeg% vízzel NEDVESÍTETT   | 4.1                                  | 1356                                 |            |
| TRINITRO-TOLUOL (TROTIL, TNT), legalább 10 tömeg% vízzel NEDVESÍTETT   | 4.1                                  | 3366                                 |            |
| TRINITRO-TOLUOL (TROTIL, TNT), száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített   | 1                                    | 0209                                 |            |
| TRIPROPIL-AMIN   | 3                                    | 2260                                 |            |
| TRIPROPILÉN (PROPILÉN-TRIMER)  | 3                                    | 2057                                 |            |
| TRISZ-(1-AZIRIDINIL)-FOSZFIN-OXID OLDAT  | 6.1                                  | 2501                                 |            |
| TRITONAL   | 1.1D                                 | 0390                                 |            |
| TROTIL, legalább 10 tömeg% vízzel NEDVESÍTETT  | 4.1                                  | 3366                                 |            |
| TROTIL, legalább 30 tömeg% vízzel NEDVESÍTETT  | 4.1                                  | 1356                                 |            |
| TROTIL, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített  | 1.1D                                 | 0209                                 |            |
| TÜZELŐANYAG REPÜLŐGÉP TURBINAMOTORHOZ  | 3                                    | 1863                                 |            |
| TÜZIJÁTÉK TESZTEK  | 1.1G<br>1.2G<br>1.3G<br>1.4G<br>1.4S | 0333<br>0334<br>0335<br>0336<br>0337 |            |
| TÚZOLTÓKÉSZÜLÉK TÖLTETEK maró folyékony anyag tartalommal  | 8                                    | 1774                                 |            |
| TÚZOLTÓKÉSZÜLÉKEK sűrített vagy cseppfolyósított gázzal  | 2                                    | 1044                                 |            |
| UNDEKÁN  | 3                                    | 2330                                 |            |
| Urán-hexafluorid: lásd<br>RADIOAKTÍV ANYAG, URÁN-HEXAFLUORID vagy<br>RADIOAKTÍV ANYAG, HASADÓ URÁN-HEXAFLUORID   |                                      |                                      |            |
| ÜRES TÖLTÉNYHÜVELYEK, ÉGHETŐK, GYUTACS NÉLKÜL  | 1.4C<br>1.3C                         | 0446<br>0447                         |            |
| ÜRES TÖLTÉNYHÜVELYEK GYUTACCSAL  | 1.4S<br>1.4C                         | 0055<br>0379                         |            |
| ÜZEMANYAGCELLA KAZETTA gyúlékony, cseppfolyósított gáz tartalommal<br>ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN gyúlékony, cseppfolyósított gáz tartalommal<br>ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE-CSOMAGOLVA, gyúlékony, cseppfolyósított gáz tartalommal | 2                                    | 3478                                 |            |
| ÜZEMANYAGCELLA KAZETTA fémhidridben levő hidrogén-tartalommal<br>ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN fémhidridben levő hidrogén-tartalommal<br>ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE-CSOMAGOLVA, fémhidridben levő hidrogén-tartalommal                | 2                                    | 3479                                 |            |
| ÜZEMANYAGCELLA KAZETTA gyúlékony folyadék tartalommal<br>ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN gyúlékony folyadék tartalommal<br>ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE-CSOMAGOLVA, gyúlékony folyadék tartalommal  | 3                                    | 3473                                 |            |
| ÜZEMANYAGCELLA KAZETTA maró anyag tartalommal<br>ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN maró anyag tartalommal<br>ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE-CSOMAGOLVA, maró anyag tartalommal  | 8                                    | 3477                                 |            |

| Megnevezés   | Osztály                              | UN szám                              | Megjegyzés  |
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| ÜZEMANYAGCELLA KAZETTA vízzel reaktív anyag tartalommal<br>ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vízzel reaktív<br>anyag tartalommal<br>ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE-<br>CSOMAGOLVA, vízzel reaktív anyag tartalommal | 4.3                                  | 3476                                 |   |
| VAJSAV   | 8                                    | 2820                                 |   |
| VAJSAVANHIDRID   | 8                                    | 2739                                 |   |
| VAKTÖLTÉNYEK FEGYVEREKHEZ  | 1.4S<br>1.1C<br>1.3C<br>1.4C<br>1.2C | 0014<br>0326<br>0327<br>0338<br>0413 |   |
| VAKTÖLTÉNYEK KÉZIFEGYVEREKHEZ  | 1.4S<br>1.3C<br>1.4C                 | 0014<br>0327<br>0338                 |   |
| VALERALDEHID   | 3                                    | 2058                                 |   |
| VALERIL-KLORID   | 8                                    | 2502                                 |   |
| VANADIL-SZULFÁT  | 6.1                                  | 2931                                 |   |
| VANÁDIUM-OXI-TRIKLORID   | 8                                    | 2443                                 |   |
| VANÁDIUM-PENTOXID nem olvasztott formában  | 6.1                                  | 2862                                 |   |
| VANÁDIUM-TETRAKLORID   | 8                                    | 2444                                 |   |
| VANÁDIUM-TRIKLORID   | 8                                    | 2475                                 |   |
| VANÁDIUMVEGYÜLET, M.N.N.   | 6.1                                  | 3285                                 |   |
| VÁROSI GÁZ, SÚRÍTETT   | 2                                    | 1023                                 |   |
| VAS(II)-ARZENÁT  | 6.1                                  | 1608                                 |   |
| VAS(III)-ARZENÁT   | 6.1                                  | 1606                                 |   |
| VAS(III)-ARZENIT   | 6.1                                  | 1607                                 |   |
| VAS(III)-KLORID OLDAT  | 8                                    | 2582                                 |   |
| VAS(III)-KLORID, VÍZMENTES   | 8                                    | 1773                                 |   |
| VAS(III)-NITRÁT  | 5.1                                  | 1466                                 |   |
| VAS-OXID, KIMERÜLT, a generátorgáz tisztításából   | 4.2                                  | 1376                                 |   |
| VAS-PENTAKARBONIL  | 6.1                                  | 1994                                 |   |
| VASSZIVACS, KIMERÜLT, a generátorgáz tisztításából   | 4.2                                  | 1376                                 |   |
| VASTARTALMÚ FORGÁCS DARABOLÁSBÓL önmelegedésre<br>hajlamos formában  | 4.2                                  | 2793                                 |   |
| VASTARTALMÚ FORGÁCS ESZTERGÁLÁSBÓL, önmelegedésre<br>hajlamos formában   | 4.2                                  | 2793                                 |   |
| VASTARTALMÚ FORGÁCS FÚRÁSBÓL, önmelegedésre hajlamos<br>formában   | 4.2                                  | 2793                                 |   |
| VASTARTALMÚ FORGÁCS KÖSZÖRÜLESBŐL, önmelegedésre<br>hajlamos formában  | 4.2                                  | 2793                                 |   |
| VASÚTI DURRANTYÚK  | 1.1G<br>1.4S<br>1.3G<br>1.4G         | 0192<br>0193<br>0492<br>0493         |   |
| VEGYIANYAG MINTA, MÉRGEZŐ  | 6.1                                  | 3315                                 |   |
| VESTA-VIASZ GYUFA  | 4.1                                  | 1945                                 |   |
| VESZÉLYES ÁRU BERENDEZÉSBEN<br>VESZÉLYES ÁRU KÉSZÜLÉKBEN   | 9                                    | 3363                                 | Nem tartozik az ADR<br>hatálya alá [lásd még az<br>1.1.3.1 b) pontot] |
| VÉSZJELZŐK, tengeri  | 1.1G<br>1.3G<br>1.4G<br>1.4S         | 0194<br>0195<br>0505<br>0506         |   |



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| VIHARGYUFA   | 4.1                                  | 2254                                 |                             |
| VILÁGÍTÓTESTEK, FÖLDI  | 1.3G<br>1.1G<br>1.2G                 | 0092<br>0418<br>0419                 |                             |
| VILÁGÍTÓTESTEK, LÉGI   | 1.3G<br>1.4G<br>1.4S<br>1.1G<br>1.2G | 0093<br>0403<br>0404<br>0420<br>0421 |                             |
| VILLAMOS GYUTACSOK robbantáshoz                                      | 1.1B<br>1.4B<br>1.4S                 | 0030<br>0255<br>0456                 |                             |
| VILLANÓFÉNY-PATRONOK   | 1.1G<br>1.3G                         | 0049<br>0050                         |                             |
| VILLANÓFÉNYPOR   | 1.1G<br>1.3G                         | 0094<br>0305                         |                             |
| VINIL-ACETÁT, STABILIZÁLT  | 3                                    | 1301                                 |                             |
| VINIL-BROMID, STABILIZÁLT  | 2                                    | 1085                                 |                             |
| VINIL-BUTIRÁT, STABILIZÁLT   | 3                                    | 2838                                 |                             |
| VINIL-FLUORID, STABILIZÁLT   | 2                                    | 1860                                 |                             |
| VINIL-KLÓR-ACETÁT  | 6.1                                  | 2589                                 |                             |
| VINIL-KLORID, STABILIZÁLT  | 2                                    | 1086                                 |                             |
| VINIL-METIL-ÉTER, STABILIZÁLT  | 2                                    | 1087                                 |                             |
| VINIL-PIRIDINEK, STABILIZÁLT   | 6.1                                  | 3073                                 |                             |
| VINIL-TOLUOLOK, STABILIZÁLT  | 3                                    | 2618                                 |                             |
| VINIL-TRIKLÓR-SZILÁN, STABILIZÁLT                                    | 3                                    | 1305                                 |                             |
| VINILIDÉN-KLORID, STABILIZÁLT  | 3                                    | 1303                                 |                             |
| VÍZIBOMBÁK   | 1.1D                                 | 0056                                 |                             |
| VÍZZEL AKTÍVÁLHATÓ SZERKEZETEK robbanó-, kidobó- vagy hajtótöltettel | 1.2L<br>1.3L                         | 0248<br>0249                         |                             |
| VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N.                                   | 4.3                                  | 3208                                 |                             |
| VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.                               | 4.3                                  | 3148                                 |                             |
| VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.                  | 5.1                                  | 3121                                 | A szállításból ki van zárva |
| VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.                  | 4.3                                  | 3133                                 | A szállításból ki van zárva |
| VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.                      | 4.3                                  | 3132                                 |                             |
| VÍZZEL REAKTÍV, MARÓ, FOLYÉKONY ANYAG, M.N.N.                        | 4.3<br>8                             | 3129<br>3094                         |                             |
| VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.                           | 4.3<br>8                             | 3131<br>3096                         |                             |
| VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.                      | 4.3<br>6.1                           | 3130<br>3123                         |                             |
| VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.                        | 4.3<br>6.1                           | 3134<br>3125                         |                             |
| VÍZZEL REAKTÍV, ÖNMELEGEDŐ FÉMES ANYAG, M.N.N.                       | 4.3                                  | 3209                                 |                             |
| VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.                     | 4.3                                  | 3135                                 |                             |
| VÍZZEL REAKTÍV SZILÁRD ANYAG, M.N.N.                                 | 4.3                                  | 2813                                 |                             |
| VIZSGÁLÓKÉSZLET  | 9                                    | 3316                                 |                             |
| VOLFRAM-HEXAFLUORID  | 2                                    | 2196                                 |                             |
| VÖRÖSEN FÜSTÖLGŐ SALÉTROMSAV   | 8                                    | 2032                                 |                             |
| Vörösfoszfor: lásd AMORF FOSZFOR                                     |                                      |                                      |                             |
| White spirit: lásd TERPENTINPÓTLÓ                                    |                                      |                                      |                             |
| XANTÁTOK   | 4.2                                  | 3342                                 |                             |

| Megnevezés                          | Osztály | UN szám | Megjegyzés |
|-------------------------------------|---------|---------|------------|
| XENON                               | 2       | 2036    |            |
| XENON, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT | 2       | 2591    |            |
| XILENOLOK, FOLYÉKONY                | 6.1     | 3430    |            |
| XILENOLOK, SZILÁRD                  | 6.1     | 2261    |            |
| XILIDINEK, FOLYÉKONY                | 6.1     | 1711    |            |
| XILIDINEK, SZILÁRD                  | 6.1     | 3452    |            |
| XILIL-BROMID, FOLYÉKONY             | 6.1     | 1701    |            |
| XILIL-BROMID, SZILÁRD               | 6.1     | 3417    |            |
| XIOLMÓSZUSZ                         | 4.1     | 2956    |            |
| XILOLOK                             | 3       | 1307    |            |
| Zománcok: lásd FESTÉK               |         |         |            |

**3.3 FEJEZET****EGYES ANYAGOKRA VAGY TÁRGYAKRA VONATKOZÓ  
KÜLÖNLEGES ELŐÍRÁSOK****3.3.1**

Amennyiben a 3.2 fejezet „A” táblázatának 6 oszlopában egy anyagra vagy tárgyra különleges előírás vonatkozik, ezen különleges előírás jelentése és követelményei a következők:

- 16** Az új vagy régebben létező robbanóanyagok vagy robbanótárgyak mintái – az illetékes hatóságok által előírt módon (lásd a 2.2.1.1.3 pontot) – vizsgálati, besorolási, kutatási és fejlesztési vagy minőségellenőrzési célból, vagy mint kereskedelmi minták szállíthatók. A nem nedvesített vagy nem deszenzibilizált robbanóanyag minták mennyisége az illetékes hatóságok előírásai szerinti kis küldeménydarabokban 10 kg-ra van korlátozva. A nedvesített vagy deszenzibilizált robbanóanyag minták mennyisége 25 kg-ra van korlátozva.
- 23** Bár ez az anyag a gyúlékonyság veszélyével bír, ez csak zárt térben bekövetkező rendkívüli tűz esetén jelent tényleges veszélyt.
- 32** Ez az anyag semmilyen más formában nem tartozik az ADR előírásainak hatálya alá.
- 37** Ez az anyag bevont formában nem tartozik az ADR előírásainak hatálya alá.
- 38** Ez az anyag 0,1 tömeg%-nál nem több kalcium-karbid tartalommal nem tartozik az ADR előírásainak hatálya alá.
- 39** Ez az anyag 30 tömeg% alatti vagy legalább 90 tömeg% szilícium tartalommal nem tartozik az ADR előírásainak hatálya alá.
- 43** Ha peszticidként adják fel, akkor ezeket az anyagokat a megfelelő peszticid tétel alatt és a peszticidekre vonatkozó előírások (lásd a 2.2.61.1.10 – 2.2.61.1.11.2 pontot) szerint kell szállítani.
- 45** Azok az antimon-oxidok és antimon-szulfidok, amelyek arzéntartalma összes tömegükhöz viszonyítva a 0,5%-ot nem haladja meg, nem tartoznak az ADR előírásainak hatálya alá.
- 47** A ferri-cianidok és ferro-cianidok nem tartoznak az ADR előírásainak hatálya alá.
- 48** Ezt az anyagot tilos szállítani, ha 20%-nál több hidrogén-cianidot tartalmaz.
- 59** Ezek az anyagok nem tartoznak az ADR előírásainak hatálya alá, ha legfeljebb 50% magnéziumot tartalmaznak.
- 60** Amennyiben a koncentráció meghaladja a 72%-ot, az anyag nem szállítható.
- 61** A műszaki névnek, aminek a helyes szállítási megnevezést kell kiegészítenie, az elfogadott ISO névnek, (lásd az ISO 1750:1981 „Peszticidek és más agrokemikáliák – szokásos elnevezések” c. szabványt módosított formában) vagy „A WHO ajánlása a peszticidek veszély szerinti osztályozására és az osztályozás irányelvei” („The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification”) c. kiadványban felsorolt névnek, illetve a hatóanyag nevének kell lennie (lásd a 3.1.2.8.1 és a 3.1.2.8.1.1 pontot is).

- 62** Ez az anyag nem tartozik az ADR előírásainak hatálya alá, ha nem tartalmaz 4%-nál több nátrium-hidroxidot.
- 65** A hidrogén-peroxid vizes oldatok 8%-nál kisebb hidrogén-peroxid tartalommal nem tartoznak az ADR előírásainak hatálya alá.
- 103** Az ammónium-nitritek, valamint a szervesetlen nitritek keverékei ammóniumsóval nem szállíthatók.
- 105** Az UN 2556 vagy UN 2557 leírásának megfelelő nitrocellulóz a 4.1 osztályba sorolható.
- 113** A vegyileg nem állandó keverékek nem szállíthatók.
- 119** Hűtőgépeknek számítanak azok a gépek vagy készülékek, amelyek belső tere élelmiszerek és egyéb cikkek alacsony hőmérsékleten való tartására szolgál, valamint a légkondicionáló berendezések. Nem tartoznak az ADR előírásainak hatálya alá azok a hűtőgépek és hűtőgép részegységek, amelyek a 2 osztály 2.2.2.1.3 pont szerinti A vagy O csoportjába tartozó gázból 12 kg-nál kevesebbet, illetve 12 l-nél kevesebb ammóniaoldatot (UN 2672) tartalmaznak.
- 122** A járulékos veszélyeket, az esetleges szabályozási és vészhőmérsékletet és az UN számot (generikus tételt) a jelenleg besorolt szerves peroxid készítményekhez a 2.2.52.4 bekezdés tartalmazza.
- 127** Egyéb inert anyag vagy inert anyag keverék használható, amennyiben ez az inert anyag azonos flegmatizáló tulajdonságokkal rendelkezik.
- 131** A flegmatizált anyagnak lényegesen érzéketlenebbnek kell lennie, mint a száraz PETN.
- 135** A diklór-izocianursav dihidratált nátrium-sója nem tartozik az ADR előírásainak hatálya alá.
- 138** A p-bróm-benzil-cianid nem tartozik az ADR előírásainak hatálya alá.
- 141** Azok az anyagok, amelyeket megfelelő hőkezelésnek vetettek alá, és ezáltal nem jelentenek veszélyt a szállítás alatt, nem tartoznak az ADR előírásainak hatálya alá.
- 142** A legfeljebb 1,5% olaj-, és legfeljebb 11% nedvességtartalmú, oldószerrel extrahált szójaliszt, amely gyakorlatilag nem tartalmaz gyúlékony oldószert, nem tartozik az ADR előírásainak hatálya alá.
- 144** A legfeljebb 24 tf.% alkoholt tartalmazó vizes oldat nem tartozik az ADR előírásainak hatálya alá.
- 145** A III csomagolási csoportba tartozó alkoholos italok legfeljebb 250 liter űrtartalmú tartályokban szállítva nem tartoznak az ADR előírásainak hatálya alá.
- 152** Ezen anyag besorolása a szemcsemérettől és a csomagolástól függően változik, de a határokat kísérletileg még nem állapították meg. A megfelelő besorolást a 2.2.1 szakasz előírásai szerint kell elvégezni.
- 153** Ezt a tételt csak akkor lehet alkalmazni, ha a vizsgálatok alapján bizonyított, hogy az anyagok vízzel érintkezve nem gyúlékonyak, nem mutatnak öngyulladás hajlamot és a fejlődött gázok keveréke sem gyúlékony.

- 162** (törölve)
- 163** A 3.2 fejezet „A” táblázatában név szerint említett anyag ilyen tételként nem szállítható. Az ilyen tételként szállított anyagok legfeljebb 20% olyan nitrocellulózt tartalmazhatnak, amely legfeljebb 12,6% nitrogént tartalmaz (száraz tömegre vetítve).
- 168** Azok az azbesztek, amelyek természetes vagy mesterséges kötőanyagba (pl. cement, műanyagok, aszfalt, gyanták vagy ásványérc) oly módon vannak beágyazva vagy azon rögzítve, hogy abból belélegezhető azbeszt szálak a szállítás során veszélyes mennyiségben nem szabadulhatnak ki, nem tartoznak az ADR előírásainak hatálya alá. Azok az azbesztet tartalmazó gyártmányok, amelyek ezt a feltételt nem elégítik ki, de úgy vannak csomagolva, hogy belélegezhető azbeszt szálak a szállítás során veszélyes mennyiségben nem szabadulhatnak ki, nem tartoznak az ADR előírásainak hatálya alá.
- 169** A ftálsavanhidrid szilárd állapotban és a tetrahydro-ftálsavanhidridek legfeljebb 0,05% maleinsavanhidriddel nem tartozik az ADR előírásainak hatálya alá. A legfeljebb 0,05% maleinsavanhidridet tartalmazó, olvasztott ftálsavanhidridet lobbánáspontján vagy annál magasabb hőmérsékleten az UN 3256 alá kell besorolni.
- 172** A járulékos veszéllyel rendelkező radioaktív anyagok esetén:
- a) a küldeménydarabokat el kell látni az anyagra jellemző minden járulékos veszélynek megfelelő veszélyességi bárcával; a járműveken és a konténereken pedig az ezeknek megfelelő nagybárcákat kell az 5.3.1 szakasz vonatkozó előírásai szerint elhelyezni;
  - b) amennyiben szükséges, a radioaktív anyagot az I, a II vagy a III csomagolási csoporthoz a 2. részben a döntő járulékos veszélyre előírt csoportba sorolási kritériumok szerint kell hozzárendelni.
- Az 5.4.1.2.5.1 b) pontban előírt leírásnak tartalmaznia kell a járulékos veszély leírását (pl. „Járulékos veszély: 3, 6.1”), azon összetevők megnevezését, amelyek ezen veszély(ek)e)t túlnyomórészt okozzák, és amennyiben van, a csomagolási csoportot is.
- 177** A bárium-szulfát nem tartozik az ADR előírásainak hatálya alá.
- 178** Ezt a megnevezést csak a származási ország illetékes hatóságának engedélyével (lásd a 2.2.1.1.3 pontot) lehet használni, és csak akkor, ha egyéb alkalmas megnevezés nincs a 3.2 fejezet „A” táblázatában.
- 181** Az ilyen típusú anyagot tartalmazó küldeménydarabokat kiegészítésképpen el kell látni 1 számú veszélyességi bárcával (lásd az 5.2.2.2.2 pontot), kivéve, ha a származási ország illetékes hatósága engedélyezte ezen bárca elhagyását kifejezetten az alkalmazott csomagolásra, mivel a vizsgálatok eredményei bizonyították, hogy az anyag ebben a csomagolásban nem robbanásveszélyes (lásd az 5.2.2.1.9 pontot).
- 182** Az alkálifémek csoportját a lítium, a nátrium, a kálium, a rubídium és a cézium alkotja.
- 183** Az alkáliföldfémek csoportját a magnézium, a kalcium, a stroncium és a bárium alkotja.

- 186** Az ammónium-nitrát tartalom meghatározása során mindazon nitrát-ion mennyiséget, amellyel egyenérték tömegű ammónium-ion van jelen a keverékben, ammónium-nitrátként kell számításba venni.
- 188** Nem tartoznak az ADR előírásainak hatálya alá azok a cellák és akkumulátorok, amelyek megfelelnek a következő előírásoknak:
- a) egy fémlítium- vagy lítiumötvözet-cella legfeljebb 1 g lítiumot tartalmaz, illetve lítiumion cella esetén a névleges kapacitás legfeljebb 20 Wh;
  - b) egy fémlítium- vagy lítiumötvözet-akkumulátor összesen legfeljebb 2 g lítiumot tartalmaz, illetve lítiumion akkumulátor esetén a névleges kapacitás legfeljebb 100 Wh. Az ezen követelménynek megfelelő lítiumion akkumulátornak a külső házán fel kell tüntetni a névleges kapacitást (Wh-ban), kivéve a 2009. január 1-je előtt gyártott akkumulátorokat, amelyek ezen különleges előírás szerint 2010. december 31-ig szállíthatók anélkül, hogy a jelölés rajtuk lenne;
  - c) minden cella, ill. akkumulátor olyan típusú, amelyről bizonyított, hogy a „Vizsgálatok és kritériumok kézikönyv” III. rész 38.3 pontjának minden vizsgálati követelményének megfelel;
  - d) a cellákat, ill. akkumulátorokat, kivéve, ha készülékben vannak, a cellát, ill. akkumulátort teljesen magába foglaló belső csomagolásba kell helyezni. A cellákat, ill. akkumulátorokat a rövidzárlat ellen védeni kell. A védelemnek ki kell terjednie az ugyanabban a csomagolásban lévő vezetőképes anyaggal való érintkezésre is, mivel az is rövidzárlatot okozhat. A belső csomagolást a 4.1.1.1, a 4.1.1.2 és a 4.1.1.5 bekezdés előírásainak megfelelő, erős külső csomagolásba kell helyezni;
  - e) a készülékben lévő cellákat, ill. akkumulátorokat sérülés és rövidzárlat ellen védeni kell, és a készüléket olyan hatékony eszközzel kell ellátni, amely megakadályozza, hogy véletlenszerűen működésbe lépjen. Készülékben lévő akkumulátorok esetén a készüléket olyan erős külső csomagolóeszközbe kell csomagolni, amely a csomagolóeszköz ürtartalmának és rendeltetésének megfelelő szilárdságú, alkalmas anyagból és kialakítással készült, kivéve ha a készülék maga ugyanilyen védelmet nyújt a benne lévő akkumulátornak.
  - f) az olyan küldeménydarabot, amely négynél több, készülékben lévő cellát, vagy kettőnél több készülékben lévő akkumulátort tartalmaz, a következőképpen kell megjelölni:
    - i) fel kell rajta tüntetni, hogy „fémlítium”, ill. „lítiumion” cellát, ill. akkumulátort tartalmaz;
    - ii) fel kell rajta tüntetni, hogy a küldeménydarabot óvatosan kell kezelni és a küldeménydarab sérülése tűzveszélyt okoz;
    - iii) fel kell rajta tüntetni, hogy a küldeménydarab sérülése esetén különleges eljárásra (ellenőrzésre, átcsomagolásra) van szükség;
    - iv) fel kell rajta tüntetni a további információért hívható telefonszámot;
  - g) az f) pont szerinti jelöléssel ellátott küldeménydarabo(ka)t tartalmazó küldeményhez olyan okmányt kell mellékelni, amely a következőket tartalmazza

- i) utalást arra, hogy a küldeménydarab „fémlítium”, ill. „lítiumion” cellát, ill. akkumulátort tartalmaz;
  - ii) utalást arra, hogy a küldeménydarabo(ka)t óvatosan kell kezelni és a küldeménydarab(ok) sérülése tűzveszélyt okoz;
  - iii) utalást arra, hogy a küldeménydarab sérülése esetén különleges eljárásra (ellenőrzésre, átcsomagolásra) van szükség;
  - iv) a további információért hívható telefonszámot;
- h) a készülékben lévő akkumulátorokat tartalmazók kivételével minden küldeménydarabnak alkalmasnak kell lennie, hogy elviselje az 1,2 m-ről bármilyen helyzetben végrehajtott ejtési próbát anélkül, hogy a benne levő cellák vagy akkumulátorok megsérülne, a tartalom olyan mértékben elmozdulna, ami az akkumulátorok (vagy a cellák) érintkezését eredményezi, ill. a tartalom kiszabadulna; és
- i) egy küldeménydarab bruttó tömege legfeljebb 30 kg lehet, kivéve, ha készülékben lévő vagy készülékkel egybeeső akkumulátorokat tartalmaz.

Az előzőekben, illetve bárhol az ADR-ben szereplő „lítiumtartalom” egy fémlítium vagy lítiumötvözet cella anódjában levő lítium tömegét jelenti.

A fémlítium és a lítiumion akkumulátorokra külön tételek vannak, hogy különböző módon lehessen szállítani, ill. eltérő vészhelyzeti eljárásokat lehessen alkalmazni.

- 190** Az aeroszol csomagolásokat az akaratlan működtetés ellen védelemmel kell ellátni. A legfeljebb 50 ml űrtartalmú aeroszolak, amelyek csak nem mérgező alkotórészeket tartalmaznak, nem tartoznak az ADR előírásainak hatálya alá.
- 191** A legfeljebb 50 ml űrtartalmú, kisméretű tartályok, amelyek csak nem mérgező alkotórészeket tartalmaznak, nem tartoznak az ADR előírásainak hatálya alá.
- 194** Az esetleges szabályozási és vészhőmérsékletek és az UN számok (generikus tételek) a jelenleg besorolt önreaktív anyagokhoz a 2.2.41.4 bekezdésben találhatók.
- 196** Azok a készítmények szállíthatók e tételként, amelyek a laboratóriumi vizsgálat során nem detonálnak kavitált állapotban, nem deflagrálnak, nem mutatnak semmiféle hatást zárt térben hevítve és nincs robbanóerejük. A készítménynek termikusan stabilnak kell lennie (öngyorsuló bomlási hőmérséklet 50 kg-os küldeménydarabban 60 °C vagy annál magasabb). Az e kritériumokat nem teljesítő készítményeket az 5.2 osztály előírásai szerint kell szállítani (lásd a 2.2.52.4 bekezdést).
- 198** A legfeljebb 20% nitrocellulóz tartalmú nitrocellulóz oldatok festékként vagy nyomdafestékként szállíthatók (lásd UN 1210, UN 1263, UN 3066, UN 3469 és UN 3470).
- 199** Azok az ólomvegyületek, amelyek 0,07M sósavoldattal 1:1000 arányban vegyítve, 23°C ± 2 °C-on történő, egy órán keresztül tartó keveréssel legfeljebb 5%-ban oldhatók (lásd az ISO 3711:1990 „Ólom-kromát pigmentek és ólom-kromát/ólom-molibdát pigmentek – Meghatározások és vizsgálati módszerek” c. szabványt), oldhatatlannak tekinthetők és nem tartoznak az ADR előírásainak hatálya alá, kivéve, ha valamely más osztály besorolási kritériumainak megfelelnek.

- 201** Az öngyújtóknak és öngyújtó utántöltőknek meg kell felelniük azon ország előírásainak, ahol megtöltötték. A véletlen működésbe lépés ellen védeni kell. A gáz folyadékfázisa 15 °C-on nem haladhatja meg a tartály űrtartalmának 85%-át. A tartályoknak, beleértve a zárószervezeteket, el kell viselniük a cseppfolyósított szénhidrogén-gáz által 55 °C-on kifejtett nyomás kétszeresével egyenlő belső nyomást. A szelepeket és a gyújtószervezetet reteszeléssel, tapadószalagos lezárással vagy más alkalmas módon rögzíteni kell, vagy eleve úgy kell kialakítani, hogy a szállítás alatt ne léphessen működésbe, ill. a tartalom ne szabadulhasson ki. Az öngyújtók nem tartalmazhatnak 10 g-nál több cseppfolyósított szénhidrogén-gázt. Az öngyújtó utántöltők nem tartalmazhatnak 65 g-nál több cseppfolyósított szénhidrogén-gázt.

*Megjegyzés: Az elkülönítve összegyűjtött hulladék öngyújtókra lásd a 3.3 fejezet 654 különleges előírását.*

- 203** Ez a tétel nem használható az UN 2315 folyékony, poliklórozott bifenilekhez és az UN 3432 szilárd, poliklórozott bifenilekhez.

- 204** (törölve)

- 205** Ez a tétel nem használható az UN 3155 pentaklór-fenolhoz.

- 207** A polimer gyöngyök és sajtolóanyagok lehetnek polisztirolból, poli(metil-metakrilát)-ból vagy más polimerből.

- 208** A kalcium-nitrát műtrágyák kereskedelmi formái, amelyek főleg kettős sóból (kalcium-nitrátból és ammónium-nitrátból) állnak és nem tartalmaznak 10%-nál több ammónium-nitrátot, de legalább 12% kristályvíz tartalmúak, nem tartoznak az ADR előírásainak hatálya alá.

- 210** A fertőző anyagokat tartalmazó növényi, állati vagy baktérium forrásokból származó toxinokat és a fertőző anyagokban levő toxinokat a 6.2 osztályba kell besorolni.

- 215** Ez a tétel csak az olyan, technikailag tiszta anyagra, illetve belőle készült formulázásokra vonatkozik, amelyek ÖBH-ja (öngyorsuló bomlási hőmérséklete) meghaladja a 75 °C-ot. Nem vonatkozik tehát olyan formulázásokra, amelyek önreaktív anyagok. (Az önreaktív anyagokra lásd a 2.2.41.4 bekezdést.)

A legfeljebb 35 tömeg% azo-dikarbonamidot és legalább 65 tömeg% inert anyagot tartalmazó homogén keverékek nem tartoznak az ADR előírásainak hatálya alá, kivéve, ha más osztály kritériumait is kielégítik.

- 216** Az ADR előírásainak hatálya alá nem tartozó szilárd anyagok és gyúlékony folyadékok keverékei e tétel alatt szállíthatók anélkül, hogy előzetesen a 4.1 osztály besorolási kritériumait alkalmazzák, amennyiben az anyag berakodása során, illetve a csomagolóeszköz, a jármű vagy a konténer lezárásakor szabad folyadék szemmel nem látható. Nem tartoznak az ADR hatálya alá azok a légmentesen zárt csomagolások, ill. tárgyak, melyek a II vagy a III csomagolási csoportba tartozó gyúlékony folyadékot tartalmaznak szilárd anyagban abszorbeálva, 10 ml-nél kisebb mennyiségben, ha a csomagolásban, ill. a tárgyban nincs szabad folyadéktartalom.

- 217** Az ADR előírásainak hatálya alá nem tartozó szilárd anyagok és mérgező folyadékok keverékei e tétel alatt szállíthatók anélkül, hogy előzetesen a 6.1 osztály besorolási kritériumait alkalmazzák, amennyiben az anyag berakodása során, illetve a csomagolóeszköz, a jármű vagy a konténer lezárásakor szabad folyadék szemmel nem látható. Ez a tétel nem használható az I csomagolási csoportba tartozó folyadékot tartalmazó szilárd anyagokhoz.



- 218** Az ADR előírásainak hatálya alá nem tartozó szilárd anyagok és maró folyadékok keverékei e tétel alatt szállíthatók anélkül, hogy előzetesen a 8 osztály besorolási kritériumait alkalmazzák, amennyiben az anyag berakodása során, illetve a csomagolóeszköz, a jármű vagy a konténer lezárásakor szabad folyadék szemmel nem látható.
- 219** Azokat a géntechnológiával módosított mikroorganizmusokat és géntechnológiával módosított élő szervezeteket, amelyek a 2.2.62 szakasz szerint kielégítik a fertőző anyag meghatározását és a 6.2 osztályba sorolás feltételeit, az esettől függően az UN 2814, az UN 2900, ill. az UN 3373 tételként kell szállítani.
- 220** Csak az oldat vagy keverék gyúlékony folyadék összetevőjének műszaki nevét kell a helyes szállítási megnevezés után zárójelben feltüntetni.
- 221** Az I csomagolási csoportba tartozó anyagokat nem lehet ebbe a tételbe felvenni.
- 224** Hacsak vizsgálatokkal nem lehet bizonyítani, hogy az érzékenység fagyasztott állapotban nem nagyobb, mint folyékony állapotban, a hajtóanyagnak normális szállítási feltételek között folyékony állapotban kell maradnia, és -15 °C feletti hőmérsékleten nem szabad megfagynia.
- 225** Az e tétel alá sorolt tűzoltókészülékek tartalmazhatnak beépített működtető töltetet (az 1.4C vagy 1.4S osztályozási kód alá tartozó munkavégző töltetet), anélkül, hogy a 2 osztály 2.2.2.1.3 pont szerinti A vagy O csoportjába történő besorolás megváltozna, feltéve, hogy a deflagráló robbanóanyag (hajtóanyag) összes mennyisége nem haladja meg tűzoltókészülékenként a 3,2 g-ot.
- 226** Ennek az anyagnak azok a formulázásai, amelyek legalább 30% nem illékony, nem gyúlékony flegmatizálószer tartalmaznak, nem tartoznak az ADR előírásainak hatálya alá.
- 227** Ha a flegmatizáláshoz vizet és szervesetlen, inert anyagot használnak, a karbamid-nitrát tartalom nem haladhatja meg a 75 tömeg%-ot, és a keverék a „Vizsgálatok és kritériumok kézikönyv” I. Rész szerinti 1 vizsgálati sorozat, a) próbája során nem lehet képes a detonálásra.
- 228** Azokat a keverékeket, amelyek a gyúlékony gázokra vonatkozó kritériumok (lásd a 2.2.2.1.5 pontot) szerint nem gyúlékonyak, az UN 3163 tételként kell szállítani.
- 230** Ez a tétel a lítiumot bármilyen formában (beleértve a lítium polimert is) tartalmazó cellákra és akkumulátorokra, valamint a lítium-ion cellákra és akkumulátorokra vonatkozik.

A lítium-cellák és -akkumulátorok e tétel alatt akkor szállíthatók, ha kielégítik a következő követelményeket:

- a) minden cella és akkumulátor olyan típusú, amelyről bizonyított, hogy a „Vizsgálatok és kritériumok kézikönyv” III. rész 38.3 pontjának minden vizsgálati követelményének megfelel;
- b) minden cellát és akkumulátort el kell látni biztonsági szellőző készülékkel, vagy olyan szerkezeti kialakításúnak kell lenniük, hogy normális szállítási körülmények között hirtelen felszakadásuk ne következhesen be;
- c) minden cellát és akkumulátort el kell látni hatékony szerkezettel a külső rövidzárlat megakadályozására;

- d) a több cellából álló vagy párhuzamos kapcsolású cellákat tartalmazó akkumulátorokat hatékony szerkezettel (pl. diódákkal, biztosítókkal stb.) kell ellátni a veszélyes visszaram kiküszöbölésére.
- 235** Ez a tétel azokra a tárgyakra vonatkozik, amelyek az 1 osztályba tartozó robbanóanyagot tartalmaznak és emellett tartalmazhatnak egyéb osztályba tartozó veszélyes árut is, és amelyeket járművekben életmentő légszák gázgenerátorként, légszák modulként vagy biztonsági öv előfeszítőként használnak.
- 236** A poliészter gyanta készlet két komponensből áll: az alapanyagból (3 osztály, II vagy III csomagolási csoport) és az aktiváló anyagból (szerves peroxidokból). A szerves peroxidnak D, E vagy F típusúnak kell lennie és nem igényelhet hőmérséklet-szabályozást. A csomagolási csoportnak a 3 osztály feltételei szerint az alapanyagra meghatározva II-nek vagy III-nak kell lennie. A 3.2 fejezet „A” táblázatának 7a oszlopában látható mennyiségi határokat az alapanyagra kell alkalmazni.
- 237** A membránszűrők, beleértve a szállításnál jelen lévő papír szeparátorokat, bevonó és hordozó anyagokat stb., nem lehetnek hajlamosak a detonáció továbbvitelére a „Vizsgálatok és kritériumok kézikönyv” I. Rész 1.a) vizsgálati sorozat szerinti bármely próba során.
- Ezen kívül az illetékes hatóság megfelelő égési sebesség vizsgálatok eredményei alapján (figyelembe véve a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.2.1 bekezdésében található standard vizsgálatokat) meghatározhatja, hogy a nitrocellulóz membránszűrők abban a formában, ahogyan szállítják, nem tartoznak a 4.1 osztályba tartozó gyúlékony szilárd anyagokra vonatkozó előírások hatálya alá.
- 238** a) Az akkumulátortelemek akkor tekinthetők kifolyásmentesnek, amennyiben képesek ellenállni a következők szerinti rezgés- és nyomáskülönbség-vizsgálatoknak az akkumulátorfolyadék kifolyása nélkül.
- Rezgésvizsgálat: az akkumulátort mereven rögzíteni kell a rázóasztal lapjára és egyszerű harmonikus rezgőmozgásnak kell kitenni, amelynek amplitúdója 0,8 mm (1,6 mm maximális kitérés). A frekvenciát 1 Hz/min sebességgel kell változtatni 10 Hz és 55 Hz határok között. A teljes frekvenciamenetnek és a visszatérésnek 95 ± 5 perc alatt kell végbemennie minden egyes szerelési helyzetben (rezgési irány). Az akkumulátort három egymásra kölcsönösen merőleges helyzetben (beleértve a töltőnyílások és szellőzőnyílások, ha ilyenek vannak, fordított helyzetben történő vizsgálatát) azonos időtartamig kell vizsgálni.
- Nyomáskülönbség vizsgálat: a rezgésvizsgálatot követően az akkumulátorokat 6 órán át 24 °C ± 4 °C-on kell tárolni, miközben legalább 88 kPa nyomáskülönbségnek kell kitenni. Az akkumulátorokat három egymásra kölcsönösen merőleges irányban (beleértve a töltőnyílások és szellőzőnyílások, ha ilyenek vannak, fordított helyzetben történő vizsgálatát) minden egyes helyzetben legalább 6 órán át kell vizsgálni.
- b) A kifolyásbiztos akkumulátortelemek nem tartoznak az ADR előírásainak hatálya alá abban az esetben, ha 55 °C-on az elektrolit nem folyik ki a sérült vagy repedt akkumulátorból, és nincs szabad folyadék, ami kifolyhatna, illetve a szállításra kész csomagolásban a sorkapcsok a rövidzárlat ellen védve vannak.
- 239** Az akkumulátorok vagy cellák nátriumon, kénen és/vagy poliszulfidokon kívül nem tartalmazhatnak más veszélyes anyagot. Az akkumulátorok vagy cellák olyan hőmérsékleten, amelynél a bennük levő elemi nátrium folyékonnyá válhat, csak a származási ország illetékes hatóságának jóváhagyásával és az általa meghatározott

feltételek mellett adhatók fel szállításra. Ha a származási ország nem valamely ADR Szerződő Fél, akkor a küldemény által érintett első ADR Szerződő Fél illetékes hatóságának kell a jóváhagyást és a szállítási feltételeket elismernie.

A celláknak tömören zárt fémházakból kell állniuk, melyek a veszélyes anyagokat teljesen magukba zárják, és kialakításuk és zárásuk normális szállítási feltételek mellett megakadályozza ezen anyagok kiszabadulását.

Az akkumulátoroknak fémházba teljesen bezárt és rögzített cellákból kell állniuk, amelynél a ház kialakítása és zárása normális szállítási feltételek mellett megakadályozza a veszélyes anyagok kiszabadulását.

- 241** A formulázást úgy kell készíteni, hogy a szállítás alatt homogén maradjon és ne váljon szét. Nem tartoznak az ADR előírásainak hatálya alá alacsony nitrocellulóz tartalmú formulázások, amelyek a „Vizsgálatok és kritériumok kézikönyv” I. Rész 1.a), 2.b), illetve 2.c) vizsgálati sorozat szerint elvégzett, zárt térben való hevítés hatására történő detonálási, deflagrálsai vagy robbanási tulajdonságok vizsgálata során nem mutatnak semmiféle veszélyes tulajdonságot, és a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.2.1.4 bekezdése szerinti N.1 vizsgálatban nem viselkednek gyúlékony szilárd anyagként (ehhez a vizsgálathoz a lemezes anyagot szükség esetén meg kell őrölni és szitálni, hogy szemcsemérete 1,25 mm-nél kisebb legyen).
- 242** A kén nem tartozik az ADR előírásainak hatálya alá, ha különleges alakúra van formázva (pl. szemcsés, granulált, pellet, pasztilla vagy pehely).
- 243** A szikragyújtású motorokhoz (pl. gépjárművekhez, helyhez kötött és egyéb motorokhoz) használt motorbenzint, benzint és gázolint e tétel alá kell besorolni, függetlenül az eltérő illékonyaságuktól.
- 244** E tétel alá tartozik pl. az alumíniumhamu, alumíniumsalak, alumínium leförlözés, elhasználdott katódok, elhasználdott üstbélések és alumíniumsó salak.
- 247** A 24 tf.%-nál több, de legfeljebb 70 tf.% alkoholtartalmú alkoholos italok, ha a gyártási eljárás részeként szállítják, a 4.1.1 szakasz általános előírásainak megfelelő, 250 liternél nagyobb, de legfeljebb 500 liter űrtartalmú fahordókban is szállíthatók a következő feltételek mellett:
- a) a fahordókat töltés előtt szemrevételezni és tömíteni kell;
  - b) megfelelő folyadékmentes teret kell hagyni (legalább 3%), lehetővé téve a folyadék tágulását;
  - c) a fahordókat a hordónyílással fölfelé kell szállítani; és
  - d) a fahordókat „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) módosított kiadása követelményeit kielégítő konténerekben kell szállítani. Minden fahordót hozzá igazított keretvázban kell rögzíteni és megfelelő módon ki kell ékelni, megakadályozva bármilyen irányú elmozdulást a szállítás alatt.
- 249** A korrózióval szemben stabilizált ferrocérium (tűzkő) legalább 10% vastartalommal nem tartozik az ADR előírásainak hatálya alá.
- 250** Ez a tétel csak az elemzési célokra szolgáló vegyi anyag mintákhoz használható a „Vegyifegyverek kifejlesztésének, gyártásának, felhalmozásának és használatának tilalmáról, valamint megsemmisítéséről szóló Egyezmény” teljesítésével

kapcsolatosan. Az anyagok szállítása ezen tétel alatt a Vegyifegyver Tilalmi Szervezet által meghatározott felügyeleti rendszabályokkal és biztonsági eljárások szerint végezhető.

A vegyianyag minta csak az illetékes hatóság vagy a Vegyifegyver Tilalmi Szervezet főigazgatójának előzetes engedélyével szállítható, amennyiben a minta kielégíti a következő feltételeket:

- a) az ICAO Műszaki Utasítások (ICAO-TI) 623 csomagolási utasítása szerint (lásd a Kiegészítés S-3-8 pontját) kell csomagolni, és
- b) a szállítás idején a fuvarokmányhoz kell csatolni a szállítást engedélyező okmány egy példányát, amely feltünteti a mennyiségi korlátozást és a csomagolási utasítást is.

- 251** Az UN 3316 vizsgálókészlet vagy elsősegély felszerelés tétel olyan dobozokra, kazettákra stb. vonatkozik, amelyek különböző vegyianyagokat tartalmaznak kis mennyiségben, amelyeket például gyógyászati, analitikai, vizsgálati vagy javítási célra használnak. Az ilyen vizsgálókészletek és felszerelések nem tartalmazhatnak a 3.2 fejezet „A” táblázat 7a oszlopában „LQ0” kóddal megjelölt anyagokat.

Az alkotórészek nem reagálhatnak egymással veszélyesen (lásd a „veszélyes reakciót” az 1.2.1 szakaszban). A veszélyes anyag összes mennyisége vizsgálókészletenként vagy felszerelésenként nem haladhatja meg az 1 litert vagy 1 kg-ot. A vizsgálókészlet vagy felszerelés egészét a benne levő anyagokhoz tartozó legszigorúbb csomagolási csoportba kell sorolni.

Azok a vizsgálókészletek vagy felszerelések, amelyeket a járműveken elsősegély vagy helyi felhasználás céljából szállítanak, nem tartoznak az ADR előírásainak hatálya alá.

A 3.4 fejezet szerint szállíthatók azok a vizsgálókészletek és elsősegély felszerelések, amelyeknél a belső csomagolásban a veszélyes áru mennyisége nem haladja meg azt a korlátozott mennyiségre vonatkozó határt, amelyet a 3.2 fejezet „A” táblázat 7a oszlopában az egyes anyagokra megadott LQ kódhoz a 3.4.6 szakasz meghatároz.

- 252** Az ammónim-nitrát vizes oldata legfeljebb 0,2% éghető anyag tartalommal és legfeljebb 80%-os koncentrációval nem tartoznak az ADR előírásainak hatálya alá, feltéve, hogy az ammónium-nitrát a szállítás alatt minden körülmények között oldatban marad.
- 266** Ez az anyag a megadottnál kevesebb alkohol-, víz- vagy flegmatizálószer-tartalommal csak az illetékes hatóság külön engedélyével szállítható (lásd a 2.2.1.1 bekezdést).
- 267** A klorátokat tartalmazó, C típusú robbantóanyagokat el kell különíteni az ammónium-nitrátot vagy más ammóniumsót tartalmazó robbanóanyagoktól.
- 270** Az 5.1 osztályba tartozó szervesetlen, szilárd nitrátok azon vizes oldatai, amelyek koncentrációja nem haladja meg a szállítás alatt felléphető legkisebb hőmérséklethez tartozó telítési határ 80%-át, úgy tekinthetők, hogy nem rendelkeznek az 5.1 osztály kritériumaival.
- 271** Flegmatizálószerként laktóz, glukóz vagy hasonló anyagok használhatók, feltéve, hogy az anyag legalább 90 tömeg% flegmatizálószeret tartalmaz. Az illetékes hatóság a „Vizsgálatok és kritériumok kézikönyv” I. Rész 16. fejezet 6 vizsgálati sorozat c)

próba alapján, amelyet legalább 3, szállításra előkészített csomagoláson hajtottak végre, engedélyezheti ezen keverék 4.1 osztályba történő besorolását. A legalább 98 tömeg% flegmatizálószer-tartalmú keverékek nem tartoznak az ADR előírásainak hatálya alá. A legalább 90 tömeg% flegmatizálószer-tartalmú keverékeket tartalmazó küldeménydarabokat nem kell 6.1 számú bárcával ellátni.

- 272** Ez az anyag a 4.1 osztály anyagaként csak az illetékes hatóság külön engedélyével szállítható (lásd UN 0143).
- 273** Az önmelegedéssel szemben stabilizált manebet és maneb készítményeket nem kell a 4.2 osztályba sorolni, ha vizsgálatokkal bizonyítható, hogy az anyag 1 m<sup>3</sup>-es kockája nem mutat öngyulladás hajlamot és a hőmérséklet a minta közepén nem haladja meg a 200 °C-ot, ha a mintát 24 órán át legalább 75 °C ± 2 °C-on tartják.
- 274** A 3.1.2.8 bekezdés előírásait kell alkalmazni.
- 278** Ez az anyag csak akkor sorolható be és szállítható, ha az illetékes hatóság a szállításra előkészített csomagoláson végzett, a „Vizsgálatok és kritériumok kézikönyv” I. Rész 2 vizsgálati sorozat és a 6 vizsgálati sorozat c) próba eredménye alapján (lásd a 2.2.1.1 bekezdést) engedélyezte. A csomagolási csoportot a 2.2.3 szakasz kritériumai és a 6 vizsgálati sorozat c) próbához használt csomagolóeszköz típusa alapján kell az illetékes hatóságnak meghatározni.
- 279** Az anyag besorolása vagy csomagolási csoporthoz rendelése sokkal inkább az embereken szerzett tapasztalatokon, semmint az ADR-ben található besorolási kritériumok szigorú alkalmazása alapján történt.
- 280** E tétel alá tartoznak azok a járművekben használt életmentő légszák gázgenerátorok, légszák modulok és biztonsági öv előfeszítők, amelyek az 1 osztályba vagy más osztály(ok)ba tartozó veszélyes árukat tartalmaznak, ha alkatrész-egységként szállítják és ha a szállításra kész csomagolásban a „Vizsgálatok és kritériumok kézikönyv” I. Rész 6.c) vizsgálati sorozat szerint bevizsgálták és ennek során nem robbantak fel, burkolatuk vagy a nyomástartó edény nem tört szét és nem következett be veszélyes kivetődés vagy hőhatás, ami jelentősen akadályozná a tűzoltást vagy más vészhelyzeti intézkedés végrehajtását a közvetlen környezetben.
- 282** (törölve)
- 283** A lengéscsillapítóként szolgáló, gázt tartalmazó tárgyak, beleértve az ütközési energia elnyelésére használt eszközöket és a légrugókat, nem tartoznak az ADR előírásainak hatálya alá, feltéve, hogy:
- a) a gáztér űrtartalma legfeljebb 1,6 liter és a töltési nyomás legfeljebb 280 bar, úgy, hogy az űrtartalom (liter) és a töltési nyomás (bar) szorzata legfeljebb 80 (azaz 0,5 literes gáztér és 160 bar töltési nyomás, 1 literes gáztér és 80 bar töltési nyomás, 1,6 literes gáztér és 50 bar töltési nyomás, 0,28 literes gáztér és 280 bar töltési nyomás);
  - b) a legkisebb repesztőnyomás a legfeljebb 0,5 literes gázterű gyártmányoknál a 20 °C-hoz tartozó töltési nyomás 4-szerese, a 0,5 literesnél nagyobb gázterű gyártmányoknál a 20 °C-hoz tartozó töltési nyomás 5-szöröse;
  - c) olyan anyagból készültek, amelyből törés esetén nem képződnek szilánkok;
  - d) az illetékes hatóság által elfogadott minőségbiztosítási rendszernek megfelelően gyártották;

- e) a gyártási típus tűzállósági vizsgálata bizonyítja, hogy az olvadóbiztosíték vagy a belső nyomást csökkentő biztonsági szelep által olyan mértékben csökken a szerkezetben a nyomás, hogy az nem törik el, illetve nem vetődik ki.

A járművek üzemelése során használt felszerelésekre lásd az 1.1.3.2 d) pontot.

- 284** A gyújtó hatású anyagot tartalmazó kémiai oxigénfejlesztőknek a következő feltételeknek kell megfelelniük:
- a) az oxigénfejlesztő, ha robbanóanyagok működtető szerkezetet tartalmaz, csak akkor szállítható ezen tétel alatt, ha a 2.2.1.1.1 b) ponthoz fűzött megjegyzés értelmében nem tartozik az 1 osztályba;
  - b) a csomagolás nélküli oxigénfejlesztőnek a tartalom kiszivárgása, illetve a szerkezet működésbe lépése nélkül ki kell állnia az 1,8 m-ről végrehajtott ejtőpróbát, melynél az ütközőlap merev, rugalmatlan, sík és vízszintes, és az ejtés olyan helyzetben történik, ami a legnagyobb valószínűséggel eredményez sérülést; és
  - c) a működtető szerkezettel ellátott oxigénfejlesztőknél a működtető szerkezetnek legalább két olyan hatásos eszközzel kell rendelkeznie, ami megakadályozza a szerkezet nem szándékos működésbe lépését.
- 286** Az e tétel alá tartozó nitrocellulóz membránszűrők nem tartoznak az ADR előírásainak hatálya alá, ha egyenként valamely tárgyban vagy lezárt csomagban vannak és tömegük legfeljebb 0,5 g.
- 288** Ezek az anyagok csak akkor sorolhatók be és szállíthatók, ha az illetékes hatóság a szállításra előkészített csomagoláson végzett, a „Vizsgálatok és kritériumok kézikönyv” I. Rész 2 vizsgálati sorozat és a 6 vizsgálati sorozat c) próba eredménye alapján (lásd 2.2.1.1 bekezdést) engedélyezte.
- 289** A járműbe szerelt vagy komplett jármű alkatrészekben (kormányoszlop, ajtópanel, ülés stb.) lévő légzsák gázgenerátorok, légzsák modulok és biztonsági öv előfeszítők nem tartoznak az ADR előírásainak hatálya alá.
- 290** Ha ez az anyag valamely más osztály(ok) 2. részben szereplő meghatározásának és kritériumainak is megfelel, akkor a döntő járulékos veszély szerint kell besorolni. Az áru megnevezésének a döntő veszély szerinti osztályban a megfelelő UN számból és helyes szállítási megnevezésből kell állnia, amit ki kell egészíteni a 3.2 fejezet „A” táblázatának 2 oszlopában szereplő, erre az anyagra vonatkozó névvel. Az anyagot az UN számnak megfelelő előírások szerint kell szállítani, emellett az 1.7.1.5 bekezdésben meghatározott követelményeket is be kell tartani, az 5.2.1.7.2 pont kivételével.
- 291** A gyúlékony cseppfolyósított gáznak a hűtőgép szerkezeti elemein belül kell lennie. Ezeket a szerkezeti elemeket a hűtőgép üzemi nyomásának legalább háromszorosára kell méretezni. A hűtőgépet úgy kell méretezni és kialakítani, hogy a cseppfolyósított gázt megtartsa, és normál szállítási feltételek mellett kizárja a nyomástartó szerkezeti elemek törésének vagy repedésének veszélyét. A 12 kg-nál kevesebb gázt tartalmazó hűtőgépek és hűtőgép részegységek nem tartoznak az ADR előírásainak hatálya alá.
- 292** A legfeljebb 23,5 térf.% oxigént tartalmazó keverékek szállíthatók ezen tétel alatt, ha más gyújtó hatású gáz nincs a keverékben. E határértéket meg nem haladó koncentrációknál nem szükséges 5.1 számú bárca



- 293** A gyufákra a következő meghatározások vonatkoznak:
- a) a „vihargyufa” olyan gyufa, amelynek feje dörzsölésre érzékeny gyújtóeleggel és pirotechnikai anyaggal van impregnálva, ami kis lánggal vagy láng nélkül, de intenzív hőfejlődéssel ég;
  - b) a „biztonsági gyufa” olyan gyufa, amely dobozban van, illetve levél vagy kártya formájú és csak preparált felületen való dörzsöléssel gyújtható meg;
  - c) a „mindenütt gyulladó gyufa” olyan gyufa, amely bármely szilárd felületen való dörzsöléssel meggyújtató;
  - d) A „Vesta-viasz gyufa” olyan gyufa, amely akár preparált felületen, akár szilárd felületen való dörzsöléssel meggyújtható.
- 295** Ha az egységrakomány el van látva jelöléssel és bárcákkal, az egyes akkumulátorokat nem kell külön jelölni és bárcázni.
- 296** Ide tartoznak a mentőeszközök, pl. mentőtutajok, egyéni mentőeszközök és önfelfúvó csúszdák. Az UN 2990 tétel alá az önfelfúvó mentőeszközök, míg az UN 3072 tétel alá a nem önfelfúvó mentőeszközök tartoznak. A mentőeszközök tartalmazhatnak:
- a) jelzőtesteket (1 osztály), mint pl. füstjelzők vagy fényjelzők olyan csomagolásban, ami megakadályozza, hogy nem szándékosan működésbe lépjenek;
  - b) csak az UN 2990 tétel esetén az önfelfúvó szerkezet aktiválásához az 1.4 alosztály S összeférhetőségi csoportjába tartozó munkavégző tölteteket, amennyiben a robbanóanyag mennyisége készülékenként nem haladja meg a 3,2 g-ot;
  - c) a 2 osztály 2.2.2.1.3 pont szerinti A vagy O csoportjába tartozó sűrített gázokat;
  - d) elektromos akkumulátorokat (8 osztály) és lítium-akkumulátorokat (9 osztály);
  - e) elsősegély felszerelést vagy javítókészleteket kis mennyiségű veszélyes anyag (pl. a 3, 4.1, 5.2, 8 és 9 osztály anyagai) tartalommal; vagy
  - f) „mindenütt gyulladó gyufát” olyan csomagolásban, ami megakadályozza, hogy nem szándékosan működésbe lépjen.
- 298** (törölve)
- 300** A halliszt vagy halhulladék nem rakható be, ha hőmérséklete a berakodáskor nagyobb, mint a 35 °C, ill. a környezeti hőmérsékletet 5 °C-kal meghaladó hőmérséklet, amelyik magasabb.
- 302** A helyes szállítási megnevezésben az „EGYSÉG” jelentése:
- jármű,  
konténer vagy  
tartány.
- A gázosítószer hatása alatt álló járművek, konténerek és tartányok csak az 5.5.2 szakasz előírásainak hatálya alá tartoznak.

- 303** Ezeket a tartályokat a bennük levő gáznak, ill. gázkeveréknek a 2.2.2 szakasz előírásai szerint meghatározott osztályozási kódjához kell besorolni.
- 304** Azok a száraz akkumulátorok, amelyekből a bennük levő maró elektrolit nem folyik ki az akkumulátor ház törése esetén, nem tartoznak az ADR előírásainak hatálya alá, amennyiben az akkumulátorok szorosan vannak csomagolva és rövidzárlat ellen védve vannak. Ilyen akkumulátor például: alkáli-mangán, cink-szén, nikkelfémhidrid és nikkeldkadmium akkumulátor.
- 305** Ezek az anyagok nem tartoznak az ADR előírásainak hatálya alá, ha koncentrációjuk legfeljebb 50 mg/kg.
- 306** Ez a tétel csak olyan anyagokhoz használható, amelyek az 1 osztály 1 és 2 vizsgálati sorozata szerint (lásd „Vizsgálatok és kritériumok kézikönyv”, I. Rész) vizsgálva nem mutatnak az 1 osztályra jellemző robbanási tulajdonságot.
- 307** Ez a tétel csak olyan egynemű keverékekhez használható, amelyek fő alkotórésze az ammónium-nitrát, a következő összetétel határokkal:
- a) legalább 90% ammónium-nitrát legfeljebb 0,2% összes éghető anyag tartalommal (beleértve a szerves anyagokat szénegyenértékre számítva) és esetleges olyan adalékokkal, amelyek szervesetlenek és az ammónium-nitráttal szemben semlegesek; vagy
  - b) 90%-nál kevesebb, de 70%-nál több ammónium-nitrát egyéb szervesetlen anyagokkal, vagy 80%-nál több, de 90%-nál kevesebb ammónium-nitrát kalcium-karbonáttal és/vagy dolomittal és/vagy ásványi kalcium-szulfáttal keverve, és legfeljebb 0,4% összes éghető anyag tartalommal (beleértve a szerves anyagokat szénegyenértékre számítva); vagy
  - c) nitrogén típusú, ammónium-nitrát alapú műtrágya, amely ammónium-nitrát és ammónium-szulfát keverékéből áll 45%-nál több, de 70%-nál kevesebb ammónium-nitrát tartalommal és legfeljebb 0,4% összes éghető anyag tartalommal (beleértve a szerves anyagokat szénegyenértékre számítva), oly módon, hogy ammónium-nitrát és ammónium-szulfát tartalom együtt meghaladja a 70%-ot.
- 309** Ezt a tételt a főleg ammónium-nitrát és tüzelőanyag keverékéből álló, érzékenyítés nélküli emulziókra, szuszpenziókra és gélekre kell alkalmazni, amelyek csak a felhasználás előtti további feldolgozás után válnak E típusú robbantóanyaggá.
- Az emulzió jellegzetes összetétele: 60...85% ammónium-nitrát; 5...30% víz; 2...8% tüzelőanyag; 0,5...4% emulgáló szer; 0...10% oldható égésgátló, valamint nyomjelző adalék. Az ammónium-nitrát egy részét más szervesetlen nitrátok helyettesíthetik.
- A szuszpenzió és a gél jellegzetes összetétele: 60...85% ammónium-nitrát; 0...5% nátrium- vagy kálium-perklorát; 0...17% hexamin-nitrát vagy monometilamin-nitrát; 5...30% víz; 2...15% tüzelőanyag; 0,5...4% sűrítőanyag; 0...10% oldható égésgátló, valamint nyomjelző adalék. Az ammónium-nitrát egy részét más szervesetlen nitrátok helyettesíthetik.
- Az anyagoknak ki kell állniuk a „Vizsgálatok és kritériumok kézikönyv” I. rész, 18. szakasz 8 vizsgálati sorozatot és a besorolást az illetékes hatóságnak jóvá kell hagynia.



- 310** A „Vizsgálatok és kritériumok kézikönyv” 38.3 fejezetében található vizsgálati követelményeket nem kell alkalmazni a legfeljebb 100 cellából vagy akkumulátorból álló gyártási sorozatokra, ill. a cellák és akkumulátorok gyártási mintáira, ha vizsgálat céljából szállítják és:
- a) a cellák és akkumulátorok fém-, műanyag- vagy rétegelt falemez hordó vagy fém-, műanyag- vagy faláda külső csomagolásban vannak és a csomagoló-eszköz teljesíti az I csomagolási csoport kritériumait; és
  - b) a külső csomagoláson belül minden cella és akkumulátor egyedileg belső csomagolásban van és nem éghető, nem vezetőképes párnázóanyaggal van körülvéve.
- 311** Az anyagok csak akkor szállíthatók ezen tétel alatt, ha azt az illetékes hatóság a „Vizsgálatok és kritériumok kézikönyv” I. rész szerinti, megfelelő vizsgálatok alapján engedélyezte. A csomagolásnak biztosítania kell, hogy a hígítószer százalékos mennyisége a szállítás alatt soha ne csökkenjen az illetékes hatóság engedélyében meghatározott érték alá.
- 312** (fenntartva)
- 313** A 8 osztály kritériumait kielégítő anyagokat és keverékeket el kell látni a járulékos veszélyre utaló 8 számú bárcával is (lásd az 5.2.2.2.2 pontot).
- 314**
- a) Ezek az anyagok magasabb hőmérsékleteken hajlamosak az exoterm bomlásra. A bomlást hő vagy szennyeződések [pl. fémporok (vas, mangán, kobalt, magnézium) és keverékeik] is kiválthatják;
  - b) A szállítás alatt ezeket az anyagokat árnyékolással a közvetlen napsugárzástól és mindenfajta hőforrástól védeni kell és megfelelően szellőzőt helyre kell elhelyezni.
- 315** Ez a tétel nem használható azokra a 6.1 osztályba tartozó anyagokra, amelyek mérgezőképessége belélegzés esetén a 2.2.61.1.8 pontban leírtak szerint az I csomagolási csoportnak felel meg.
- 316** Ezt a tételt csak a száraz kalcium-hipokloritra lehet alkalmazni, ha nem-morzsolódó tabletta formában szállítják.
- 317** A „hasadó-engedményes” megnevezés csak a 6.4.11.2 bekezdésnek megfelelő küldeménydarabokra használható.
- 318** Az okmányokban a helyes szállítási megnevezést ki kell egészíteni a műszaki megnevezéssel (lásd a 3.1.2.8 bekezdést). Ha a szállítandó fertőző anyag ismeretlen, de vélhetően kielégíti az „A” kategóriába való felvétel és az UN 2814 vagy az UN 2900 alá történő besorolás kritériumait, a fuvarokmányba a helyes szállítási megnevezést követően zárójelbe téve a **„feltehetően „A” kategóriájú fertőző anyag”** bejegyzést kell tenni.
- 319** A P650 csomagolási utasítás szerint csomagolt és jelöléssel ellátott anyagok nem tartoznak az ADR többi előírásainak hatálya alá.
- 320** (törölve)
- 321** Ezt a tároló rendszert mindig úgy kell tekinteni, hogy hidrogént tartalmaz.

- 322** Ezt az árut a III csomagolási csoportba lehet sorolni, ha nem-morzsolódó tabletta formában szállítják.
- 323** (fenntartva)
- 324** A 99%-os vagy az alatti koncentrációjú anyagot stabilizálni kell.
- 325** Ha az anyag nem hasadó vagy hasadó-engedményes urán-hexafluorid, akkor az UN 2978 tételhez kell sorolni.
- 326** Ha az anyag hasadó urán-hexafluorid, akkor az UN 2977 tételhez kell sorolni.
- 327** Ez a tétel alkalmazható az 5.4.1.1.3 pont szerint feladott, hulladékká vált aeroszol csomagolások újrahasznosítás vagy ártalmatlanítás céljából történő szállításakor is. Ilyen esetben az aeroszol csomagolást nem kell az akaratlan működtetés elleni védelemmel ellátni, feltéve, hogy megtették a szükséges óvintézkedéseket a veszélyes nyomásnövekedés, ill. veszélyes atmoszféra kialakulásának megakadályozására. Azokat az aeroszolókat, amelyek nem szivárognak, ill. nincsenek nagyon deformálódva, a P003 csomagolási utasításnak és a PP87 különleges csomagolási előírásnak megfelelően kell csomagolni, vagy az LP02 csomagolási utasításnak és az L2 különleges csomagolási előírásnak megfelelően. A szivárgó vagy erősen deformálódott aeroszol csomagolásokat kármentő csomagolásban kell szállítani, megfelelő óvintézkedésekkel biztosítva, hogy nem lép fel veszélyes nyomásnövekedés.

**Megjegyzés:** *Nem szállíthatók a hulladék aeroszol csomagolások zárt konténerben, ha tengeri úton szállítják tovább.*

- 328** Ez a tétel az üzemanyagcella kazettákra vonatkozik, beleértve a készülékben lévőket, ill. készülékkel egybecsomagoltakat is. Készülékben lévő üzemanyagcella kazettának minősül az olyan kazetta, amely az üzemanyagcella-rendszerbe van illesztve vagy annak szerves részét képezi. Az üzemanyagcella kazetta olyan tárgy, amelyben az üzemanyag van, ami az adagolást vezérlő szelep(ek)en keresztül jut az üzemanyagcellába. Az üzemanyagcella kazettákat, beleértve a készülékben lévőket is, úgy kell megtervezni és gyártani, hogy szokásos szállítási körülmények között az üzemanyag szivárgását megelőzzék.

A folyékony üzemanyagú üzemanyagcella kazetta gyártási típusának szivárgás nélkül ki kell állnia a 100 kPa túlnyomással végzett belső nyomásállósági próbát.

A fémhidridben lévő hidrogén tartalmú üzemanyagcella kazetták kivételével, amelyeknek a 339 különleges előírásnak kell megfelelniük, minden üzemanyagcella kazetta gyártási típusra bizonyítani kell, hogy a tartalom szivárgása nélkül kiállja az olyan ejtőpróbát, mely során 1,2 m magasról merev felületre ejtik abban a helyzetben, amely a legnagyobb valószínűséggel eredményezi a tárolórendszer sérülését.

- 329** (fenntartva)
- 330** (törölve)
- 331** (fenntartva)
- 332** A magnézium-nitrát-hexahidrát nem tartozik az ADR előírásainak hatálya alá.

- 333** A szikragyújtású motorokhoz (pl. gépjárművekhez, helyhez kötött és egyéb motorokhoz) használt etanol és benzin, motorbenzin vagy gazolin keveréket e tétel alá kell besorolni, függetlenül az eltérő illékonyságuktól.
- 334** Az üzemanyagcella kazetta aktiválószer is tartalmazhat, feltéve, hogy két, egymástól független szerkezettel van ellátva, amely megakadályozza, hogy a szállítás során az aktiválószer és az üzemanyag véletlenszerűen keveredjen.
- 335** Az ADR előírásainak hatálya alá nem tartozó szilárd anyagok és a környezetre veszélyes folyékony vagy szilárd anyagok keverékeit az UN 3077 tétel alá kell sorolni és e tétel alatt szállíthatók, amennyiben az anyag berakodása során, illetve a csomagolóeszköz, a jármű vagy a konténer lezárásakor szabad folyadék szemmel nem látható. Az ömlesztett szállításra használt jármű felépítményének, ill. konténernek szivárgásmentesnek kell lennie. Ha a keverék berakodása során, ill. a csomagolóeszköz, a jármű vagy a konténer lezárásakor szabad folyadék látható, a keveréket az UN 3082 tétel alá kell sorolni. Nem tartoznak az ADR előírásainak hatálya alá az olyan lezárt csomagok vagy tárgyak, amelyekben legfeljebb 10 ml, környezetre veszélyes folyékony anyag van szilárd anyagban elnyelve és a csomag vagy a tárgy nem tartalmaz szabad folyadékot, és azok, amelyekben legfeljebb 10 g környezetre veszélyes szilárd anyag van.
- 336** Egy nem gyúlékony, szilárd *LSA-II* vagy *LSA-III* anyagot tartalmazó küldeménydarab légi szállítás esetén nem tartalmazhat 3000A<sub>2</sub>-nél nagyobb aktivitást.
- 337** A *B(U)* és a *B(M)* típusú küldeménydarabok légi szállítás esetén nem tartalmazhatnak nagyobb aktivitást, mint:
- a) kis mértékben diszpergálódó radioaktív anyagok esetén: a küldeménydarab-mintára engedélyezett aktivitás, a küldeménydarab-minta engedélyben meghatározottak szerint;
  - b) különleges formájú radioaktív anyag esetén: a 3000A<sub>1</sub>, ill. a 100 000 A<sub>2</sub> közül a kisebb érték; vagy
  - c) minden más radioaktív anyag esetén: a 3000A<sub>2</sub> érték.
- 338** Az e tétel alatt szállított, gyúlékony, cseppfolyósított gázt tartalmazó üzemanyag cella kazettát úgy kell kialakítani, hogy
- a) repedés, ill. szivárgás nélkül el tudja viselni a tartalom 55 °C-on fennálló egyensúlyi nyomásának legalább kétszeresével egyenlő nyomást;
  - b) legfeljebb 200 ml cseppfolyósított gázt tartalmazzon, melynek gőznyomása 55 °C-on legfeljebb 1000 kPa;
  - c) kiállja a 6.2.6.3.1 pontban leírt, forró vizes fürdőben végzett próbát.
- 339** Az e tétel alatt szállított, fémhidridben lévő hidrogén tartalmú üzemanyagcella kazetta víztérfogata legfeljebb 120 ml lehet.

Az üzemanyagcella kazettában a nyomás 55 °C-on nem lehet 5 MPa-nál nagyobb. A gyártási típusnak repedés, ill. szivárgás nélkül el kell tudnia viselni a kazetta 55 °C-ra vonatkozó tervezési nyomásának kétszerese és a kazetta 55 °C-ra vonatkozó tervezési nyomása plusz 200 kPa nyomás értékek közül a nagyobbat. Az e próba során alkalmazott nyomás felel meg az ejtőpróbánál és a hidrogén töltési – ürítési sorozat vizsgálatnál a „burkolat legkisebb repesztőnyomása”-ként említett

nyomásnak.

Az üzemanyagcella kazettát a gyártó által meghatározott eljárással kell tölteni. Minden üzemanyagcella kazettához a gyártónak a következő információt kell megadnia:

- a) az üzemanyagcella kazetta első töltése, ill. újratöltése előtt végrehajtandó vizsgálati eljárást;
- b) a betartandó biztonsági óvintézkedéseket és a lehetséges veszélyek ismertetését;
- c) azt a módszert, amellyel a névleges töltési kapacitás meghatározható;
- d) a nyomástartomány legkisebb és legnagyobb értékét;
- e) a hőmérséklettartomány legkisebb és legnagyobb értékét; és
- f) az első töltés, ill. az újratöltés során betartandó minden egyéb követelményt, beleértve az első töltéshez, ill. az újratöltéshez használandó eszköz típusát is.

Az üzemanyagcella kazettákat úgy kell megtervezni és gyártani, hogy szokásos szállítási körülmények között az üzemanyag ne szivároghasson. Minden üzemanyagcella kazetta gyártási típusnak, beleértve az üzemanyagcella részét képező kazettákat is, sikeresen ki kell állnia a a következő vizsgálatokat:

#### **Ejtőpróba**

1,8 m magasról merev felületre történő ejtés négy, különböző helyzetben:

- a) függőleges helyzetben arra a végére, ahol a zárószelep van;
- b) függőleges helyzetben arra a végére, amelyik a zárószeleppel szemben van;
- c) vízszintes helyzetben egy 38 mm átmérőjű, a hegyével fölfelé álló acéltüskére; és
- d) 45°-os szögben arra a végére, ahol a zárószelep van.

Minden lehetséges szivárgási helyet szappanoldattal vagy más, egyenértékű módszerrel vizsgálva a névleges töltési nyomásig feltöltött kazetta nem szivároghat. Ezután az üzemanyagcella kazettát hidrosztatikus nyomással szét kell roncsolni. Az észlelt repesztőnyomásnak nagyobbnak kell lennie, mint a burkolat legkisebb repesztőnyomásának a 85%-a.

#### **Tűzállósági próba**

Az üzemanyagcella kazettát a névleges kapacitásáig fel kell tölteni hidrogénnel, és olyan tűz hatásának kell kitenni, amely teljesen elborítja. Az üzemanyagcella kazetta gyártási típus (amelyen lehet szellőzőberendezés is) akkor állta ki sikeresen a tűzállósági próbát, ha:

- a) a kazetta roncsolódása nélkül a belső nyomás (túlnyomás) lecsökken nullára,; vagy
- b) a kazetta legalább 20 percig roncsolódás nélkül viseli el a tüzet.

**Hidrogén töltési – ürítési sorozat vizsgálat**

A vizsgálat célja annak igazolása, hogy az üzemanyagcella kazetta tervezési feszültség határokat a használat során nem lépik túl.

Az üzemanyagcella kazettát sorozatosan fel kell tölteni a névleges hidrogén kapacitás legfeljebb 5%-áról legalább 95%-ára, és visszaüríteni legfeljebb 5%-ára. A töltést a névleges töltési nyomással kell végezni, a hőmérsékletet az üzemi hőmérséklet tartományon belül kell tartani. A vizsgálati sorozatnak legalább 100 ciklusból kell állnia.

A vizsgálat sorozat után az üzemanyagcella kazettát fel kell tölteni és meg kell mérni a kazetta által kiszorított víz térfogatát. A kazetta gyártási típus akkor állta ki sikeresen a hidrogén töltési – ürítési sorozat vizsgálatot, ha a vizsgálaton átesett kazetta által kiszorított víz térfogata nem több, mint az olyan, nem vizsgált kazetta által kiszorított víz térfogata, amely 95% névleges kapacitásig van töltve, és a burkolat legkisebb repesztőnyomásának a 75%-át kitevő nyomás alá van helyezve.

**Gyártásközi tömörségi próba**

Minden üzemanyagcella kazettát a névleges töltési nyomásán,  $15\text{ °C} \pm 5\text{ °C}$ -on tömörségi próbának kell alávetni. Minden lehetséges szivárgási helyet szappanoldattal vagy más, egyenértékű módszerrel vizsgálva a kazetta nem szivároghat.

Minden üzemanyagcella kazettán tartósan fel kell tüntetni a következőket:

- a) a névleges töltési nyomást MPa-ban;
- b) az üzemanyagcella kazetta gyártási sorozatszámát vagy egyedi azonosító számát; és
- c) a legnagyobb használati élettartam alapján meghatározott lejáratí időpontot (az évet négy számjeggyel és a hónapot két számjeggyel megadva).

**340** A 3.5 fejezet szerint szállíthatók azok a vizsgálókészletek, elsősegély felszerelések és poliészter gyanta készletek, amelyeknél a belső csomagolásban a veszélyes anyag mennyisége nem haladja meg a 3.2 fejezet „A” táblázat 7b oszlopában az erre az anyagra meghatározott, engedélymentes mennyiségre vonatkozó határt. Az ilyen készletekben lehetnek 5.2 osztályba tartozó anyagok is, és bár az 5.2 osztály anyagaira a 3.2 fejezet „A” táblázat 7b oszlopában nincs engedélymentes mennyiség engedélyezve, ilyen esetben az E2 kód vonatkozik rájuk (lásd a 3.5.1.2 bekezdést).

**341 –**  
**499** (fenntartva)

**500** Az UN 3064 nitroglicerín alkoholos oldatban 1%-nál több, de legfeljebb 5% nitroglicerín-tartalommal a 4.1.4.1 bekezdés P300 csomagolási utasítása szerint csomagolva a 3 osztály anyaga.

**501** Az olvasztott naftalinra lásd az UN 2304 tételt.

**502** Az UN 2006 nitrocellulóz alapú, önmelegedő műanyag, m.n.n. és az UN 2002 celluloid hulladék a 4.2 osztály anyaga.

**503** A fehér- vagy sárgafoszforra olvasztott formában lásd az UN 2447 számot.

- 504** Az UN 1847 hidratált kálium-szulfid legalább 30% kristályvíz-tartalommal, az UN 1849 hidratált nátrium-szulfid legalább 30% kristályvíz-tartalommal és az UN 2949 hidratált nátrium-hidrogén-szulfid legalább 25% kristályvíz-tartalommal a 8 osztály anyaga.
- 505** Az UN 2004 magnézium-diamid a 4.2 osztály anyaga.
- 506** Az alkálifémek és alkáliföldfémek piroforos formában a 4.2 osztály anyagai. Az UN 1869 magnézium vagy magnézium ötvözetek 50%-nál több magnézium tartalommal, szemcse, forgács vagy szalagok formájában a 4.1 osztály anyagai.
- 507** Az UN 3048 alumínium-foszfid peszticid mérgező, gyúlékony gázok fejlődését gátló adalékokkal a 6.1 osztály anyaga.
- 508** Az UN 1871 titán-hidrid és az UN 1437 cirkónium-hidrid a 4.1 osztály anyaga. Az UN 2870 alumínium-bór-hidrid a 4.2 osztály anyaga.
- 509** Az UN 1908 klorit oldat a 8 osztály anyaga.
- 510** Az UN 1755 krómsav oldat a 8 osztály anyaga.
- 511** Az UN 1625 higany(II)-nitrát, az UN 1627 higany(I)-nitrát, az UN 2727 tallium-nitrát a 6.1 osztály anyaga. A szilárd tórium-nitrát, az uranil-nitrát-hexahidrát oldat és a szilárd uranil-nitrát a 7 osztály anyaga.
- 512** Az UN 1730 folyékony antimon-pentaklorid, az UN 1731 antimon-pentaklorid oldat, az UN 1732 antimon-pentafluorid és az UN 1733 antimon-triklorid a 8 osztály anyaga.
- 513** Az UN 0224 bárium-azid, száraz vagy 50 tömeg%-nál kevesebb vízzel nedvesített az 1 osztály anyaga. Az UN 1571 legalább 50% vízzel nedvesített bárium-azid a 4.1 osztály anyaga. Az UN 1854 piroforos bárium ötvözetek a 4.2 osztály anyagai. Az UN 1445 szilárd bárium-klorát, az UN 1446 bárium-nitrát, az UN 1447 szilárd bárium-perklorát, az UN 1448 bárium-permanganát, az UN 1449 bárium-peroxid, az UN 2719 bárium-bromát, az UN 2741 bárium-hipoklorit 22%-nál több aktív klórtartalommal, az UN 3405 bárium-klorát oldat és az UN 3406 bárium-perklorát oldat az 5.1 osztály anyaga. Az UN 1565 bárium-cianid és az UN 1884 bárium-oxid a 6.1 osztály anyaga.
- 514** Az UN 2464 berillium-nitrát az 5.1 osztály anyaga.
- 515** Az UN 1581 klórpikrin és metil-bromid keveréke és az UN 1582 klórpikrin és metil-klorid keveréke a 2 osztály anyaga.
- 516** Az UN 1912 metil-klorid és diklór-metán keveréke a 2 osztály anyaga.
- 517** Az UN 1690 szilárd nátrium-fluorid, az UN 1812 szilárd kálium-fluorid, az UN 2505 ammónium-fluorid, az UN 2674 nátrium-fluoro-szilikát, az UN 2856 fluoro-szilikátok, m.n.n., az UN 3415 nátrium-fluorid oldat és az UN 3422 kálium-fluorid oldat a 6.1 osztály anyagai.
- 518** Az UN 1463 vízmentes króm-trioxid (szilárd krómsav) az 5.1 osztály anyaga.
- 519** Az UN 1048 vízmentes hidrogén-bromid a 2 osztály anyaga.
- 520** Az UN 1050 vízmentes hidrogén-klorid a 2 osztály anyaga.

- 521** A szilárd kloritok és hipokloritok az 5.1 osztály anyagai.
- 522** Az UN 1873 perklórsav vizes oldat 50 tömeg%-nál több, de legfeljebb 72 tömeg% tiszta savtartalommal az 5.1 osztály anyaga. A perklórsav vizes oldat 72 tömeg%-nál több tiszta savtartalommal és a perklórsav keverékei vízen kívül más folyadékkal szállításra nem fogadhatók el.
- 523** Az UN 1382 vízmentes kálium-szulfid és az UN 1385 vízmentes nátrium-szulfid, valamint hidrátjaik 30%-nál kevesebb kristályvíz-tartalommal, valamint az UN 2318 nátrium-hidrogén-szulfid 25%-nál kevesebb kristályvíz-tartalommal a 4.2 osztály anyaga.
- 524** Az UN 2858 kész cirkónium termékek 18 µm vagy annál nagyobb vastagsággal a 4.1 osztály anyagai.
- 525** A szervetlen cianidok oldatait 30%-nál több összes cianid-ion koncentrációval az I csomagolási csoportba, 3%-nál több, de legfeljebb 30% összes cianid-ion koncentrációval a II csomagolási csoportba, 0,3%-nál több, de legfeljebb 3% összes cianid-ion koncentrációval a III csomagolási csoportba kell besorolni.
- 526** Az UN 2000 celluloid a 4.1 osztály anyaga.
- 528** Az UN 1353 gyengén nitrált cellulózzal impregnált szálak vagy szövetek, amelyek nem önmelegedőek, a 4.1 osztály anyagai.
- 529** Az UN 0135 higany-fulminát legalább 20 tömeg% vízzel (vagy víz és alkohol keverékével) nedvesítve az 1 osztály anyaga. A higany(I)-klorid (kalomel) a 9 osztály anyaga (UN 3077).
- 530** Az UN 3293 hidrazin vizes oldat legfeljebb 37 tömeg% hidrazintartalommal a 6.1 osztály anyaga.
- 531** A 23 °C-nál alacsonyabb lobbanáspontú, 55%-nál nagyobb nitrocellulóz-tartalmú keverékek bármilyen nitrogéntartalommal vagy legfeljebb 55% olyan nitrocellulóz-tartalommal, amelynek nitrogéntartalma meghaladja a 12,6%-ot (száraz anyagra vetítve) az 1 osztály anyagai (lásd UN 0340 vagy UN 0342) vagy a 4.1 osztály anyagai.
- 532** Az UN 2672 ammónia oldat 10%-nál több, de legfeljebb 35% ammónia-tartalommal a 8 osztály anyaga.
- 533** Az UN 1198 gyúlékony formaldehid oldatok a 3 osztály anyagai. A 25%-nál kevesebb formaldehid-tartalmú, nem gyúlékony formaldehid oldatok nem tartoznak az ADR előírásainak hatálya alá.
- 534** A benzint (gazolint), bár bizonyos klimatikus viszonyok mellett 50 °C hőmérsékleten 110 kPa-nál (1,10 bar-nál) nagyobb gőznyomása lehet anélkül, hogy meghaladná a 150 kPa-t (1,50 bar-t), mégis olyan anyagnak kell tekinteni, amelynek gőznyomása 50 °C-on nem haladja meg a 110 kPa-t (1,10 bar-t).
- 535** Az UN 1469 ólom-nitrát, az UN 1470 szilárd ólom-perklorát és az UN 3408 ólom-perklorát oldat az 5.1 osztály anyaga.
- 536** A szilárd naftalinra lásd az UN 1334 számot.
- 537** Az UN 2869 nem piroforos titán-triklorid keverék a 8 osztály anyaga.



- 538** A szilárd kénre lásd az UN 1350 számot.
- 539** Az izocianát oldatok, amelyek lobbanáspontja 23 °C vagy annál magasabb, a 6.1 osztály anyagai.
- 540** A legalább 25% víztartalommal nedvesített UN 1326 hafniumpor, UN 1352 titánpor és UN 1358 cirkóniumpor a 4.1 osztály anyaga.
- 541** A megadott határnál kisebb víz-, alkohol- vagy lágyítótartalmú nitrocellulóz keverékek az 1 osztály anyagai.
- 542** A tremolitot és/vagy aktinolitot tartalmazó zsírkő ezen tétel alá tartozik.
- 543** Az UN 1005 vízmentes ammónia, az UN 3318 vizes ammónia oldat 50%-nál több ammóniatartalommal és az UN 2073 vizes ammónia oldat 35%-nál több, de legfeljebb 50% ammóniatartalommal a 2 osztály anyaga. A legfeljebb 10% ammóniát tartalmazó ammóniaoldatok nem tartoznak az ADR előírásainak hatálya alá.
- 544** Az UN 1032 vízmentes dimetil-amin, az UN 1036 etil-amin, az UN 1061 vízmentes metil-amin és az UN 1083 vízmentes trimetil-amin a 2 osztály anyaga.
- 545** Az UN 0401 dipikril-szulfid 10 tömeg%-nál kevesebb vízzel nedvesítve az 1 osztály anyaga.
- 546** A 18 µm-nél vékonyabb, UN 2009 száraz cirkónium lemez, szalag vagy huzal a 4.2 osztály anyaga. A legalább 254 µm vastagságú száraz cirkónium lemez, szalag vagy huzal nem tartozik az ADR előírásainak hatálya alá.
- 547** Az UN 2210 maneb vagy UN 2210 maneb készítmények önmelegedő formában a 4.2 osztály anyagai.
- 548** Azok a klór-szilánok, amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai.
- 549** Azok a klór-szilánok, amelyek lobbanáspontja 23 °C alatti, és vízzel érintkezve nem fejlesztenek gyúlékony gázokat, a 3 osztály anyagai. Azok a klór-szilánok, amelyek lobbanáspontja 23 °C vagy ennél magasabb, és vízzel érintkezve nem fejlesztenek gyúlékony gázokat, a 8 osztály anyagai.
- 550** Az UN 1333 cérium lemezek, rudak, öntecsek a 4.1 osztály anyagai.
- 551** Ezen izocianátok oldatai, ha lobbanáspontjuk 23 °C alatt van, a 3 osztály anyagai.
- 552** A fémek és fémötvözetek por vagy egyéb gyúlékony formában, ha öngyulladásra hajlamosak, a 4.2 osztály anyagai. A fémek és fémötvözetek por vagy egyéb gyúlékony formában, ha vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai.
- 553** A hidrogén-peroxid és a peroxi-ecetsav ezen keveréke a laboratóriumi vizsgálat során (lásd a „Vizsgálatok és kritériumok kézikönyv” II. Rész 20. fejezetét) nem detonálhat kavitált állapotban, egyáltalán nem deflagrálhat, nem mutathat semmiféle hatást zárt térben hevítve és nem lehet robbanóereje. A formulázásnak termikusan stabilnak kell lennie (öngyorsuló bomlási hőmérséklet 60 °C vagy annál magasabb 50 kg-os küldeménydarabnál), és az érzéketlenítéshez a peroxi-ecetsavval összeférhető folyadékot kell használni. Az ezen kritériumokat nem teljesítő formulázásokat az 5.2 osztály anyagának kell tekinteni [lásd a „Vizsgálatok és



kritériumok kézikönyv” II. Rész 20.4.3.g) pontját].

- 554** Azok a fém-hidridek, amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai. Az UN 2870 alumínium-bór-hidrid vagy UN 2870 alumínium-bór-hidrid készülékekben a 4.2 osztály anyaga.
- 555** Azok a nem mérgező fémporok és finom porok, amelyek öngyulladásra nem hajlamos formában vannak, de amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai.
- 556** Azok a szerves fémvegyületek és oldataik, amelyek öngyulladásra hajlamosak, a 4.2 osztály anyagai. A szerves fémvegyületeket olyan koncentrációban tartalmazó gyúlékony oldatok, amelyek vízzel érintkezve sem gyúlékony gázokat nem fejlesztenek veszélyes mennyiségben, sem öngyulladásra nem hajlamosak, a 3 osztály anyagai.
- 557** A fémporok és finom porok piroforos állapotban 4.2 osztály anyagai.
- 558** A fémek és fémötvözetek piroforos állapotban a 4.2 osztály anyagai. Azok a fémek és fémötvözetek, amelyek a vízzel érintkezve nem fejlesztenek gyúlékony gázokat és nem piroforosak, vagy nem önmelegedők, de amelyek könnyen meggyulladnak, a 4.1 osztály anyagai.
- 559** A hipokloritok keverékei ammóniumsóval nem szállíthatók. Az UN 1791 hipoklorit oldat a 8 osztály anyaga.
- 560** Az UN 3257 magas hőmérsékletű folyékony anyag, m.n.n. (beleértve az olvasztott fémeket, sókat stb.) 100 °C-on vagy annál magasabb hőmérsékleten, de lobbanásponttal rendelkező anyag esetében a lobbanáspont alatti hőmérsékleten a 9 osztály anyaga.
- 561** A túlnyomórészt maró tulajdonságokkal bíró klór-formiátok a 8 osztály anyagai.
- 562** Az öngyulladó szerves fémvegyületek a 4.2 osztály anyagai. A vízzel reaktív, gyúlékony szerves fémvegyületek a 4.3 osztály anyagai.
- 563** Az UN 1905 szelénsav a 8 osztály anyaga.
- 564** Az UN 2443 vanádium-oxi-triklorid, az UN 2444 vanádium-tetraklorid és az UN 2475 vanádium-triklorid a 8 osztály anyaga.
- 565** Azokat az állatok vagy emberek gyógykezeléséből vagy biológiai kísérletekből származó nem specifikált hulladékokat, amelyeknél kicsi annak a valószínűsége, hogy a 6.2 osztály anyagait tartalmazzák, ezen tétel alá kell sorolni. Azok az előzőleg fertőző anyagokat tartalmazó kórházi hulladékok vagy biológiai kísérletekből származó hulladékok, amelyek fertőtlenítve vannak, nem tartoznak a 6.2 osztály előírásainak hatálya alá.
- 566** Az UN 2030 hidrazin vizes oldat 37 tömeg%-nál több hidrazintartalommal a 8 osztály anyaga.
- 567** A 21 tf.-%-nál nagyobb oxigéntartalmú gázkeverékeket gyújtó hatásúnak kell besorolni.
- 568** A megállapított határnál kisebb víztartalmú bárium-azid az 1 osztály UN 0224 szám anyaga.

569 –

579 (fenntartva)

**580** A tartányjárműveket, a különleges járműveket és az ömlesztett szállításra szolgáló, különlegesen felszerelt járműveket el kell látni mindkét oldalukon és hátul az 5.3.3 szakasz szerinti jelöléssel. Tankkonténerek, mobil tartányok, különleges konténerek és az ömlesztett szállításra szolgáló, különlegesen felszerelt konténerek esetében ezt a jelölést mind a négy oldalon el kell helyezni.

**581** Ez a tétel a metil-acetilén és propadién szénhidrogénnel való keverékeire terjed ki, amely mint a

P1 keverék legfeljebb 63 tf.% metil-acetilént és propadiént és legfeljebb 24 tf.% propánt és propilént tartalmaz, és a telített C<sub>4</sub>-szénhidrogén részaránya legalább 14 tf.%; és mint a

P2 keverék legfeljebb 48 tf.% metil-acetilént és propadiént és legfeljebb 50 tf.% propánt és propilént tartalmaz, és a telített C<sub>4</sub>-szénhidrogén részaránya legalább 5 tf.%; valamint kiterjed a

propadién keverékeire 1...4% metil-acetilénnel.

A fuvarokmányra vonatkozó követelmények (lásd az 5.4.1.1 bekezdést) szempontjából megfelelő a „P1 keverék” vagy a „P2 keverék” kifejezés használata a műszaki megnevezés helyett.

**582** Ez a tétel többek között az R... jelű gázok keverékeire terjed ki, mint az:

F1 keverék, amelynek gőznyomása 70 °C-on legfeljebb 1,3 MPa (13 bar) és sűrűsége 50 °C-on a diklór-fluor-metánénál (1,30 kg/l) nem kisebb;

F2 keverék, amelynek gőznyomása 70 °C-on legfeljebb 1,9 MPa (19 bar) és sűrűsége 50 °C-on a diklór-difluor-metánénál (1,21 kg/l) nem kisebb;

F3 keverék, amelynek gőznyomása 70 °C-on legfeljebb 3 MPa (30 bar) és sűrűsége 50 °C-on a klór-difluor-metánénál (1,09 kg/l) nem kisebb;

**Megjegyzés:** A triklór-monofluor-metán (R 11 hűtőgáz), az 1,1,2-triklór-1,2,2-trifluor-etán (R 113 hűtőgáz), az 1,1,1-triklór-2,2,2-trifluor-etán (R 113a hűtőgáz), az 1-klór-1,2,2-trifluor-etán (R 133 hűtőgáz) és az 1-klór-1,1,2-trifluor-etán (R 133b hűtőgáz) nem a 2 osztály anyaga, az F1, F2, F3 keverékekben azonban előfordulhatnak.

A fuvarokmányra vonatkozó követelmények (lásd az 5.4.1.1 bekezdést) szempontjából megfelelő az „F1 keverék”, „F2 keverék” vagy „F3 keverék” kifejezés használata a műszaki megnevezés helyett.

**583** Ez a tétel többek között olyan keverékekre terjed ki, mint az:

A gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 1,1 MPa (11 bar) és sűrűsége 50 °C-on legalább 0,525 kg/l;

A01 gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 1,6 MPa (16 bar) és sűrűsége 50 °C-on legalább 0,516 kg/l;

A02 gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 1,6 MPa (16 bar) és sűrűsége 50 °C-on legalább 0,505 kg/l;

A0 gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 1,6 MPa (16 bar) és sűrűsége 50 °C-on legalább 0,495 kg/l;

A1 gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 2,1 MPa (21 bar) és sűrűsége 50 °C-on legalább 0,485 kg/l;

B1 gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 2,6 MPa (26 bar), és sűrűsége 50 °C-on legalább 0,474 kg/l;

B2 gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 2,6 MPa (26 bar) és sűrűsége 50 °C-on legalább 0,463 kg/l;

B gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 2,6 MPa (26 bar) és sűrűsége 50 °C-on legalább 0,450 kg/l;

C gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 3,1 MPa (31 bar) és sűrűsége 50 °C-on legalább 0,440 kg/l.

A fuvarokmányra vonatkozó követelmények (lásd az 5.4.1.1 bekezdést) szempontjából megfelelő a következő kifejezések használata a műszaki megnevezés helyett:

- „A keverék” vagy „bután”;
- „A01 keverék” vagy „bután”;
- „A02 keverék” vagy „bután”;
- „A0 keverék” vagy „bután”;
- „A1 keverék”;
- „B1 keverék”;
- „B2 keverék”;
- „B keverék”;
- „C keverék” vagy „propán”.

Tartályban történő szállítás esetén a bután vagy propán kereskedelmi név csak kiegészítésként használható.

**584** Ez a gáz nem esik az ADR előírásainak hatálya alá, ha:

- gáz halmazállapotú;
- legfeljebb 0,5% levegőt tartalmaz;
- fémkapszulákban (szifonpatronok, habszifon patronok) van, amelyek mentesek a szilárdságukat gyengítő hibáktól;
- a kapszula zárásának szivárgásmentessége garantált;
- egy kapszula legfeljebb 25 g ilyen gázt tartalmaz;
- egy kapszula legfeljebb 0,75 g ilyen gázt tartalmaz 1 cm<sup>3</sup> térfogatra vonatkoztatva.

**585** A cinóber nem tartozik az ADR előírásainak hatálya alá.

**586** A hafnium-, titán- és cirkóniumporok szemmel látható vízfelesleget kell tartalmaznia. Azok a mechanikailag előállított, nedvesített hafnium-, titán- és cirkóniumporok, melyek részecskemérete legalább 53 µm, és azok a kémiaiilag előállítottak, melyek részecskemérete legalább 840 µm, nem tartoznak az ADR hatálya alá.

**587** A bárium-sztearát és a bárium-titanát nem tartozik az ADR előírásainak hatálya alá.

**588** Az alumínium-bromid és az alumínium-klorid szilárd, hidratált formái nem tartoznak az ADR előírásainak hatálya alá.

- 589** A száraz kalcium-hipoklorit keverékek legfeljebb 10% szabad klórtartalommal nem tartoznak az ADR előírásainak hatálya alá.
- 590** A vas(III)-klorid-hexahidrát nem tartozik az ADR előírásainak hatálya alá.
- 591** A legfeljebb 3% szabad kénsavat tartalmazó ólom-szulfát nem tartozik az ADR előírásainak hatálya alá.
- 592** Azok az üres, tisztítatlan csomagolóeszközök (beleértve az üres IBC-eket és nagycsomagolásokat is), üres tartányjárművek, üres leszerelhető tartányok, üres mobil tartányok, üres tankkonténerek és üres kiskonténerek, amelyek ezt az anyagot tartalmazták, nem tartoznak az ADR előírásainak hatálya alá.
- 593** Ez a gáz nem tartozik az ADR előírásainak hatálya alá, amennyiben pl. gyógyászati vagy biológiai minták hűtésére szolgál és a 4.1.4.1 bekezdés P203 csomagolási utasítás 12) pont előírásainak megfelelő, kettős falú tartályban van.
- 594** A következő tárgyak, amelyeket a gyártó ország előírásai szerint állítottak elő és töltöttek meg, erős külső csomagolásba helyezve nem tartoznak az ADR előírásainak hatálya alá:
- UN 1044 tűzoltókészülékek, a nem szándékos működtetés elleni védelemmel ellátva;
  - UN 3164 pneumatikus vagy hidraulikus nyomás alatti tárgyak, amelyek az erőátvitelük, alaktartásuk vagy konstrukciójuk révén a belső gáz nyomásánál nagyobb nyomás elviselésére vannak méretezve.
- 596** Az olyan kadmimpigmentek, mint a kadmium-szulfidok, a kadmium-szulfoszelenidek és a hosszabb láncú zsírsavak kadmiumsói (pl. kadmium-sztearát) nem tartoznak az ADR előírásainak hatálya alá.
- 597** Az ecetsav oldatok legfeljebb 10 tömeg% tiszta savtartalommal nem tartoznak az ADR előírásainak hatálya alá.
- 598** A következő tárgyak nem tartoznak az ADR előírásainak hatálya alá:
- a) Új akkumulátortelepek abban az esetben, ha:
    - úgy vannak rögzítve, hogy nem tudnak elcsúszni, leesni vagy megrongálódni;
    - el vannak látva kitámasztó eszközzel vagy megfelelően vannak halmazolva, pl. rakodólapon;
    - nincs a külsejükön veszélyes sav vagy lúg maradvány;
    - rövidzárlat ellen védve vannak.
  - b) Használt akkumulátortelepek abban az esetben, ha:
    - házuk sértetlen;
    - úgy vannak rögzítve, hogy nem tudnak szivárogni, elcsúszni, leesni vagy megrongálódni, pl. rakodólapon vannak rögzítve;
    - nincs a külsejükön veszélyes sav vagy lúg maradvány;
    - rövidzárlat ellen védve vannak.
- „Használt akkumulátortelep”-eken azokat az akkumulátortelepeket kell érteni, amelyeket élettartamuk leteltével újrafeldolgozás céljából szállítanak.
- 599** A legfeljebb 1 kg higanyt tartalmazó készülékek vagy egyéb gyártmányok nem tartoznak az ADR előírásainak hatálya alá.

- 600** Az olvasztott és megszilárdult vanádium-pentoxid nem tartozik az ADR előírásainak hatálya alá.
- 601** A felhasználásra kész gyógyszerészeti termékek (gyógyszerek), amelyeket személyes vagy háztartási felhasználás vagy kiskereskedelmi értékesítés céljára gyártanak és erre szolgáló csomagolásban vannak, nem tartoznak az ADR előírásainak hatálya alá.
- 602** Azok a foszfor-szulfidok, amelyek fehér- és sárgafoszfortól nem mentesek, nem szállíthatók.
- 603** Az UN 1051 vagy UN 1614 tétel leírásának nem megfelelő vízmentes hidrogén-cianid nem szállítható. A hidrogén-cianid (cián-hidrogénsav) 3% alatti víztartalommal akkor stabil, ha a pH érték  $2,5 \pm 0,5$  és a folyadék átlátszó és színtelen.
- 604** Az ammónium-bromát és vizes oldatai, valamint a bromátok keverékei ammóniumsóval nem szállíthatók.
- 605** Az ammónium-klorát és vizes oldatai, valamint a klorátok keverékei ammóniumsóval nem szállíthatók.
- 606** Az ammónium-klorit és vizes oldatai, valamint a kloritok keverékei ammóniumsóval nem szállíthatók.
- 607** A kálium-nitrát és nátrium-nitrit keverékei valamely ammóniumsóval nem szállíthatók.
- 608** Az ammónium-permanganát és vizes oldatai, valamint a permanganátok keverékei ammóniumsóval nem szállíthatók.
- 609** Az éghető szennyeződésektől nem mentes tetranitro-metán nem szállítható.
- 610** Ez az anyag 45%-nál nagyobb hidrogén-cianid tartalommal nem szállítható.
- 611** Az ammónium-nitrát 0,2%-nál több éghető anyag tartalommal (beleértve bármilyen szerves anyagot szénegyenértékre átszámítva) nem szállítható, hacsak nem valamely 1 osztályba tartozó anyag vagy tárgy alkotórésze.
- 612** (fenntartva)
- 613** A klórsav oldatok 10% feletti klórsav-tartalommal és a klórsav keverékek vízen kívül bármilyen más folyadékkal nem szállíthatók.
- 614** A 2,3,7,8-tetraklór-dibenzo-1,4-dioxin (TCDD) olyan koncentrációban, amely a 2.2.61.1 bekezdésben foglalt feltételek alapján nagyon mérgező, nem szállítható.
- 615** (fenntartva)
- 616** A 40%-nál nagyobb folyékony salétromsav-észter tartalmú anyagoknak ki kell elégíteni a 2.3.1 szakasz szerinti kiizzadási próba feltételeit.
- 617** A robbantóanyag típusán kívül az adott robbantóanyag kereskedelmi nevét is fel kell tüntetni a küldeménydarabon.

- 618 Az 1,2-butadiénnel töltött tartályokban a gázfázis oxigénkoncentrációja legfeljebb 50 ml/m<sup>3</sup> lehet.
- 619–  
622 (fenntartva)
- 623 Az UN 1829 kén-trioxidot inhibitor hozzáadásával stabilizálni kell. A 99,95%-os vagy annál nagyobb tisztaságú kén-trioxid stabilizálás nélkül is szállítható tartányban, feltéve, hogy a hőmérsékletét 32,5 °C-on vagy a fölött tartják. Ezen anyag inhibitor nélkül tartányban legalább 32,5 °C hőmérsékleten való szállításánál a fuvarokmányban szerepelni kell a **„Szállítás alatt a termék minimális hőmérséklete 32,5 °C”** szövegnek.
- 625 Az ilyen tárgyakat tartalmazó küldeménydarabokon jól olvasható módon fel kell tüntetni az **„UN 1950 AEROSZOLOK”** feliratot.
- 626 –  
627 (fenntartva)
- 632 Öngyulladónak (piroforosnak) tekintendő.
- 633 Ezt az anyagot tartalmazó küldeménydarabokat és kiskonténereket el kell látni a következő felirattal: **„Gyűjtőforrástól távol tartandó”**. Ezt a feliratot a feladási ország valamelyik hivatalos nyelvén és ha ez nem angol, francia vagy német, akkor ezenkívül angolul, franciául vagy németül kell szövegezni, hacsak a szállításban érintett országok közötti megállapodások másként nem rendelkeznek.
- 634 (törölve)
- 635 Az ezen tárgyakat tartalmazó küldeménydarabokat csak akkor kell 9 számú bárcával ellátni, ha a tárgy a csomagolásba, rekeszbe vagy más eszközbe úgy van teljesen bezárva, hogy a tárgy gyors azonosítása nem lehetséges.
- 636 a) A készülékekben levő cellák a szállítás alatt nem sühetnek ki olyan mértékben, hogy a kapocsfeszültség nyitott áramkörben 2 V alá, vagy a nem kisütött cella feszültségének kétharmada alá csökkenjen aszerint, hogy ezen két feszültség közül melyik az alacsonyabb.
- b) Abban az esetben, ha az összegyűjtött és ártalmatlanításra szánt, egyenként legfeljebb 500 gr bruttó tömegű lítium-cellákat és akkumulátorokat másféle (nemlítium-) cellákkal és akkumulátorokkal együtt a fogyasztói gyűjtőhely és a köztes feldolgozó létesítmény közötti szállításra adják fel, az ADR többi előírását nem kell betartani, ha kielégítik a következő feltételeket:
- i) a P903b csomagolási utasítás előírásait betartják;
- ii) minőségbiztosítási programot alkalmaznak annak biztosítására, hogy a lítium-cellák, ill. akkumulátorok összes mennyisége nem haladja meg a szállítóegységenkénti 333 kg-ot;
- iii) a küldeménydarabokat el kell látni **„Használt lítium-cellák”** felirattal.
- 637 A géntechnológiával módosított mikroorganizmusok és a géntechnológiával módosított élő szervezetek azok, amelyek bár nem veszélyesek az emberekre vagy állatokra, de amelyek képesek az állatokat, növényeket, mikrobiológiai anyagokat és az ökoszisztémát oly módon megváltoztatni, ami a természetben nem következhet be. Azok a géntechnológiával módosított mikroorganizmusok és géntechnológiával

módosított élő szervezetek, amelyek felhasználását a származási, a tranzit és a célország illetékes hatóságai engedélyezték<sup>1)</sup>, nem tartoznak az ADR előírásainak hatálya alá. Gerinces vagy gerinctelen élő állatok ezen UN szám alá besorolt anyagok szállítására nem használhatók, hacsak az anyag más módon nem szállítható. A gyorsan romló anyagok szállításánál megfelelő információt kell nyújtani, pl.: „+2/+4 °C-on tartandó” vagy „fagyasztva szállítandó” vagy „tilos fagyasztani”.

**638** Ezek az anyagok önreaktív anyagokkal rokon anyagok (lásd a 2.2.41.1.19 pontot).

**639** Lásd a 2.2.2.3 bekezdés, 2F osztályozási kód, UN 1965, 2. megjegyzést.

**640** A 3.2 fejezet „A” táblázat 2 oszlopában említett fizikai és műszaki jellemzők különböző tartánykódokat határoznak meg ugyanazon csomagolási csoportba tartozó anyagok ADR-tartányokban történő szállításához.

A tartányban szállított termék ezen fizikai és műszaki jellemzőinek megállapításához kizárólag ADR-tartányok esetén a következő bejegyzéssel kell a fuvarokmányban feltüntetendő adatokat kiegészíteni:

„**640X különleges előírás**”, ahol „X” a 3.2 fejezet „A” táblázat 6 oszlopában a 640 különleges előírás után szereplő nagybetű.

Ez a bejegyzés azonban elhagyható olyan típusú tartányban történő szállítás esetén, amely legalább az adott UN szám adott csomagolási csoportjához tartozó legszigorúbb követelményeknek felel meg.

**642** Az ENSZ Minta Szabályzat ezen tételét csak az 1.1.4.2 bekezdés szerinti esetben lehet a szabad ammónia tartalmú ammónia műtrágya oldat szállításához használni.

**643** Az aszfaltkeverékek nem tartoznak a 9 osztály előírásainak hatálya alá.

**644** Ez az anyag csak akkor szállítható, ha

- a szállított anyag 10%-os vizes oldatában mért pH érték 5 és 7 között van;
- az oldat nem tartalmaz sem 0,2%-nál több éghető anyagot, sem klórvegyületet olyan mennyiségben, hogy a klórtartalom meghaladja a 0,02%-ot.

**645** A 3.2 fejezet „A” táblázat 3b oszlopban található osztályozási kódot csak valamely ADR Szerződő Fél illetékes hatóságának a szállítás előtti jóváhagyásával lehet alkalmazni. Ha az alosztályt a 2.2.1.1.7.2 pontban ismertetett eljárással határozzák meg, az illetékes hatóság előírhatja, hogy a besorolást a „Vizsgálatok és kritériumok kézikönyv” I. Rész 16 fejezet 6 vizsgálati sorozat próbái során nyert adatok alapján ellenőrizték.

**646** A gőzzel aktivált szén nem tartozik az ADR előírásainak hatálya alá.

**647** A legfeljebb 25% tisztasav tartalmú (biológiai erjesztésű) ételecet és (étkezési) ecetsav oldat csak a következő előírások hatálya alá tartozik:

- a) a csomagolóeszközöket (IBC-ket, nagycsomagolásokat) és a tartányokat rozsdamentes acélból vagy műanyagból kell gyártani, ami tartósan ellenáll az ételecet, ill. ecetsav oldat korróziós hatásának;

1) Lásd részletesen a géntechnológiával módosított szervezeteknek a környezetben történő szándékos kibocsátásáról és a 90/220/EGK Tanácsi Irányelv hatályon kívül helyezéséről szóló 2001/18/EK Európai Parlamenti és Tanácsi Irányelv (az EK Hivatalos Lapja, L 106. szám, 2001.04.17., 8 – 14 o.) C részét, amely tartalmazza az Európai Közösség engedélyezési eljárásait. Magyarországon lásd az 1998. évi XXVII. tv-t a géntechnológiai tevékenységről, ill. a végrehajtására kiadott rendeleteket.



- b) a csomagolóeszközöket (IBC-ket, nagycsomagolásokat) és a tartányokat évente legalább egyszer a tulajdonosnak szemrevételezéssel meg kell vizsgálnia. A vizsgálat eredményét írásban kell rögzíteni és legalább egy évig meg kell őrizni. A sérült csomagolóeszközöket (IBC-ket, nagycsomagolásokat) és tartányokat nem szabad megtölteni;
- c) a csomagolóeszközöket (IBC-ket, nagycsomagolásokat) és a tartányokat úgy kell megtölteni, hogy a termék ne csepegjen és ne tapadjon a külső felületükre.
- d) a tömítéseknek és zárószervezeteknek ételeccel, ill. ecetsav oldattal szemben ellenállónak kell lenniük. A csomagolóeszközöket (IBC-ket, nagycsomagolásokat) és a tartányokat, a csomagolónak, ill. töltőnek légmentesen kell lezárnia úgy, hogy normális szállítási feltételek mellett ne következhesen be szivárgás;
- e) használhatók a 4.1.1.1, 4.1.1.2, 4.1.1.4, 4.1.1.5, 4.1.1.6, 4.1.1.7 és 4.1.1.8 bekezdés általános csomagolási előírásainak megfelelő kombinált csomagolások üveg vagy műanyag belső csomagolóeszközökkel (lásd a 4.1.4.1 bekezdésben a P001 csomagolási utasítást).

Az ADR egyéb előírásait nem kell betartani.

- 648** Az ezzel a peszticiddel impregnált tárgyak, pl. papírtányérok, papírszalagok, vattagolyók, műanyag lapok, légmentesen zárt burkolatban nem tartoznak az ADR előírásainak hatálya alá.
- 649** A 2.2.3.1.3 pontban az I csomagolási csoportnál említett forráskezdet meghatározására alkalmas az ASTM D86-01 szabvány<sup>2)</sup> szerinti vizsgálati módszer. Azok az anyagok, amelyek forráskezdetével ezzel a módszerrel meghatározva meghaladja a 35 °C-ot, a II csomagolási csoport anyagai és e csomagolási csoport megfelelő tétele szerint kell besorolni.
- 650** A festékek csomagolóeszközeiből, beszáradt vagy folyékony festék maradványokból álló hulladék a II csomagolási csoport feltételei szerint szállítható. Az UN 1263 tétel II csomagolási csoportjára vonatkozó előírásokon kívül ez a hulladék a következők szerint is csomagolható és szállítható:
- a) a hulladék a 4.1.4.1 bekezdés P002 csomagolási utasítása, ill. a 4.1.4.2 bekezdés IBC06 csomagolási utasítása szerint is csomagolható;
  - b) a hulladék teljes falú egyesítőcsomagolásba helyezett 13H3, 13H4 vagy 13H5 típusú hajlékony falú IBC-be is csomagolható;
  - c) az a), ill. a b) pont alatt jelzett csomagolóeszközöket, ill. IBC-ket a 6.1, ill. a 6.5 fejezet előírásai szerint a II csomagolási csoportra, szilárd anyagra elég vizsgálni.
- A vizsgálatokat a hulladékot reprezentáló mintával megtöltött, szállításra előkészített csomagolóeszközzel, ill. IBC-vel kell elvégezni;
- d) megengedett az ömlesztett szállítás teljes falú, ponyvás járműben, teljes falú, zárt konténerben vagy teljes falú, ponyvás nagykonténerben is. A jármű felépítményének, ill. a konténernek szivárgásmentesnek kell lennie, vagy pl. alkalmas és elég erős béléssel szivárgásmentessé kell tenni;

2) Standard vizsgálati módszer kőolajtermékek desztillálására atmoszférikus nyomáson, kiadta az ASTM International, 2001. szeptemberében.



- e) ha a hulladékot e különleges előírás feltételei szerint szállítják, az árut az 5.4.1.1.3 pont értelmében a következő szöveggel kell a fuvarokmányba bejegyezni:

**„HULLADÉK, UN 1263 FESTÉK, 3, II”.**

**651** A V2 különleges előírás 1) bekezdését nem kell alkalmazni, ha a szállítóegységen a nettó robbanóanyag-mennyiség legfeljebb 4000 kg, feltéve, hogy a nettó robbanóanyag-mennyiség járművenként is csak legfeljebb 3000 kg.

**652** Azok az üzemanyag tartályok, amelyeket hőlégballonokhoz, ill. meleglevegős léghajókhoz használnak és amelyeket ausztenites (korrózióálló) acélból, ferrites és ausztenites acélból (duplex acélból) vagy hegesztett titánból a nemzeti légügyi előírások szerint gyártottak és hagytak jóvá és 2004. július 1-je előtt helyeztek üzembe (az üzembe helyezés előtti vizsgálat 2004. július 1-je előtt történt) és nem felelnek meg a 6.2 fejezet követelményeinek, a következő feltételekkel szállíthatók közúton:

- a) a 6.2.1 szakasz általános előírásait be kell tartani;
- b) a tartály tervezését és gyártását – a légialkalmasság szempontjából – a nemzeti légiközlekedési hatóság jóváhagyta;
- c) a 6.2.3.1.2 pont előírásaitól eltérően a tervezési nyomást a +40 °C-os csökkentett maximális környezeti hőmérsékletből kell levezetni, mely esetben:
  - i) a 6.2.5.1 bekezdés előírásaitól eltérően a tartályt kereskedelmi tisztaságú, hengerelt és hőkezelt titánból is lehet gyártani, a következő minimum követelmények betartásával:  $R_m > 450$  MPa,  $\epsilon_A > 20\%$  ( $\epsilon_A$  = szakadási nyúlás);
  - ii) ausztenites (korrózióálló) acélból, ferrites és ausztenites acélból (duplex acélból) készült tartályok is használhatók a szavatolt minimális folyáshatár ( $R_e$ ) legfeljebb 85%-át kitevő feszültség szintig a +40 °C-os csökkentett maximális környezeti hőmérsékletből levezetett tervezési nyomás mellett;
  - iii) a tartályt 26 bar névleges nyitónyomású nyomáscsökkentő szerkezettel kell ellátni; a tartály próbanyomása legalább 30 bar legyen;
- d) ha a c) pontban említett eltérési lehetőséget nem alkalmazzák, akkor a tartályt 65 °C referencia hőmérsékletre kell tervezni és olyan nyomáscsökkentő szerkezettel kell ellátni, amelynek névleges nyitónyomását azon ország illetékes hatóságának kell meghatároznia, amelyben használni fogják;
- e) a tartály törzsét legalább 25 mm vastagságú, szilárd habból vagy ahhoz hasonló anyagból készült, vízálló külső védőréteggel kell ellátni;
- f) szállítás közben a tartálynak rekeszben vagy külön védőeszközben szilárdan rögzítve kell lenni;
- g) a tartályon jól látható feliratot kell elhelyezni, miszerint a tartály csak hőlégballonokhoz, ill. meleglevegős léghajókhoz használható;
- h) a tartály használati ideje (az üzembe helyezés előtti vizsgálatától számítva) legfeljebb 25 év lehet.

**653** Legfeljebb 0,5 l ürtartalmú palackokban szállítva ez a gáz nem tartozik az ADR többi előírásának hatálya alá, a következő feltételekkel:

- a palackok gyártására és vizsgálatára vonatkozó előírásokat betartják;

- a palackok olyan külső csomagolóeszközben vannak, amely legalább a 4. Rész kombinált csomagolásokra vonatkozó követelményeinek megfelel; a 4.1.1.1, a 4.1.1.2 és a 4.1.1.5 – 4.1.1.7 bekezdés általános csomagolási előírásait be kell tartani;
- a palackokat nem csomagolják egybe más veszélyes áruval;
- egy küldeménydarab össztömege legfeljebb 30 kg;
- minden küldeménydarabon jól látható módon és tartósan fel van tüntetve az UN 1013 jelölés. Ezt a jelölést egy vonallal körberajzolt, legalább 100 x 100 mm nagyságú, csúcsára állított négyzetben kell feltüntetni.

**654** Ez a tétel alkalmazható az 5.4.1.1.3 pont szerint feladott, elkülönítve összegyűjtött hulladék öngyújtók ártalmatlanítás céljából történő szállításakor is. Ilyen esetben nem kell az akaratlan működtetés ellen védeni, feltéve, hogy megtették a szükséges óvintézkedéseket a veszélyes nyomásnövekedés, ill. veszélyes atmoszféra kialakulásának megakadályozására. Azokat az öngyújtókat, amelyek nem szivárognak, ill. nincsenek nagyon deformálódva, a P003 csomagolási utasításnak megfelelően kell csomagolni, és ezenkívül a következő előírásokat kell betartani:

- csak legfeljebb 60 l űrtartalmú, merev falú csomagolóeszközök használhatók;
- a gyulladás elkerülése érdekében a csomagolóeszközt vízzel vagy más, alkalmas védőközzel kell feltölteni;
- normális szállítási körülmények között a védőközegnek el kell lepnie az öngyújtók gyújtószerkezetét;
- a csomagolóeszközöket megfelelően szellőztetni kell, hogy gyúlékony atmoszféra, ill. nyomás kialakulását megelőzzék;
- a küldeménydarabok csak jól szellőző vagy nyitott járművel, ill. konténerben vihetők.

A szivárgó vagy erősen deformálódott öngyújtókat kármentő csomagolásban kell szállítani, megfelelő óvintézkedésekkel biztosítva, hogy nem lép fel veszélyes nyomásnövekedés.

**Megjegyzés:** A hulladék öngyújtókra nem kell alkalmazni sem a 201 különleges előírást, sem a 4.1.4.1 bekezdés P002 csomagolási utasításának PP84 és RR5 különleges csomagolási előírását.

### 3.4 FEJEZET

## KORLÁTOZOTT MENNYISÉGBEN CSOMAGOLT VESZÉLYES ÁRUK

#### 3.4.1 Általános előírások

**3.4.1.1** A 3.4.3 – 3.4.6 szakasz alapján használt csomagolóeszközöknek csak a 4.1.1.1, a 4.1.1.2 és a 4.1.1.4 – 4.1.1.8 bekezdés általános előírásainak kell megfelelniük.

**3.4.1.2** A kombinált csomagolás legnagyobb össztömege nem haladhatja meg a 30 kg-ot, a zsugorfóliás vagy nyújtható fóliás alátétálcás csomagolásé a 20 kg-ot.

*Megjegyzés: A kombinált csomagolásra ezt a korlátozást nem kell betartani LQ5 esetén.*

**3.4.1.3** A veszélyes áruk, a 3.4.1.2 bekezdésben meghatározott felső határok és a 3.4.6 táblázatban meghatározott egyedi határok betartásával, más anyagokkal és tárgyakkal egybecsomagolhatók, amennyiben szivárgás esetén nem lépnek egymással veszélyes reakcióba.

**3.4.2** Amennyiben egy adott anyagra vagy tárgyra a 3.2 fejezet „A” táblázat 7a oszlopában az LQ0 kód található, akkor ez az anyag vagy tárgy még korlátozott mennyiségben csomagolva sem mentesül az „A” és a „B” Melléklet egyetlen vonatkozó előírása alól sem, hacsak ezen Mellékletek másként nem rendelkeznek.

**3.4.3** Amennyiben egy adott anyagra vagy tárgyra a 3.2 fejezet „A” táblázat 7a oszlopában az LQ1 vagy LQ2 kód található, akkor – hacsak ez a fejezet másként nem rendelkezik – az ADR többi fejezeteinek előírásai nem vonatkoznak ennek az anyagnak vagy tárgynak a szállítására, azzal a feltétellel, hogy:

- a) a 3.4.5 a) – c) bekezdés előírásait betartják; ezen előírások szempontjából a tárgyak belső csomagolásnak minősülnek;
- b) a belső csomagolások megfelelnek a 6.2.5.1 és a 6.2.6.1 – 6.2.6.3 bekezdés feltételeinek.

**3.4.4** Amennyiben egy adott anyagra a 3.2 fejezet „A” táblázat 7a oszlopában LQ3 kód található, akkor – hacsak ez a fejezet másként nem rendelkezik – az ADR többi fejezeteinek előírásai nem vonatkoznak ennek az anyagnak a szállítására, azzal a feltétellel, hogy:

- a) az anyagot kombinált csomagolásban szállítják, amelyhez a következő külső csomagolóeszközök engedélyezettek:
  - acél- vagy alumíniumhordók levehető tetővel,
  - acél- vagy alumíniumkannák levehető tetővel,
  - rétegelt falemez vagy papírlemez hordók,
  - műanyag-hordók vagy -kannák levehető tetővel,
  - fa-, rétegelt falemez, farostlemez, papírlemez, műanyag-, acél- vagy alumíniumládák,

amelyek kielégítik a 6.1.4 szakasz vonatkozó gyártási előírásait;

- b) a legnagyobb nettó mennyiség nem haladja meg belső csomagolásonként a 3.4.6 táblázat (2) vagy (4) oszlopában, és küldeménydarabonként a (3) vagy (5) oszlopában

előírt értéket, ha van érték feltüntetve;

- c) minden küldeménydarabon jól látható módon és tartósan fel van tüntetve:
- i) a benne lévő áru UN száma, amint azt a 3.2 fejezet „A” táblázat 1 oszlopa tartalmazza, amely elé az „UN” rövidítés van írva, vagy
  - ii) amennyiben egy küldeménydarabban különböző UN számú, különböző áruk vannak:
    - a benne lévő áruk UN száma, amely elé az „UN” rövidítés van írva, vagy
    - az „LQ” rövidítés<sup>3)</sup>

Ezt a jelölést egy vonallal körberajzolt, legalább 100 x 100 mm nagyságú, csúcsára állított négyzetben kell feltüntetni. A keretező vonal vastagságának legalább 2 mm-nek, a számok magasságának legalább 6 mm-nek kell lennie. Ha a küldeménydarab egynél több UN szám alá tartozó anyagot tartalmaz, a négyzetnek elég nagynak kell lenni ahhoz, hogy az összes UN szám beleférjen. Ha a küldeménydarab mérete úgy kívánja, a jelölés méretei csökkenthetők, feltéve, hogy jól látható marad.

### 3.4.5

Amennyiben egy adott anyagra a 3.2 fejezet „A” táblázat 7a oszlopában LQ4 – LQ19 vagy LQ22 – LQ28 kód található, akkor – hacsak ez a fejezet másként nem rendelkezik – az ADR többi fejezeteinek előírásai nem vonatkoznak ennek az anyagnak a szállítására, azzal a feltétellel, hogy:

- a) az anyagot
  - a 3.4.4 a) bekezdésnek megfelelő kombinált csomagolásban szállítják; vagy
  - olyan fém, illetve olyan műanyag belső csomagolásokban vannak, amelyek törésre nem hajlamosak és nem lyukadnak át könnyen, ha zsugorfóliás vagy nyújtható fóliás alátétálcás csomagolásokban vannak;
- b) a legnagyobb nettó mennyiség nem haladja meg belső csomagolásonként a 3.4.6 táblázat (2) vagy (4) oszlopában, és küldeménydarabonként a (3) vagy (5) oszlopában előírt értéket, ha van érték feltüntetve;
- c) minden küldeménydarab jól látható és tartós jelöléssel van ellátva, amint azt a 3.4.4 c) bekezdés előírja.

### 3.4.6

#### Táblázat

| Kód               | Kombinált csomagolás <sup>a)</sup>       |                                    | Zsugorfóliás vagy nyújtható fóliás alátétálcára <sup>a)</sup> helyezett belső csomagolások |                                    |
|-------------------|--|------------------------------------|--|------------------------------------|
|                   | Legnagyobb nettó mennyiség               |                                    | Legnagyobb nettó mennyiség   |                                    |
|                   | belső csomagolásonként                   | küldeménydarabonként <sup>b)</sup> | belső csomagolásonként   | küldeménydarabonként <sup>b)</sup> |
| (1)               | (2)                                      | (3)                                | (4)  | (5)                                |
| LQ0               | A 3.4.2 szakasz szerint nincs mentesség. |                                    |  |                                    |
| LQ1               | 120 ml                                   |                                    | 120 ml   |                                    |
| LQ2               | 1 l                                      |                                    | 1 l  |                                    |
| LQ3 <sup>c)</sup> | 500 ml                                   | 1 l                                | nem engedélyezett  | nem engedélyezett                  |
| LQ4 <sup>c)</sup> | 3 l                                      |                                    | 1 l  |                                    |
| LQ5 <sup>c)</sup> | 5 l                                      | korlátlan                          | 1 l  |                                    |

3) Az „LQ” betűk az angol „limited quantity” (magyarul „korlátozott mennyiség”) rövidítése. Az „LQ” rövidítés használatát az IMDG Kódex és az ICAO Műszaki Utasítások előírásai nem engedélyezik.

| Kód                | Kombinált csomagolás <sup>a)</sup> |                                    | Zsugorfóliás vagy nyújtható fóliás alátétálcára <sup>a)</sup> helyezett belső csomagolások |                                    |
|--------------------|------------------------------------|------------------------------------|--|------------------------------------|
|                    | Legnagyobb nettó mennyiség         |                                    | Legnagyobb nettó mennyiség   |                                    |
|                    | belső csomagolásonként             | küldeménydarabonként <sup>b)</sup> | belső csomagolásonként   | küldeménydarabonként <sup>b)</sup> |
| (1)                | (2)                                | (3)                                | (4)  | (5)                                |
| LQ6 <sup>c)</sup>  | 5 l                                |                                    | 1 l  |                                    |
| LQ7 <sup>c)</sup>  | 5 l                                |                                    | 5 l  |                                    |
| LQ8                | 3 kg                               |                                    | 500 g  |                                    |
| LQ9                | 6 kg                               |                                    | 3 kg   |                                    |
| LQ10               | 500 ml                             |                                    | 500 ml   |                                    |
| LQ11               | 500 g                              |                                    | 500 g  |                                    |
| LQ12               | 1 kg                               |                                    | 1 kg   |                                    |
| LQ13               | 1 l                                |                                    | 1 l  |                                    |
| LQ14               | 25 ml                              |                                    | 25 ml  |                                    |
| LQ15               | 100 g                              |                                    | 100 g  |                                    |
| LQ16               | 125 ml                             |                                    | 125 ml   |                                    |
| LQ17               | 500 ml                             | 2 l                                | 100 ml   | 2 l                                |
| LQ18               | 1 kg                               | 4 kg                               | 500 g  | 4 kg                               |
| LQ19               | 5 kg                               |                                    | 5 kg   |                                    |
| LQ20               | fenntartva                         | fenntartva                         | fenntartva   | fenntartva                         |
| LQ21               | fenntartva                         | fenntartva                         | fenntartva   | fenntartva                         |
| LQ22               | 1 l                                |                                    | 500 ml   |                                    |
| LQ23               | 3 kg                               |                                    | 1 kg   |                                    |
| LQ24               | 6 kg                               |                                    | 2 kg   |                                    |
| LQ25 <sup>d)</sup> | 1 kg                               |                                    | 1 kg   |                                    |
| LQ26 <sup>d)</sup> | 500 ml                             | 2 l                                | 500 ml   | 2 l                                |
| LQ27               | 6 kg                               |                                    | 6 kg   |                                    |
| LQ28               | 3 l                                |                                    | 3 l  |                                    |

a) Lásd a 3.4.1.2 bekezdést.

b) Lásd a 3.4.1.3 bekezdést.

c) A 3 osztályba tartozó, víztartalmú homogén keverékek esetén a jelzett mennyiségek csak a keverékben található, 3 osztályba tartozó anyagokra vonatkoznak.

d) Amennyiben az UN 2315, 3151, 3152 és 3432 anyagait készülékekben szállítják, a belső csomagolásonkénti mennyiségek készülékenként értendők. A készülékeket szivárgásmentes csomagolásban kell szállítani és a kész küldeménydarabnak meg kell felelnie a 3.4.4 c) bekezdés előírásainak. Ezekhez a készülékekhez zsugorfóliás vagy nyújtható fóliás alátétálcás csomagolás nem használható.

### 3.4.7

A 3.4.3, a 3.4.4, ill. a 3.4.5 szakasznak megfelelő küldeménydarabokat tartalmazó egyesítőcsomagolásokat minden, bennük levő veszélyes árura vonatkozóan a 3.4.4 c) bekezdésben előírt jelöléssel kell ellátni, kivéve, ha az egyesítőcsomagolásban levő minden veszélyes áru faja jelölése kívülről látható.

### 3.4.8

Az e fejezet előírásai szerint szállított küldeménydarabokra, ill. egyesítőcsomagolásokra:

- a küldeménydarab álló helyzetét jelző nyilakkal való megjelölésre az 5.2.1.9 bekezdés;
- az egyesítőcsomagolás álló helyzetét jelző nyilakkal való megjelölésre az 5.1.2.1

bekezdés b) pontja; és

- c) a küldeménydarabok elhelyezésére a 7.5.1.5 bekezdés

követelményeit ugyancsak alkalmazni kell.

- 3.4.9** A korlátozott mennyiségben csomagolt veszélyes áru feladása előtt (kivéve ha tengeri szállítást is magában foglaló szállításra adják fel) a feladónak közölnie kell a szállítóval, fuvarozóval a feladni szándékozott áru összes bruttó tömegét.
- 3.4.10**
- a) A korlátozott mennyiségben csomagolt veszélyes árut tartalmazó küldeménydarabokat szállító, 12 tonnánál nagyobb megengedett legnagyobb össztömegű szállítóegységet az elején és a hátulján a 3.4.12 szakasz szerinti jelöléssel kell ellátni, kivéve, ha az 5.3.2 szakasz szerint narancssárga táblával már meg van jelölve.
- b) A 12 tonnánál nagyobb megengedett legnagyobb össztömegű szállítóegységen lévő, korlátozott mennyiségben csomagolt veszélyes árut tartalmazó küldeménydarabokat szállító konténert mind a négy oldalán a 3.4.12 szakasz szerinti jelöléssel kell ellátni, kivéve, ha az 5.3.1 szakasz szerint nagybárcákkal már meg van jelölve.
- A szállítóegységet nem kell megjelölni, kivéve, ha a konténeren lévő jelölés a szállítóegységen kívülről nem látható. Ez esetben a szállítóegység elejére és hátuljára ugyanolyan jelölést kell elhelyezni.
- 3.4.11** A 3.4.10 szakaszban előírt jelölés elhagyható, ha a korlátozott mennyiségben csomagolt veszélyes árut tartalmazó küldeménydarabok összes bruttó tömege egy szállítóegységen legfeljebb 8 tonna.
- 3.4.12** A jelölés egy fehér alapon, legalább 65 mm magas fekete betűkkel feltüntetett „LTD QTY”<sup>4)</sup> felirat.
- 3.4.13** A tengeri szállítást is magában foglaló szállítási láncban történő továbbításnál az IMDG kódex 3.4 fejezete szerinti jelölés is elfogadható.

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4) Az „LTD QTY” az angol „limited quantity” (magyarul „korlátozott mennyiség”) kifejezés rövidítése.

### 3.5 FEJEZET

## ENGEDMÉNYES MENNYISÉGBEN CSOMAGOLT VESZÉLYES ÁRUK

#### 3.5.1 Engedményes mennyiségek

**3.5.1.1** Bizonyos osztályok engedményes mennyiségű veszélyes áruira (a tárgyak kivételével) – amennyiben megfelelnek ezen fejezet előírásainak – az ADR összes többi előírása közül csak a következőket kell betartani:

- a) az 1.3 fejezet képzési követelményeit;
- b) a 2. rész osztályozási (besorolási) eljárását és a csomagolási csoporthoz való hozzárendelés kritériumait;
- c) a 4.1.1.1, a 4.1.1.2, a 4.1.1.4 és a 4.1.1.6 bekezdés csomagolási előírásait.

**Megjegyzés:** Radioaktív anyagok esetén az 1.7.1.5 bekezdésben található, az engedményes küldeménydarabban lévő radioaktív anyagokra vonatkozó követelmények érvényesek.

**3.5.1.2** Az ezen fejezet előírásai szerint engedményes mennyiségben szállítható veszélyes áruknál a 3.2 fejezet „A” táblázat 7b oszlopában egy betűből és számból álló kód van feltüntetve a következők szerint:

| Kód | Legnagyobb nettó mennyiség<br>belső csomagolásonként<br><br>(szilárd anyagra g-ban,<br>folyékony anyagra és gázra ml-ben) | Legnagyobb nettó mennyiség<br>külső csomagolásonként<br><br>(szilárd anyagra g-ban,<br>folyékony anyagra és gázra ml-ben,<br>egybecsomagolás esetén a g-ban és<br>a ml-ben kifejezett mennyiség<br>összege ) |
|-----|---|--|
| E0  | engedményes mennyiségként nem engedélyezett   |  |
| E1  | 30  | 1000   |
| E2  | 30  | 500  |
| E3  | 30  | 300  |
| E4  | 1   | 500  |
| E5  | 1   | 300  |

Gázok esetén a belső csomagolásra megadott mennyiség a belső tartály víztérfogatát jelenti, a külső csomagolásra megadott mennyiség az egy külső csomagolásban lévő összes belső csomagolás együttes víztérfogatát jelenti.

**3.5.1.3** Ha olyan veszélyes árukat csomagolnak egybe engedményes mennyiségben, amelyekhez különböző kódok tartoznak, a külső csomagolásonkénti legnagyobb mennyiségre a (leg)kisebb értéket kell betartani.

#### 3.5.2 Csomagolóeszközök

Az engedményes mennyiségben szállított veszélyes áruk csomagolóeszközeinek a következőknek kell megfelelniük:

- a) Minden esetben kell belső csomagolóeszközt alkalmazni. A belső csomagolóeszköz

lehet műanyagból (amely, ha folyékony anyaghoz használják legalább 0,2 mm vastagságú legyen), üvegből, porcelánból, kőből, kerámiából vagy fémből (lásd a 4.1.1.2 bekezdést is). A belső csomagolóeszközök zárószerkezetét zárt helyzetében rögzíteni kell huzallal, ragasztószalaggal vagy más hatásos eszközzel, az öntött csavarmenetes nyakú tartályokat folyadéktömör menetes kupakkal kell ellátni. A zárószerkezetnek a tartalommal szemben ellenállónak kell lennie. ;

- b) Minden belső csomagolóeszközt párnázóanyag közé, közbenső csomagolásba kell biztonságosan elhelyezni oly módon, hogy szokásos szállítási körülménynek között ne törhessenek el, ne lyukadhassanak ki, ill. tartalmuk ne szivároghasson ki. Törés vagy szivárgás esetén a közbenső csomagolásnak a teljes tartalmat meg kell tartania, függetlenül attól, hogy a küldeménydarab milyen helyzetben van. Folyékony anyagok esetén a közbenső csomagolásnak a belső csomagolóeszköz teljes tartalmának felszívására elegendő nedvszívó anyagot kell tartalmaznia. Ilyen esetben a nedvszívó anyag párnázóanyagként is szolgálhat. A veszélyes anyag nem léphet veszélyes reakcióba sem a párnázóanyaggal, sem a nedvszívó anyaggal, sem a csomagolóeszköz anyagával, ill. nem gyengítheti épségüket vagy védő tulajdonságaikat.;
- c) A közbenső csomagolást erős, merev falú (fa, papírlemez vagy ugyanennyire erős más anyagból készült) külső csomagolóeszközbe kell biztonságosan elhelyezni.;
- d) Minden küldeménydarab típusnak meg kell felelnie a 3.5.3 szakasz előírásainak.;
- e) A küldeménydaraboknak olyan méretűnek kell lenniük, hogy elegendő hely legyen a szükséges jelöléseknek.;
- f) Egyesítőcsomagolások is alkalmazhatók, amelyekbe veszélyes árut, ill. az ADR hatálya alá nem tartozó árut tartalmazó küldeménydarabok is elhelyezhetők.

### 3.5.3 A küldeménydarabok vizsgálata

#### 3.5.3.1

A szállításra előkészített, teljes küldeménydarabnak alkalmasnak kell lennie a következőkben felsorolt vizsgálatok elviselésére, bármely belső csomagolóeszköz törése vagy szivárgása, ill. a hatásosság jelentős csökkenése nélkül. A belső csomagolóeszközöket szilárd anyag esetén ürtartalmuk legalább 95%-áig, folyékony anyag esetén ürtartalmuk legalább 98%-áig kell megtölteni, és az alkalmasságot kellően dokumentált vizsgálatokkal kell bizonyítani.

- a) Ejtés merev, rugalmatlan, sík és vízszintes felületre, 1,8 m magasságból:
  - i) ha a minta doboz (láda) formájú, akkor mindegyik, a következő helyzetekben kell leejteni:
    - laposan a fenéklapra;
    - laposan a tetőlapra;
    - laposan a leghosszabb oldallapra;
    - laposan a legrövidebb oldallapra;
    - valamelyik sarokra;
  - ii) ha a minta hordó formájú, akkor mindegyik, a következő helyzetekben kell leejteni:
    - átlósan a tetőlap peremére úgy, hogy a tömegközéppont függőlegesen a felütközési pont fölött legyen;
    - átlósan a fenék peremére;



- laposan a palástra;

**Megjegyzés:** Az egyes ejtéseket teljesen azonos küldeménydarabok más-más példányán is végre lehet hajtani.

- b) 24 órán keresztül akkora erőnek kell a tetőlapra hatnia, amely megegyezik a mintadarabbal együtt 3 m magasságig halmazolt, teljesen azonos küldeménydarabok összes tömegének.

**3.5.3.2** A vizsgálat céljára a szállítandó anyagot helyettesíteni lehet más anyaggal, feltéve, hogy ez a vizsgálat eredményét nem hamisítja meg. Ha szilárd anyagok esetén más anyagot használnak, annak ugyanolyan fizikai jellemzőkkel (tömeg, szemcseméret, stb.) kell rendelkeznie, mint a szállítandó anyagnak. Folyékony anyagok esetén, ha az ejtőpróbánál más anyagot használnak, annak a szállítandó anyaggal azonos relatív sűrűségűnek és viszkozitásúnak kell lennie.

### **3.5.4 A küldeménydarabok jelölése**

**3.5.4.1** Az engedményes mennyiségű veszélyes árut tartalmazó, e fejezet szerint előkészített küldeménydarabokat a 3.5.4.2 bekezdés szerinti, jól látható és tartós jelöléssel kell ellátni. A jelölésen fel kell tüntetni a küldeménydarabban lévő mindegyik veszélyes árura vonatkozóan a 3.2 fejezet „A” táblázat 5 oszlopában feltüntetett első (vagy egyetlen) bárca számát. Ha a küldeménydarabon a feladó vagy a címzett neve nincs máshol feltüntetve, akkor azt is e jelölésen belül kell feltüntetni.

**3.5.4.2** A jelölésnek legalább 100 x 100 mm nagyságúnak kell lennie.



„Engedményes mennyiség” jelölés

A vonalkázás és a jelkép azonos színű (vörös vagy fekete), fehér vagy más, kellően elütő színű alapon.

\* Itt kell feltüntetni a 3.2 fejezet „A” táblázat 5 oszlopában feltüntetett első (vagy egyetlen) bárca számát.

\*\* Itt kell feltüntetni a feladó vagy a címzett nevét, ha a küldeménydarabon nincs máshol feltüntetve.

**3.5.4.3** Az engedményes mennyiségű veszélyes árut tartalmazó egyesítőcsomagolásokat is el kell látni a 3.5.4.1 bekezdésben előírt jelöléssel, kivéve, ha az egyesítőcsomagolásban levő küldeménydarabok jelölése kívülről jól látható.

**3.5.5            A járművön, ill. konténerben lévő küldeménydarabok száma**

Egy járművön, ill. konténerben nem lehet 1000-nél több küldeménydarab.

**3.5.6            Okmányok**

Ha az engedményes mennyiségű veszélyes áruhoz tartozik (egy vagy több) kísérő-okmány (úgy mint hajóraklevél, légi fuvarlevél, CMR vagy CIM fuvarlevél), akkor legalább az egyik okmányba be kell írni a „**veszélyes áru engedményes mennyiségben**” bejegyzést és a küldeménydarabok számát.

#### **4. RÉSZ**

### **A CSOMAGOLÁSRA ÉS A TARTÁNYOKRA VONATKOZÓ ELŐÍRÁSOK**

## 4.1 FEJEZET

### A CSOMAGOLÓESZKÖZÖK, A NAGYMÉRETŰ CSOMAGOLÓ ESZKÖZÖK (IBC-k) ÉS A NAGYCSOMAGOLÁSOK HASZNÁLATA

#### 4.1.1 A veszélyes áruk csomagolóeszközbe, IBC-be és nagycsomagolásba történő csomagolására vonatkozó általános előírások

**Megjegyzés:** A 2, a 6.2 és a 7 osztály anyagainak csomagolására ezen szakasz általános előírásait csak úgy kell alkalmazni, ahogy a 4.1.8.2 bekezdés (a 6.2 osztályra), a 4.1.9.1.5 pont (a 7 osztályra), valamint a 4.1.4 szakasz alkalmazandó csomagolási utasításai (P201 és LP02 a 2 osztályra, ill. P620, P621, IBC620 és LP621 a 6.2 osztályra) ezt előírják.

**4.1.1.1** A veszélyes árut olyan, jó minőségű csomagolóeszközbe (IBC-be, nagycsomagolásba), kell csomagolni, amely elég erős ahhoz, hogy ellenálljon azoknak az igénybevételeknek, ütődéseknek, amelyeknek rendes körülmények között a szállítás során, a szállítóeszközök közötti átrakás, a szállítóeszközből a raktárba való berakodás során ki van téve, illetve amelyek akkor léphetnek fel, amikor további kézi vagy gépi árukezelés céljából a rakodólapról vagy az egyesítőcsomagolásból eltávolítják. A csomagolóeszközöket (IBC-eket, nagycsomagolásokat), úgy kell gyártani és lezárni, hogy a szállításra kész küldeménydaraboknál elkerülhető legyen a tartalom bármilyen szivárgása vagy kiszóródása. Ez a szokásos szállítási körülmények között különösen a rezgésekből, illetve a hőmérséklet, a páratartalom vagy a nyomás változásából adódhat (pl. a tengerszint feletti magasság változásának eredményeként). A csomagolóeszközöket (az IBC-eket és a nagycsomagolásokat) a gyártó előírásai szerint kell lezárni. Veszélyes anyagnak nem szabad a csomagolóeszköz (IBC, nagycsomagolás) külsejére tapadnia. Ezek az előírások egyaránt érvényesek az új, az ismételten felhasznált, az átalakított, ill. a felújított csomagolóeszközökre, az új, az ismételten felhasznált, a javított, ill. az átalakított IBC-kre, valamint az új vagy ismételten használt nagycsomagolásokra.

**4.1.1.2** A csomagolóeszközök (IBC-k, nagycsomagolások) veszélyes áruval közvetlenül érintkező

- a) részeit a veszélyes áru nem támadhatja meg, sem lényegesen nem gyengítheti, és
- b) ezek a részek nem okozhatnak veszélyes hatást, pl. reakció katalizálását vagy a veszélyes áruval való reakciót.

Szükség esetén a csomagolóeszközt (IBC-t, nagycsomagolást) belső bevonattal vagy felületkezeléssel kell ellátni.

**Megjegyzés:** A polietilénből gyártott műanyag csomagolóeszközök (IBC-k) kémiai összeférhetőségére lásd a 4.1.1.19 bekezdést.

**4.1.1.3** A belső csomagolóeszközök kivételével minden csomagolóeszköznek (IBC-nek, nagycsomagolásnak) meg kell felelnie a 6.1.5, 6.3.2, 6.5.6, ill. 6.6.5 szakaszban (ill. az ADR-ben máshol) levő előírások szerint vizsgált gyártási típusnak. Azokat a csomagolóeszközöket, amelyeknél nincs szükség tömörségi vizsgálatra, a 6.1.1.3 bekezdés tartalmazza.

**4.1.1.4** Ha a csomagolóeszközt (IBC-t, nagycsomagolást) folyadékkal töltik meg, folyadékmentes szabad teret kell hagyni ahhoz, hogy a folyadéknak a szállítás közben elért hőmérsékletek hatására bekövetkező tágulása esetén se a folyadék ki ne szivároгjon, se a csomagolóeszköz ne szenvedjen tartós alakváltozást. Ha csak nincsenek különleges követelmények előírva, a folyadékok 55 °C hőmérsékleten nem tölthetők ki teljesen a csomagolóeszközt. Ugyanakkor egy IBC-nél elegendő szabad teret kell hagyni, hogy 50 °C átlagos anyaghőmérséklet esetén a víztöltet kapacitásának legfeljebb 98 %-áig legyen megtöltve. Ha másként nincs előírva, a 15 °C töltési hőmérsékletre vonatkoztatott legnagyobb töltési fokot a következők szerint kell meghatározni:

|    |   |      |               |                |                |       |
|----|---|------|---------------|----------------|----------------|-------|
| a) | Az anyag forráspontja (forrás kezdőpontja), °C    | < 60 | ≥ 60<br>< 100 | ≥ 100<br>< 200 | ≥ 200<br>< 300 | ≥ 300 |
|    | A töltési fok a csomagolóeszköz űrtartalmának %-a | 90   | 92            | 94             | 96             | 98    |

vagy

- b) a töltési fok = a csomagolóeszköz űrtartalmának  $\frac{98}{1 + \alpha(50 - t_F)}$  %-a.

A képletben  $\alpha$  a folyadék átlagos köbös hőtágulási együtthatója 15 °C és 50 °C között, vagyis 35 °C-os maximális hőmérséklet-változásra a következő képlettel számítható:

$$\alpha = \frac{d_{15} - d_{50}}{35 \times d_{50}}, \text{ ahol}$$

$d_{15}$  és  $d_{50}$  a folyadék relatív sűrűsége<sup>1)</sup> 15 °C-on, ill. 50 °C-on;

$t_F$  a folyadék középhőmérséklete a töltés során.

#### 4.1.1.5

A belső csomagolásokat a külső csomagolásban úgy kell elhelyezni, hogy a szokásos szállítási feltételek között ne törhessenek el, ne lyukadhassanak ki, és tartalmuk ne szóródhasson vagy folyhasson szét a külső csomagolásban. A folyékony anyagot tartalmazó belső csomagolásokat a zárószervezetükkel felfelé, a külső csomagoláson lévő, az 5.2.1.9 bekezdésben előírt, az álló helyzetet jelző nyilaknak megfelelően kell a külső csomagolásban elhelyezni. A törékeny vagy könnyen átlukasztható belső csomagolásokat, mint az üveg, porcelán, kőgyagy vagy bizonyos műanyag csomagolásokat a külső csomagolásban megfelelő tömítőanyag közé kell beágyazni. A tartalom elfolyásának nem szabad a tömítőanyag és a külső csomagolás védő tulajdonságait lényegesen gyengíteni.

#### 4.1.1.5.1

Amennyiben egy kombinált csomagolás, ill. nagycsomagolás külső csomagolóeszközét különböző típusú belső csomagolóeszközökkel sikeresen bevizsgálták, ebbe a külső csomagolóeszközbe, ill. nagycsomagolásba a különböző belső csomagolóeszközök tetszőleges kombinációban behelyezhetők. Ezenkívül, a csomagolás további vizsgálata nélkül használhatók a következő belső csomagolóeszköz változatok, ha azonos követelményszintnek felelnek meg:

- a) Azonos méretű vagy kisebb belső csomagolóeszközök használhatók, amennyiben:
  - i) a belső csomagolóeszközök hasonló kialakításúak, mint a bevizsgált belső csomagolóeszközök (pl. alak – hengeres, szögletes stb.);
  - ii) a belső csomagolóeszközök szerkezeti anyaga (üveg, műanyag, fém stb.) az eredetileg bevizsgált belső csomagolóeszközökkel azonos vagy nagyobb mértékben ellenálló az ütődéseknél és halmazoláskor fellépő erőkkel szemben;
  - iii) a belső csomagolóeszközök nyílásai azonos vagy kisebb átmérőjűek és zárásuk hasonló kialakítású (pl. csavarmenetes kupak, bepattanó fedél stb.);
  - iv) elegendő mennyiségű párnázóanyagot használnak a hézagok kitöltésére és a belső csomagolóeszközök jelentősebb elmozdulásának megakadályozására; és
  - v) a belső csomagolóeszközök ugyanolyan helyzetben vannak a külső csomagolóeszközbe elhelyezve, mint a bevizsgált csomagolóeszközök.
- b) Azokból a belső csomagolóeszközökből, amelyekkel bevizsgálták, vagy az előző a) pontban leírt eltérő belső csomagolóeszközökből kevesebb is használható, amennyiben elegendő mennyiségű párnázóanyagot használnak a hézagok kitöltésére és a belső csomagolóeszközök jelentősebb elmozdulásának megakadályozására.

#### 4.1.1.6

A veszélyes árukat nem szabad más veszélyes áruval vagy egyéb árukkal ugyanazon külső csomagolásba vagy nagycsomagolásba egybe csomagolni, ha egymással veszélyesen

1) A relatív sűrűség ( $d$ ) kifejezés a „sűrűség” szinonimájának tekintendő, ez a fejezet végig ilyen értelemben használja.

reagálnak és

- a) égést és/vagy jelentős hőfejlődést;
- b) gyúlékony, fojtó hatású, gyújtó hatású vagy mérgező gázok fejlődését;
- c) maró anyagok képződését; vagy
- d) vegyileg nem állandó anyagok képződését

okozzák.

**Megjegyzés:** Az egybecsomagolásra vonatkozó különleges előírásokat lásd a 4.1.10 szakaszban.

**4.1.1.7** Nedvesített vagy hígított anyagokat tartalmazó csomagolások zárószervezetének olyannak kell lennie, hogy a folyadék (víz, oldószer vagy flegmatizálószer) részaránya szállítás közben ne csökkenjen az előírt határérték alá.

**4.1.1.7.1** Amennyiben egy IBC-n egymás mögött két vagy több zárószervezet van beépítve, először a szállított anyaghoz legközelebb esőt kell elzárni.

**4.1.1.8** Abban az esetben, ha a küldeménydarabban lévő anyag a hőmérséklet emelkedése vagy más ok miatt gázt bocsát ki, és ennek következtében a küldeménydarabban túlnyomás fejlődhet ki, a csomagolóeszközt, ill. az IBC-t szellőző-szerkezettel lehet ellátni, feltéve, hogy a kibocsátott gáz sem gyúlékonysága, sem mérgező tulajdonsága, vagy például a kiszabaduló mennyisége következtében nem okoz veszélyt.

Ha a veszélyes túlnyomás az anyag normális bomlása miatt léphet fel, szellőző-szerkezetet kell alkalmazni. A szellőző-szerkezetet úgy kell kialakítani, hogy a folyadék szivárgása és idegen anyagok behatolása normális szállítási körülmények között elkerülhető legyen, feltéve, hogy a csomagolóeszköz, ill. az IBC a szállításnak megfelelő helyzetben van.

**Megjegyzés:** A légi szállítás esetén a küldeménydarabok nem láthatók el szellőző-szerkezettel.

**4.1.1.8.1** Folyékony anyag csak olyan belső csomagolóeszközbe tölthető, amely megfelelő mértékben ellenáll azon belső nyomásnak, amely benne a normális szállítási körülmények között kialakulhat.

**4.1.1.9** Az új, ismételten használt vagy átalakított csomagolóeszközöknek (IBC-knek, nagycsomagolásoknak), ill. a felújított csomagolóeszközöknek és a javított, ill. rendszeresen karbantartott IBC-knek ki kell tudniuk állni a 6.1.5, 6.3.2, 6.5.6, ill. 6.6.5 szakaszban előírt próbákat. Töltés és szállításra feladás előtt minden csomagolóeszköznél meg kell győződni arról, hogy az mentes rozsdától, szennyeződéstől vagy egyéb sérüléstől, minden IBC-nél ellenőrizni kell, hogy a kezelésre szolgáló szerelvényei megfelelően működnek. Az olyan csomagolóeszközt, amelynek ellenállóképessége a jóváhagyott gyártási típushoz viszonyítva gyengült, nem szabad tovább használni, ill. fel kell újítani oly módon, hogy képes legyen a gyártási típusvizsgálatok elviselésére. Az olyan IBC-t, amelynek ellenállóképessége a jóváhagyott gyártási típushoz viszonyítva gyengült, nem szabad tovább használni, ill. úgy kell megjavítani vagy rendszeres karbantartás keretében kijavítani, hogy képes legyen a gyártási típusvizsgálatok elviselésére.

**4.1.1.10** Folyékony anyag csak olyan csomagolóeszközbe, IBC-be tölthető, amely megfelelő mértékben ellenáll azon belső nyomásnak, amely benne a normális szállítási körülmények között kialakulhat. Az olyan csomagolóeszközöket és IBC-ket, amelyeken a 6.1.3.1 d), ill. a 6.5.2.2.1 pont szerint a nyomáspróbánál alkalmazott próbanyomás értéke fel van tüntetve, csak olyan folyékony anyagokkal szabad megtölteni, melynek gőznyomása:

- a) akkora, hogy a csomagolóeszközben, IBC-ben 55 °C hőmérsékleten a teljes túlnyomás (vagyis a tartalmazott anyag gőznyomásának és a levegő vagy más inert gáz parciális nyomásának összegéből 100 kPa-t levonva) a 4.1.1.4 bekezdésben foglaltaknak megfelelő legnagyobb töltési fok és 15 °C töltési hőmérséklet alapján meghatározva nem haladja meg a feltüntetett próbanyomás érték 2/3-át; vagy

- b) 50 °C-on kisebb, mint a feltüntetett próbanyomás és 100 kPa összegének 4/7-e; vagy  
 c) 55 °C-on kisebb, mint a feltüntetett próbanyomás és 100 kPa összegének 2/3-a.

A folyékony anyagok szállítására szolgáló IBC-ket nem szabad olyan folyékony anyagok szállítására használni, amelyek gőznyomása 50 °C-on meghaladja a 110 kPa-t (1,1 bar-t) vagy 55 °C-on meghaladja a 130 kPa-t (1,3 bar-t).

A 4.1.1.10 c) pont szerint számított, feltüntetendő próbanyomás példái csomagolóeszközökre és IBC-kre:

| UN szám | Megnevezés       | Osztály | Csomagolási csoport | $V_{p55}$ (kPa) | $V_{p55} \times 1,5$ (kPa) | $(V_{p55} \times 1,5)$ mínusz 100 (kPa) | A 6.1.5.5.4 c) pont szerint szükséges legkisebb próbanyomás (túlnyomás) (kPa) | A csomagolóeszközön feltüntetendő legkisebb próbanyomás (túlnyomás) (kPa) |
|---------|------------------|---------|---------------------|-----------------|----------------------------|---|---|---|
| 2056    | Tetrahidro-furán | 3       | II                  | 70              | 105                        | 5                                       | 100   | 100   |
| 2247    | n-Dekán          | 3       | III                 | 1,4             | 2,1                        | -97,9                                   | 100   | 100   |
| 1593    | Diklór-metán     | 6.1     | III                 | 164             | 246                        | 146                                     | 146   | 150   |
| 1155    | Dietil-éter      | 3       | I                   | 199             | 299                        | 199                                     | 199   | 250   |

**Megjegyzés: 1.** Tiszta folyadékokra az 55 °C-on fennálló gőznyomás ( $V_{p55}$ ) gyakran megtalálható a műszaki táblázatokban.

**2.** A táblázat csak a 4.1.1.10 c) pont használatára vonatkozik, ami azt jelenti, hogy a feltüntetendő próbanyomásnak meg kell haladnia az 55 °C-on fennálló gőznyomás 1,5-szerese mínusz 100 kPa értéket. Amennyiben például az n-dekánra a próbanyomást a 6.1.5.5.4 a) pont szerint határozzuk meg, a feltüntetendő legkisebb próbanyomás kisebb lehet.

**3.** A dietil-éterre a megkívánt legkisebb próbanyomás a 6.1.5.5.5 pont szerint 250 kPa.

**4.1.1.11** Azokra az üres csomagolóeszközökre, (IBC-kre, nagycsomagolásokra), amelyek veszélyes anyagot tartalmaztak, ugyanazok a követelmények vonatkoznak, mintha töltve lennének, kivéve, ha megfelelő intézkedéseket tettek az összes veszély megszüntetésére.

**4.1.1.12** A folyékony anyagokhoz szánt minden, a 6.1 fejezetben meghatározott csomagolóeszköznek sikeresen ki kell állnia a megfelelő tömörségi próbát, és a 6.1.5.4.3 pont szerinti megfelelő vizsgálati szintet teljesítenie kell a következők szerint

- a) a szállításhoz történő első használat előtt;  
 b) a csomagolóeszköz felújítása vagy átalakítása után, mielőtt szállításhoz újból felhasználnák.

Ehhez a vizsgálathoz a csomagolóeszközt nem kell saját zárószerkezetével ellátni. Az összetett csomagolás belső tartálya a külső csomagolás nélkül is vizsgálható, ha ez a vizsgálati eredményeket nem befolyásolja.

Erre a vizsgálatra nincs szükség:

- a kombinált csomagolások és nagycsomagolások belső csomagolásainál;
- a 6.1.3.1.a) ii) pont szerint „RID/ADR” jellel ellátott összetett (üveg, porcelán és kőanyag) csomagolások belső tartályainál; és
- a 6.1.3.1.a) ii) pont szerint „RID/ADR” jellel ellátott finomlemez csomagolásoknál.

**4.1.1.13** Az olyan szilárd anyagokhoz, amelyek a szállítás alatt előforduló hőmérsékleteken folyékonyvá válhatnak, csak olyan csomagolóeszközök, IBC-k használhatók, amelyek alkalmasak az anyag folyékony állapotban való megtartására.

**4.1.1.14** A porszerű vagy szemcsés anyagokhoz használt csomagolóeszközöknek, IBC-knek, portömörnek kell lenniük vagy beléssel kell rendelkezniük.

**4.1.1.15** Műanyag hordók és kannák, merev falú műanyag IBC-k és műanyag belső tartállyal

rendelkező összetett IBC-k esetén, hacsak az illetékes hatóság másként nem engedélyezte, a veszélyes áruk szállításához történő használat engedélyezett időtartama gyártási időpontjuktól számítva öt év, kivéve, ha rövidebb felhasználási időtartam van előírva tekintettel a szállítandó anyag természetére.

**4.1.1.16** Az ADR szerinti szállításra felhasználhatók azok a 6.1.3 szakasz, a 6.2.2.7, a 6.2. 2.8 bekezdés, a 6.3.1, a 6.5.2, ill. a 6.6.3 szakasz szerinti jelöléssel ellátott olyan csomagolóeszközök (IBC-k és nagycsomagolások) is, amelyeket olyan országban hagytak jóvá, amely nem ADR Szerződő Fél.

**4.1.1.17** *Robbanóanyagok, önreaktív anyagok és szerves peroxidok*

Ha az ADR-ben nincs ellentétes előírás, az 1 osztály anyagaihoz, a 4.1 osztály önkreatív anyagaihoz és az 5.2 osztály szerves peroxidjaihoz használt csomagolóeszközöknek (IBC-knek és nagycsomagolásoknak) a közepes veszélyre vonatkozó előírásoknak (II csomagolási csoport) kell megfelelniük.

**4.1.1.18** *A kármentő csomagolások használata*

**4.1.1.18.1** A veszélyes árut tartalmazó sérült, meghibásodott, tömítetlen vagy nem az előírások szerinti küldeménydarab vagy a kiszóródott vagy kifolyt veszélyes áru a 6.1.5.1.11 pont szerinti kármentő csomagolásban szállítható. Ez nem zárja ki a 4.1.1.18.2 és a 4.1.1.18.3 pont feltételeit kielégítő, megfelelő típusú és vizsgálati szintű, nagyobb méretű csomagolóeszköz alkalmazását.

**4.1.1.18.2** Megfelelő intézkedéseket kell tenni, hogy a kármentő csomagolásokon belül a sérült vagy tömítetlenné vált küldeménydarabok túlzott mozgása ne következhesen be; amennyiben a kármentő csomagolás folyékony anyagot tartalmaz, kielégítő mennyiségű nedvszívó anyagot kell alkalmazni, hogy szabad folyadék megjelenése kizárható legyen.

**4.1.1.18.3** Meg kell tenni a szükséges intézkedéseket annak biztosítására, hogy veszélyes nyomásnövekedés ne léphessen fel.

**4.1.1.19** *Műanyag csomagolóeszközök, ill. IBC-k kémiai összeférhetőségének bizonyítása a töltőanyag standardfolyadékkal történő helyettesítésével*

**4.1.1.19.1** *Alkalmazási terület*

A 6.1.5.2.6 pontban meghatározott, polietilénből készült csomagolóeszközöknek és a 6.5.6.3.5 pontban meghatározott, polietilénből készült IBC-knek a töltőanyagokkal való kémiai összeférhetősége a 4.1.1.19.3 – 4.1.1.19.5 pont szerinti eljárással, a 4.1.1.19.6 pontban lévő felsorolás alkalmazásával standardfolyadékkal való helyettesítéssel bizonyítható, feltéve, hogy az adott gyártási típust a 6.1.5, ill. a 6.5.6 szakasz szerint (figyelembevéve a 6.1.6 szakaszt is) a standardfolyadékkal vizsgálták, és a 4.1.1.19.2 pont feltételeit betartják. Ha ezen szakasz szerint helyettesítés nem lehetséges, a kémiai összeférhetőséget csomagolóeszközök esetén a 6.1.5.2.5 pont szerinti gyártási típus vizsgálattal vagy a 6.1.5.2.7 pont szerinti laboratóriumi vizsgálatokkal, ill. IBC-k esetén a 6.5.6.3.3 pont szerinti gyártási típus vizsgálattal vagy a 6.5.6.3.6 pont szerinti laboratóriumi vizsgálatokkal kell bizonyítani.

**Megjegyzés:** E szakasz előírásaitól függetlenül a csomagolóeszközök és IBC-k használata egy meghatározott töltőanyaghoz a 3.2 fejezet „A” táblázatában és a 4.1 fejezet csomagolási utasításaiban található korlátozások hatálya alá esik.

**4.1.1.19.2** *Feltételek*

A töltőanyag relatív sűrűsége nem haladhatja meg a helyettesítő standardfolyadékkal végrehajtott, a 6.1.5.3.5, ill. a 6.5.6.9.4 pont szerinti sikeres ejtőpróbánál az ejtési magasság meghatározásához használt és a 6.1.5.6, ill. – ha szükséges – a 6.5.6.6 bekezdés szerinti sikeres halmazolási próba során a terhelés meghatározásához használt sűrűség értéket. A



töltőanyag gőznyomása 50 °C vagy 55 °C hőmérsékleten nem haladhatja meg a helyettesítő standardfolyadékkal végrehajtott, a 6.1.5.5.4 vagy a 6.5.6.8.4.2 pont szerinti sikeres folyadéknyomás-próbánál alkalmazott nyomás meghatározásához használt gőznyomás értéket. Abban az esetben, ha a töltőanyag valamely standardfolyadék-kombinációval helyettesíthető, a töltőanyag ugyanazon jellemzői nem haladhatják meg az alkalmazott ejtési magasságból, a halmazoláshoz használt terhelés tömegéből és a folyadéknyomás-próbánál alkalmazott nyomásból adódó legkisebb értékeket.

*Példa:* az UN 1736 benzoil-klorid helyettesíthető a „szénhidrogén-keverék és nedvesítőszert tartalmazó oldat” standardfolyadék-kombinációval. A benzoil-klorid gőznyomása 50 °C-on 0,34 kPa és relatív sűrűsége kb. 1,2. A műanyag hordók és kannák gyártási típus vizsgálatát gyakran az előírt legalacsonyabb vizsgálati szinten végzik. A gyakorlatban ez azt jelenti, hogy a halmazolási próbát rendszerint csak a „szénhidrogén-keverék” 1,0 relatív sűrűségének és a „nedvesítőszert tartalmazó oldat” 1,2 relatív sűrűségének megfelelő halmazolási terheléssel végzik (a standardfolyadékok fogalom meghatározását lásd a 6.1.6 szakaszban). Ennek következtében az ily módon vizsgált gyártási típus benzoil-kloriddal való kémiai összeférhetősége nem bizonyított, mivel „szénhidrogén keverék” standardfolyadékkal vizsgálva a gyártási típus vizsgálati szintje nem megfelelő. (Mivel az esetek többségében a folyadéknyomás-próba során alkalmazott nyomás legalább 100 kPa, ez a szint a 4.1.1.10 bekezdés szerint a benzoil-klorid gőznyomásához megfelelő.)

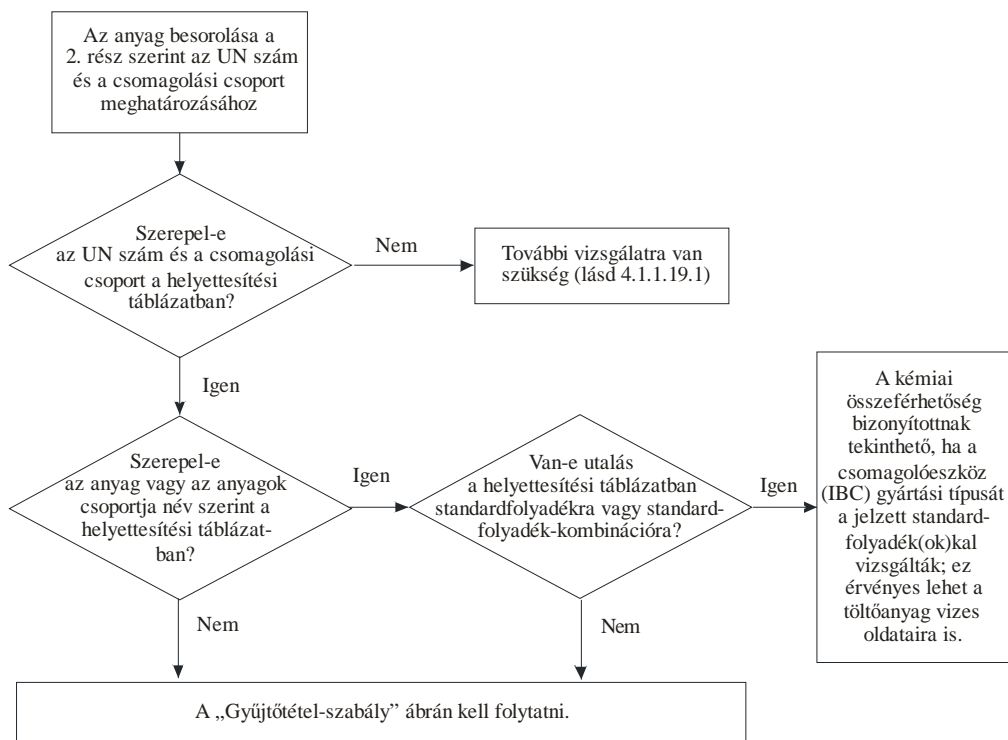
A helyettesítési eljárást a töltőanyagnak (ami lehet oldat, keverék vagy készítmény is) minden összetevőjére (pl. a tisztító- és fertőtlenítőszerekben levő nedvesítőszerekre) alkalmazni kell, függetlenül attól, hogy veszélyesek vagy nem.

#### 4.1.1.19.3

##### *A helyettesítési eljárás*

A töltőanyagot a 4.1.1.19.6 pontban felsorolt valamely anyaghoz, ill. anyagcsoporthoz a következő lépések szerint kell hozzárendelni (lásd még a 4.1.1.19.1 ábrát):

- a) Be kell sorolni a töltőanyagot a 2. rész eljárásai és kritériumai alapján (meg kell határozni az UN számot és a csomagolási csoportot);
- b) Meg kell keresni az UN számot a 4.1.1.19.6 pont helyettesítési táblázat 1 oszlopában;
- c) Ha az adott UN számhoz több tétel tartozik, akkor a csomagolási csoportnak, a koncentrációnak, a lobbanáspontnak, a nem veszélyes összetevőknek stb. megfelelő tételt a 2a, 2b és 4 oszlopban található információk segítségével kell kiválasztani. Ha ez nem lehetséges, akkor a kémiai összeférhetőséget csomagolóeszközök esetén a 6.1.5.2.5 vagy a 6.1.5.2.7, ill. IBC-k esetén a 6.5.6.3.3 vagy a 6.5.6.3.6 pont szerint kell bizonyítani (vizes oldatokra azonban lásd a 4.1.1.19.4 pontot);
- d) Ha a töltőanyag a) pont szerint meghatározott UN száma és csomagolási csoportja nem szerepel a helyettesítési táblázatban, a kémiai összeférhetőséget csomagolóeszközök esetén a 6.1.5.2.5 vagy a 6.1.5.2.7, ill. IBC-k esetén a 6.5.6.3.3 vagy a 6.5.6.3.6 pont szerint kell bizonyítani;
- e) Ha a kiválasztott sorban az 5 oszlopban „Gyűjtőtétel-szabály” bejegyzés szerepel, a továbbiakban a 4.1.1.19.5 pontban leírt szabályt kell követni;
- f) A töltőanyag kémiai összeférhetősége bizonyítottnak tekinthető, ha a 4.1.1.19.1 és 4.1.1.19.2 pont előírásait figyelembe vették, az 5 oszlopban standardfolyadék vagy standardfolyadék-kombináció van feltüntetve, és a gyártási típust erre (ezekre) a standardfolyadék(ok)ra jóváhagyták.



#### 4.1.1.19.1 ábra: A töltőanyagok helyettesítése standardfolyadékokkal

##### 4.1.1.19.4

##### Vizes oldatok

A 4.1.1.19.3 pont szerint standardfolyadék(ok)kal helyettesíthető anyagok, ill. anyagcsoportok vizes oldatai a következő feltételek teljesülése esetén ugyanazon standardfolyadék(ok)kal helyettesíthetők:

- a vizes oldat a 2.1.3.3 bekezdés kritériumai alapján ugyanazon UN szám alá sorolható, mint a táblázatban szereplő anyag;
- a vizes oldat nincs külön név szerint említve a 4.1.1.19.6 pont helyettesítési táblázatában; és
- nem következik be kémiai reakció a veszélyes anyag és az oldószerként használt víz között.

Példa: UN 1120 terc-butanol vizes oldatok:

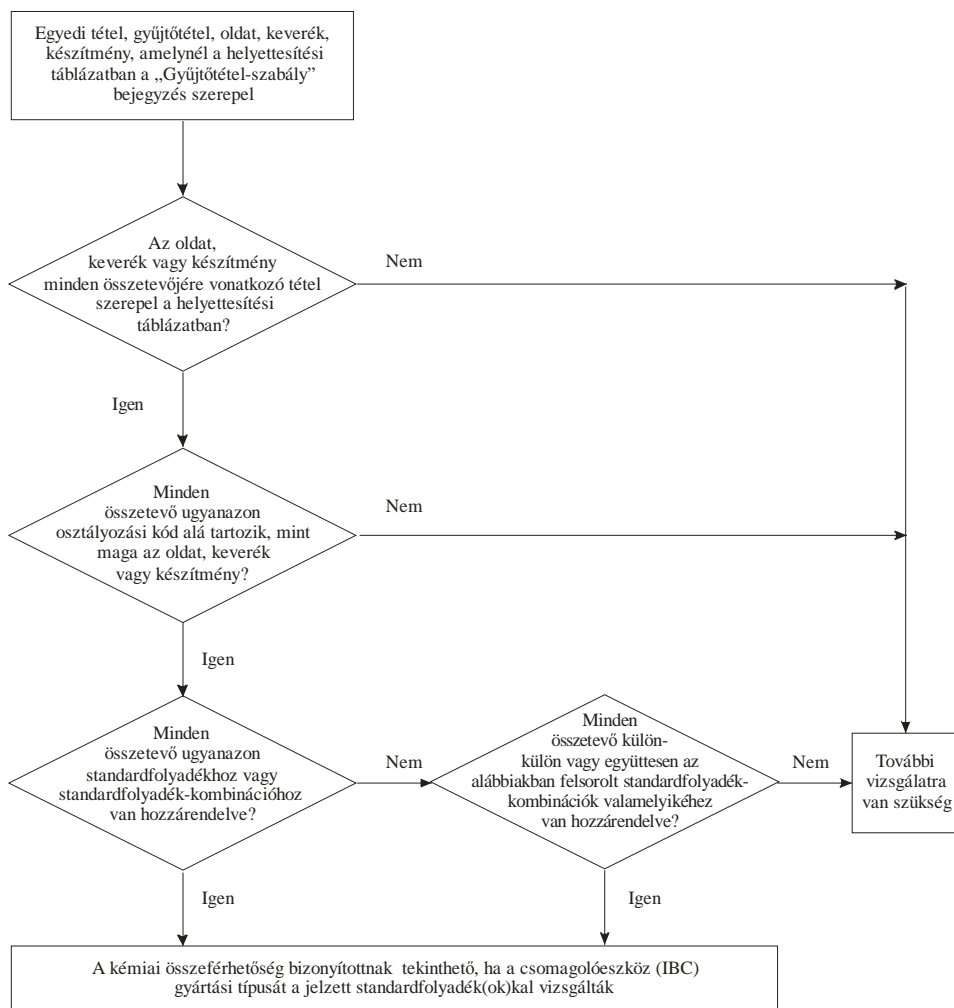
- A tiszta terc-butanol a helyettesítési táblázat szerint az „ecetsav” standardfolyadékhoz van hozzárendelve.
- A terc-butanol vizes oldatai a 2.1.3.3 bekezdés szerint az UN 1120 BUTANOLOK tétel alá sorolhatók, mivel a terc-butanol vizes oldatai az osztály, a csomagolási csoport(ok) és a halmazállapot tekintetében nem különböznek a tiszta anyagra vonatkozó tételektől. Ezen kívül az UN 1120 BUTANOLOK tétel nincs kifejezetten a tiszta anyagra korlátozva, és ezen anyagok vizes oldatai nincsenek sem a 3.2 fejezet „A” táblázatában, sem a helyettesítési táblázatban külön név szerint említve.
- Az UN 1120 BUTANOLOK a normális szállítási körülmények között vízzel nem reagálnak.

Ezért az UN 1120 terc-butanol vizes oldatok az „ecetsav” standardfolyadékkal helyettesíthetők.

**4.1.1.19.5** *Gyűjtőtétel-szabály*

Olyan töltőanyagok esetében, amelyeknél az 5 oszlopban „Gyűjtőtétel-szabály” bejegyzés szerepel, a hozzárendeléshez a következő lépéseket kell tenni, ill. a következő feltételeket kell teljesíteni (lásd még a 4.1.1.19.2 ábrát):

- a) Végre kell hajtani a 4.1.1.19.3 pont szerinti hozzárendelési eljárást az oldat, keverék vagy készítmény minden összetevőjére, figyelembe véve a 4.1.1.19.2 pont feltételeit. Generikus tételek esetén figyelmen kívül hagyhatók azok az összetevők, amelyekről ismert, hogy nincs károsító hatásuk a nagy sűrűségű polietilénre (pl. az UN 1263 FESTÉK-ben vagy FESTÉK SEGÉDANYAG-ban levő szilárd pigmentek).
- b) Az oldat, keverék vagy készítmény nem helyettesíthető standardfolyadékkal, ha:
  - i) egy vagy több veszélyes összetevő UN száma és csomagolási csoportja nem szerepel a helyettesítési táblázatban; vagy
  - ii) egy vagy több összetevőnél a helyettesítési táblázat 5 oszlopában a „Gyűjtőtétel-szabály” bejegyzés található; vagy
  - iii) az anyag egy vagy több veszélyes összetevőjének osztályozási kódja eltér az oldat, keverék vagy készítmény osztályozási kódjától (az UN 2059 GYÚLÉKONY NITROCELLULÓZ OLDAT kivételével).
- c) Ha a helyettesítési táblázatban minden veszélyes összetevő szerepel, és osztályozási kódjuk megegyezik magának az oldatnak, keveréknek, ill. készítménynek az osztályozási kódjával, és minden veszélyes összetevő ugyanazon standardfolyadékhoz vagy standardfolyadék-kombinációhoz van hozzárendelve az 5 oszlopban, akkor az oldat, keverék, ill. készítmény kémiai összeférhetősége bizonyítottnak tekinthető, ha a 4.1.1.19.1 és a 4.1.1.19.2 pont előírásait figyelembe vették.
- d) Ha a helyettesítési táblázatban minden veszélyes összetevő szerepel, és osztályozási kódjuk megegyezik magának az oldatnak, keveréknek, ill. készítménynek az osztályozási kódjával, de az 5 oszlopban eltérő standardfolyadékok találhatók, akkor az oldat, keverék, ill. készítmény kémiai összeférhetősége csak a következő standardfolyadék-kombináció esetén tekinthető bizonyítottnak, ha a 4.1.1.19.1 és a 4.1.1.19.2 pont előírásait figyelembe vették:
  - i) víz/55%-os salétromsav; a C1 osztályozási kód alá tartozó szervesetlen savak kivételével, amelyek a „víz” standardfolyadékkal helyettesíthetők;
  - ii) víz/nedvesítőszer oldat;
  - iii) víz/ecetsav;
  - iv) víz/szénhidrogén-keverék;
  - v) víz/n-butil-acetát – n-butil-acetáttal telített nedvesítőszer oldat.
- e) E szabály értelmében tehát a kémiai összeférhetőség nem tekinthető bizonyítottnak a d) pontban leírtaktól eltérő standardfolyadék-kombinációkra, ill. a b) pontban leírt esetekben. Ilyen esetekben a kémiai összeférhetőséget más módon kell bizonyítani [lásd a 4.1.1.19.3 d) pontot].



Elfogadott standardfolyadék-kombinációk:

- víz/salétromsav (55%), kivéve a C1 osztályozási kód alá tartozó szerves savakat, amelyek a „víz” standardfolyadékhoz vannak hozzárendelve;
- víz/nedvesítőszer oldat;
- víz/ecetsav;
- víz/szénhidrogén-keverék;
- víz/n-butil-acetát – n-butil-acetáttal telített nedvesítőszer oldat.

#### 4.1.1.19.2 ábra: Gyűjtötétel szabály

1 példa: UN 1940 TIOGLIKOLSAV (50%) és UN 2531 METAKRILSAV, STABILIZÁLT (50%) keveréke; a keverék besorolása: UN 3265 MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.

- Mind az összetevők, mind a keverék UN száma szerepel a helyettesítési táblázatban;
- Az összetevők és a keverék osztályozási kódja azonos: C3;
- Az UN 1940 TIOGLIKOLSAV az „ecetsav”, az UN 2531 METAKRILSAV, STABILIZÁLT pedig az „n-butil-acetát / n-butil-acetáttal telített nedvesítőszer oldat” standardfolyadékkal helyettesíthető. A d) pont értelmében ez nem egy elfogadott standardfolyadék-kombináció. A keverék kémiai összeférhetőségét más módon kell bizonyítani.

2 példa: UN 1793 FOSZFORSÁV-MONOIZOPROPIL-ÉSZTER (50%) és UN 1803 FOLYÉKONY FENOLSZULFONSAV (50%) keveréke; a keverék besorolása: UN 3265 MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.

- Mind az összetevők, mind a keverék UN száma szerepel a helyettesítési táblázatban;
- Az összetevők és a keverék osztályozási kódja azonos: C3;
- Az UN 1793 FOSZFORSAV-MONOIZOPROPIL-ÉSZTER a „nedvesítőszerszoldat”, az UN 1803 FOLYÉKONY FENOLSZULFONSAV a „víz” standardfolyadékkal helyettesíthető. A d) pont értelmében ez egy elfogadott standardfolyadék-kombináció. Ennek következtében a kémiai összeférhetőség bizonyítottnak tekinthető, ha a csomagolóeszköz gyártási típusát a „nedvesítőszerszoldat” és a „víz” standardfolyadékokra jóváhagyták.

#### 4.1.1.19.6 Helyettesítési táblázat

A következő helyettesítési táblázatban a veszélyes anyagok az UN szám szerinti sorrendben szerepelnek. Minden sorban alapvetően egyetlen egyedi vagy gyűjtötétel szerepel, amelyhez egy adott UN szám tartozik. Azonban ugyanaz az UN szám több, egymást követő sorban is előfordulhat, ha az adott UN számhoz tartozó anyagok eltérő megnevezéssel (pl. egy anyagcsoport önálló izomerjei), különböző kémiai tulajdonságokkal, különböző fizikai tulajdonságokkal és/vagy különböző szállítási feltételekkel rendelkeznek. Ilyen esetekben az adott csomagolási csoporton belül az egyedi vagy gyűjtötétel az egymást követő sorok közül az utolsó.

A 4.1.1.19.6 táblázat 1 – 4. oszlopa, a 3.2 fejezet „A” táblázatához hasonló szerkezetet követve, használható az anyag azonosítására e bekezdés céljából. Az utolsó oszlop tartalmazza a standardfolyadék(ka)t, amellyel (amelyekkel) az anyag helyettesíthető.

*Magyarázó megjegyzések az egyes oszlopokhoz:*

#### 1 oszlop

#### UN szám

Itt vannak feltüntetve:

- az egyedi UN számok, amelyek konkrétan egy-egy veszélyes anyaghoz vannak hozzárendelve, illetve
- a gyűjtötételek UN számai, amelyhez a név szerint nem említett veszélyes anyagokat a 2. rész osztályozási kritériumai (a „döntési fák”) szerint hozzá kell rendelni.

#### 2a oszlop

#### Helyes szállítási megnevezés vagy műszaki megnevezés

Itt van feltüntetve az anyag megnevezése, az egyedi tétel megnevezése, ami különböző izomereket is tartalmazhat, ill. maga a gyűjtőmegnevezés.

A feltüntetett megnevezés eltérhet a használandó helyes szállítási megnevezéstől.

#### 2b oszlop

#### Leírás

Itt van feltüntetve a tételt magyarázó szöveg olyan esetekben, amikor az anyag besorolása, szállítási feltételei és/vagy kémiai összeférhetősége eltérő.

#### 3a oszlop

#### Osztály

Itt van feltüntetve az osztály, amelynek fogalomkörébe a veszélyes anyag tartozik. Az osztály számának hozzárendelése a 2. rész eljárásai és kritériumai szerint történik.

#### 3boszlop

#### Osztályozási kód

Itt van feltüntetve a veszélyes anyag osztályozási kódja, aminek

hozzárendelése a 2. rész eljárásai és kritériumai szerint történik.

#### 4 oszlop

#### Csomagolási csoport

Itt van feltüntetve a veszélyes anyaghoz a 2. rész szerinti eljárások és kritériumok alapján hozzárendelt csomagolási csoport száma (I, II vagy III). Bizonyos anyagok nincsenek csomagolási csoporthoz rendelve.

#### 5 oszlop

#### Standardfolyadék

Itt van feltüntetve vagy egy standardfolyadék, ill. egy standardfolyadék-kombináció, amellyel az anyag helyettesíthető, vagy a gyűjtőtétel-szabályra való hivatkozás, amelyet a 4.1.1.19.5 pont tartalmaz.

4.1.1.19.6 táblázat: Helyettesítési táblázat

| UN<br>szám | Helyes szállítási<br>megnevezés vagy<br>műszaki megnevezés<br>3.1.2 | Leírás<br>3.1.2   | Osztály<br>2.2 | Osztályo-<br>zási kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Standardfolyadék  |
|------------|---|---|----------------|------------------------------|--|---|
| (1)        | (2a)  | (2b)  | (3a)           | (3b)                         | (4)                                    | (5)   |
| 1090       | Aceton  |   | 3              | F1                           | II                                     | Szénhidrogén-keverék<br><b>Megjegyzés:</b> csak akkor<br>alkalmazható, ha a<br>csomagolóeszköz a<br>töltőanyagot csak elfogadható<br>mértékben ereszti át |
| 1093       | Akrilnitril, stabilizált  |   | 3              | FT1                          | I                                      | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 1104       | Amil-acetátok   | tiszta izomerek és<br>izomerek keveréke   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 1105       | Pentanolok  | tiszta izomerek és<br>izomerek keveréke   | 3              | F1                           | II/III                                 | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 1106       | Amil-aminok   | tiszta izomerek és<br>izomerek keveréke   | 3              | FC                           | II/III                                 | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat   |
| 1109       | Amil-formiátok  | tiszta izomerek és<br>izomerek keveréke   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 1120       | Butanolok   | tiszta izomerek és<br>izomerek keveréke   | 3              | F1                           | II/III                                 | Ecetsav   |
| 1123       | Butil-acetátok  | tiszta izomerek és<br>izomerek keveréke   | 3              | F1                           | II/III                                 | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 1125       | n-Butil-amin  |   | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat   |
| 1128       | n-Butil-formiát   |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 1129       | Butiraldehid  |   | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1133       | Ragasztók   | gyúlékony folyadék<br>tartalommal   | 3              | F1                           | I/II/III                               | Gyűjtőtétel-szabály   |
| 1139       | Bevonó oldat  | beleértve az ipari vagy<br>más célokra használt<br>felületkezelő vagy<br>bevonóanyagokat, pl.<br>alapozó festékeket<br>jármű karosszériához,<br>hordóbélelő anyagokat | 3              | F1                           | I/II/III                               | Gyűjtőtétel-szabály   |
| 1145       | Ciklohexán  |   | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1146       | Ciklopentán   |   | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1153       | Etilénglikol-dietil-éter  |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat<br>és<br>szénhidrogén-keverék   |

| UN<br>szám | Helyes szállítási<br>megnevezés vagy<br>műszaki megnevezés<br>3.1.2 | Leírás<br>3.1.2   | Osztály<br>2.2 | Osztályo-<br>zási kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Standardfolyadék  |
|------------|---|---|----------------|------------------------------|--|---|
| 1154       | Dietil-amin   |   | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat   |
| 1158       | Diizopropil-amin  |   | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat   |
| 1160       | Dimetil-amin vizes<br>oldat   |   | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat   |
| 1165       | Dioxán  |   | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1169       | Folyékony aromás<br>kivonatok                                       |   | 3              | F1                           | I/II/III                               | Gyűjtötétel-szabály   |
| 1170       | Etanol vagy Etanol<br>oldat   | vizes oldat   | 3              | F1                           | II/III                                 | Ecetsav   |
| 1171       | Etilénglikol-monoetil-<br>éter                                      |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat<br>és<br>szénhidrogén-keverék |
| 1172       | Etilénglikol-monoetil-<br>éter-acetát                               |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat<br>és<br>szénhidrogén-keverék |
| 1173       | Etil-acetát   |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat                               |
| 1177       | 2-Etil-butil-acetát   |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat                               |
| 1178       | 2-Etil-butiraldehid   |   | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1180       | Etil-butirát  |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat                               |
| 1188       | Etilénglikol-mono-<br>metil-éter                                    |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat<br>és<br>szénhidrogén-keverék |
| 1189       | Etilénglikol-mono-<br>metil-éter-acetát                             |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat<br>és<br>szénhidrogén-keverék |
| 1190       | Etil-formiát  |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat                               |
| 1191       | Oktilaldehidek  | tiszta izomerek és<br>izomerek keveréke   | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 1192       | Etil-laktát   |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat                               |
| 1195       | Etil-propionát  |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat                               |
| 1197       | Folyékony ízanyag<br>kivonatok                                      |   | 3              | F1                           | I/II/III                               | Gyűjtötétel-szabály   |
| 1198       | Gyúlékony<br>formaldehid oldat                                      | vizes oldat,<br>lobbanáspont 23 °C és<br>60 °C között                                       | 3              | FC                           | III                                    | Ecetsav   |
| 1202       | Dízelolaj   | amely megfelel az<br>EN 590:2004<br>szabványnak vagy<br>lobbanáspontja<br>legfeljebb 100 °C | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 1202       | Gázolaj   | lobbanáspont legfeljebb<br>100 °C   | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 1202       | Könnyű fűtőolaj   | extra könnyű  | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 1202       | Könnyű fűtőolaj   | amely megfelel az<br>EN 590:2004<br>szabványnak vagy<br>lobbanáspontja<br>legfeljebb 100 °C | 3              | F1                           | III                                    | Szénhidrogén-keverék  |



| UN<br>szám | Helyes szállítási<br>megnevezés vagy<br>műszaki megnevezés<br>3.1.2 | Leírás<br>3.1.2  | Osztály<br>2.2 | Osztályo-<br>zási kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Standardfolyadék  |
|------------|---|--|----------------|------------------------------|--|---|
| 1203       | <b>Motorbenzin</b> vagy<br><b>Benzin</b> vagy <b>Gazolin</b>        |  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1206       | <b>Heptánok</b>   | tiszta izomerek és<br>izomerek keveréke  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1207       | <b>Hexaldehid</b>   | n-hexaldehid   | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 1208       | <b>Hexánok</b>  | tiszta izomerek és<br>izomerek keveréke  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1210       | <b>Nyomdafesték</b> vagy<br><b>Nyomdafesték<br/>segédanyag</b>      | gyúlékony, beleértve a<br>festékhígítókat és<br>oldószereket   | 3              | F1                           | I/II/III                               | Gyűjtötétel-szabály   |
| 1212       | <b>Izobutanol</b>   |  | 3              | F1                           | III                                    | Ecetsav   |
| 1213       | <b>Izobutil-acetát</b>  |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 1214       | <b>Izobutil-amin</b>  |  | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat                 |
| 1216       | <b>Izookténok</b>   | tiszta izomerek és<br>izomerek keveréke  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1219       | <b>Izopropanol</b>  |  | 3              | F1                           | II                                     | Ecetsav   |
| 1220       | <b>Izopropil-acetát</b>   |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 1221       | <b>Izopropil-amin</b>   |  | 3              | FC                           | I                                      | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat                 |
| 1223       | <b>Kerozin</b>  |  | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 1224       | 3,3-Dimetil-2-butanon   |  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1224       | <b>Folyékony ketonok,<br/>m.n.n.</b>                                |  | 3              | F1                           | II/III                                 | Gyűjtötétel-szabály   |
| 1230       | <b>Metanol</b>  |  | 3              | FT1                          | II                                     | Ecetsav   |
| 1231       | <b>Metil-acetát</b>   |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 1233       | <b>Metil-amil-acetát</b>  |  | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 1235       | <b>Metil-amin vizes<br/>oldat</b>                                   |  | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat                 |
| 1237       | <b>Metil-butirát</b>  |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 1247       | <b>Metil-metakrilát<br/>monomer, stabilizált</b>                    |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 1248       | <b>Metil-propionát</b>  |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 1262       | <b>Oktánok</b>  | tiszta izomerek és<br>izomerek keveréke  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1263       | <b>Festék</b> vagy <b>Festék<br/>segédanyag</b>                     | beleértve a festéket,<br>lakkot, zománcot,<br>sellakot, kencét,<br>polírozót, folyékony töl-<br>tőanyagot és folyékony<br>lakkbázist, ill. beleértve<br>a festékhígítókat és<br>oldószereket | 3              | F1                           | I/II/III                               | Gyűjtötétel-szabály   |
| 1265       | <b>Pentánok</b>   | n-pentán   | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1266       | <b>Parfüm készítmények</b>  | gyúlékony<br>oldószerekkel   | 3              | F1                           | I/II/III                               | Gyűjtötétel-szabály   |
| 1268       | Kőszénkátrány nafta   | gőznyomás 50 °C-on<br>legfeljebb 110 kPa   | 3              | F1                           | II                                     | Szénhidrogén-keverék  |



| UN<br>szám | Helyes szállítási<br>megnevezés vagy<br>műszaki megnevezés<br>3.1.2                                  | Leírás<br>3.1.2                                      | Osztály<br>2.2 | Osztályo-<br>zási kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Standardfolyadék  |
|------------|--|--|----------------|------------------------------|--|---|
| 1268       | Nyersolaj<br>(petróleum) párlatok,<br>m.n.n. vagy Nyersolaj<br>(petróleum)<br>termékek, m.n.n.       |  | 3              | F1                           | I/II/III                               | Gyűjtőtétel-szabály   |
| 1274       | n-Propanol   |  | 3              | F1                           | II/III                                 | Ecetsav   |
| 1275       | Propionaldehid   |  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1276       | n-Propil-acetát  |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1277       | Propil-amin  | n-Propil-amin  | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 1281       | Propil-formiátok   | tiszta izomerek és<br>izomerek keveréke              | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetát-<br>telített nedvesítőszer oldat   |
| 1282       | Piridin  |  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 1286       | Gyantaolaj   |  | 3              | F1                           | I/II/III                               | Gyűjtőtétel-szabály   |
| 1287       | Gumioldat  |  | 3              | F1                           | I/II/III                               | Gyűjtőtétel-szabály   |
| 1296       | Trietil-amin   |  | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 1297       | Trimetil-amin vizes<br>oldat   | legfeljebb 50 tömeg%<br>trimetil-amin<br>tartalommal | 3              | FC                           | I/II/III                               | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 1301       | Vinil-acetát,<br>stabilizált   |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1306       | Folyékony<br>fakonzerváló<br>anyagok   |  | 3              | F1                           | II/III                                 | Gyűjtőtétel-szabály   |
| 1547       | Anilin   |  | 6.1            | T1                           | II                                     | Ecetsav   |
| 1590       | Folyékony diklór-<br>anilinek  | tiszta izomerek és<br>izomerek keveréke              | 6.1            | T1                           | II                                     | Ecetsav   |
| 1602       | Folyékony, mérgező<br>színezék, m.n.n. vagy<br>Folyékony, mérgező<br>színezék intermedier,<br>m.n.n. |  | 6.1            | T1                           | I/II/III                               | Gyűjtőtétel-szabály   |
| 1604       | Etilén-diamin  |  | 8              | CF1                          | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 1715       | Ecetsavanhidrid  |  | 8              | CF1                          | II                                     | Ecetsav   |
| 1717       | Acetil-klorid  |  | 3              | FC                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1718       | Foszforsav-mono-<br>butil-észter   |  | 8              | C3                           | III                                    | Nedvesítőszer oldat   |
| 1719       | Hidrogén-szulfid   | vizes oldat  | 8              | C5                           | III                                    | Ecetsav   |
| 1719       | Maró, lúgos<br>folyékony anyag,<br>m.n.n.  | szervetlen   | 8              | C5                           | II/III                                 | Gyűjtőtétel-szabály   |
| 1730       | Folyékony antimon-<br>pentaklorid  | vegytiszt  | 8              | C1                           | II                                     | Víz   |
| 1736       | Benzoil-klorid   |  | 8              | C3                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 1750       | Klór-ecetsav oldat   | vizes oldat  | 6.1            | TC1                          | II                                     | Ecetsav   |
| 1750       | Klór-ecetsav oldat   | mono- és diklór-ecetsav<br>keverékei                 | 6.1            | TC1                          | II                                     | Ecetsav   |
| 1752       | Klór-acetil-klorid   |  | 6.1            | TC1                          | I                                      | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |

| UN<br>szám  | Helyes szállítási<br>megnevezés vagy<br>műszaki megnevezés<br>3.1.2 | Leírás<br>3.1.2  | Osztály<br>2.2 | Osztályo-<br>zási kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Standardfolyadék  |
|---|---|--|----------------|------------------------------|--|---|
| 1755  | <b>Krómsav oldat</b>  | vizes oldat legfeljebb<br>30% krómsavtarta-<br>lommal                      | 8              | C1                           | II/III                                 | Salétromsav   |
| 1760  | Ciánamid  | vizes oldat legfeljebb<br>50% ciánamid<br>tartalommal                      | 8              | C9                           | II                                     | Víz   |
| 1760  | O,O-Dietil-ditiofosz-<br>forsav                                     |  | 8              | C9                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1760  | O,O-Diizopropil-<br>ditiofoszforsav                                 |  | 8              | C9                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1760  | O,O-Di-n-propil-<br>ditiofoszforsav                                 |  | 8              | C9                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1760  | <b>Maró folyadék,<br/>m.n.n.</b>                                    | lobbanáspont 60 °C<br>felett   | 8              | C9                           | I/II/III                               | Gyújtótétel-szabály   |
| 1761  | <b>Etilén-diamin-réz<br/>oldat</b>                                  | vizes oldat  | 8              | CT1                          | II/III                                 | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 1764  | <b>Diklór-ecetsav</b>   |  | 8              | C3                           | II                                     | Ecetsav   |
| 1775  | <b>Fluoro-bórsav</b>  | vizes oldat legfeljebb<br>50% fluoro-bórsav<br>tartalommal                 | 8              | C1                           | II                                     | Víz   |
| 1778  | <b>Fluoro-kovasav</b>   |  | 8              | C1                           | II                                     | Víz   |
| 1779  | <b>Hangyasav</b>  | 85 tömeg%-nál több<br>savtartalommal                                       | 8              | C3                           | II                                     | Ecetsav   |
| 1783  | <b>Hexametilén-diamin<br/>oldat</b>                                 | vizes oldat  | 8              | C7                           | II/III                                 | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 1787  | <b>Jód-hidrogénsav</b>  | vizes oldat  | 8              | C1                           | II/III                                 | Víz   |
| 1788  | <b>Bróm-hidrogénsav</b>   | vizes oldat  | 8              | C1                           | II/III                                 | Víz   |
| 1789  | <b>Klór-hidrogénsav<br/>(sósav)</b>                                 | legfeljebb 38%-os vizes<br>oldat   | 8              | C1                           | II/III                                 | Víz   |
| 1790  | <b>Fluor-hidrogénsav</b>  | legfeljebb 60%<br>hidrogén-fluorid<br>tartalommal                          | 8              | CT1                          | II                                     | Víz<br>megengedett használati idő:<br>legfeljebb 2 év             |
| 1791  | <b>Hipoklorit oldat</b>   | vizes oldat, a<br>kereskedelemben<br>szokásos nedvesítőszer<br>tartalommal | 8              | C9                           | II/III                                 | Salétromsav<br>és<br>nedvesítőszer oldat*                         |
| 1791  | <b>Hipoklorit oldat</b>   | vizes oldat  | 8              | C9                           | II/III                                 | Salétromsav*  |
| * Az UN 1791-hez: A próbát csak szellőző-szerkezettel szabad végrehajtani. Ha a próbánál standardfolyadékként salétromsavat használnak, a szellőző-szerkezetnek és a tömítésnek savállóknak kell lennie. Ha a próbát magával a hipoklorit oldattal hajtják végre, ugyanolyan típusú, hipokloritnak ellenálló, de salétromsavval szemben nem ellenálló szellőző-szerkezetek és tömítések (pl. szilikongumiból készültk) is használhatók. |   |  |                |                              |  |   |
| 1793  | <b>Foszforsav-mono-<br/>izopropil-észter</b>                        |  | 8              | C3                           | III                                    | Nedvesítőszer oldat   |
| 1802  | <b>Perklórsav</b>   | vizes oldat legfeljebb 50<br>tömeg% savtartalommal                         | 8              | CO1                          | II                                     | Víz   |
| 1803  | <b>Folyékony<br/>fenolszulfonsav</b>                                | izomerek keveréke  | 8              | C3                           | II                                     | Víz   |
| 1805  | <b>Foszforsav oldat</b>   |  | 8              | C1                           | III                                    | Víz   |
| 1814  | <b>Kálium-hidroxid<br/>oldat (kálilúg)</b>                          | vizes oldat  | 8              | C5                           | II/III                                 | Víz   |
| 1824  | <b>Nátrium-hidroxid<br/>oldat (nátronlúg)</b>                       | vizes oldat  | 8              | C5                           | II/III                                 | Víz   |
| 1830  | <b>Kénsav</b>   | 51%-nál több<br>savtartalommal   | 8              | C1                           | II                                     | Víz   |
| 1832  | <b>Kimerült kénsav</b>  | vegyileg állandó   | 8              | C1                           | II                                     | Víz   |
| 1833  | <b>Kénessav</b>   |  | 8              | C1                           | II                                     | Víz   |

| UN<br>szám | Helyes szállítási<br>megnevezés vagy<br>műszaki megnevezés<br>3.1.2 | Leírás<br>3.1.2  | Osztály<br>2.2 | Osztályo-<br>zási kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Standardfolyadék  |
|------------|---|--|----------------|------------------------------|--|---|
| 1835       | <b>Tetrametil-ammóni-<br/>um-hidroxid, oldat</b>                    | vizes oldat,<br>lobbanáspont 60 °C<br>felett   | 8              | C7                           | II                                     | Víz   |
| 1840       | <b>Cink-klorid oldat</b>  | vizes oldat  | 8              | C1                           | III                                    | Víz   |
| 1848       | <b>Propionsav</b>   | legalább 10 tömeg%, de<br>90 tömeg%-nál<br>kevesebb<br>savtartalommal                                  | 8              | C3                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1862       | <b>Etil-krotonát</b>  |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1863       | <b>Tüzelőanyag<br/>repülőgép<br/>turbínamotorhoz</b>                |  | 3              | F1                           | I/II/III                               | Szénhidrogén-keverék  |
| 1866       | <b>Gyanta oldat</b>   | gyúlékony  | 3              | F1                           | I/II/III                               | Gyújtótétel-szabály   |
| 1902       | <b>Foszforsav-diizooktil-<br/>észter</b>                            |  | 8              | C3                           | III                                    | Nedvesítőszer oldat   |
| 1906       | <b>Hulladék kénsav</b>  |  | 8              | C1                           | II                                     | Salétromsav   |
| 1908       | <b>Klorit oldat</b>   | vizes oldat  | 8              | C9                           | II/III                                 | Ecetsav   |
| 1914       | <b>Butil-propionátok</b>  |  | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1915       | <b>Ciklohexanon</b>   |  | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 1917       | <b>Etil-akrilát,<br/>stabilizált</b>                                |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1919       | <b>Metil-akrilát,<br/>stabilizált</b>                               |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1920       | <b>Nonánok</b>  | tiszta izomerek és<br>izomerek keveréke,<br>lobbanáspont 23 °C és<br>60 °C között                      | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 1935       | <b>Cianid oldat, m.n.n.</b>   | szervetlen   | 6.1            | T4                           | I/II/III                               | Víz   |
| 1940       | <b>Tioglikolsav</b>   |  | 8              | C3                           | II                                     | Ecetsav   |
| 1986       | <b>Gyúlékony, mérgező<br/>alkoholok, m.n.n.</b>                     |  | 3              | FT1                          | I/II/III                               | Gyújtótétel-szabály   |
| 1987       | <b>Ciklohexanol</b>   | technikai tisztaságú   | 3              | F1                           | III                                    | Ecetsav   |
| 1987       | <b>Alkoholok, m.n.n.</b>  |  | 3              | F1                           | II/III                                 | Gyújtótétel-szabály   |
| 1988       | <b>Gyúlékony, mérgező<br/>aldehidek, m.n.n.</b>                     |  | 3              | FT1                          | I/II/III                               | Gyújtótétel-szabály   |
| 1989       | <b>Aldehidek, m.n.n.</b>  |  | 3              | F1                           | I/II/III                               | Gyújtótétel-szabály   |
| 1992       | <b>2,6-cisz-Dimetil-<br/>morfolin</b>                               |  | 3              | FT1                          | III                                    | Szénhidrogén-keverék  |
| 1992       | <b>Gyúlékony, mérgező,<br/>folyékony anyag,<br/>m.n.n.</b>          |  | 3              | FT1                          | I/II/III                               | Gyújtótétel-szabály   |
| 1993       | <b>Propionsav- vinilészter</b>                                      |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1993       | <b>(1-Metoxi-2-propil)-<br/>acetát</b>                              |  | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 1993       | <b>Gyúlékony folyékony<br/>anyag, m.n.n.</b>                        |  | 3              | F1                           | I/II/III                               | Gyújtótétel-szabály   |
| 2014       | <b>Hidrogén-peroxid<br/>vizes oldat</b>                             | legalább 20%, de<br>legfeljebb 60%<br>hidrogén-peroxid<br>tartalommal, szükség<br>szerint stabilizálva | 5.1            | OC1                          | II                                     | Salétromsav   |
| 2022       | <b>Krezilsav</b>  | krezolokat, xilenolokat<br>és metil-fenolokat<br>tartalmazó vizes oldat                                | 6.1            | TC1                          | II                                     | Ecetsav   |

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|------------|---|--|----------------|------------------------------|--|---|
| 2030       | Hidrazin vizes oldat  | legalább 37 tömeg%, de<br>legfeljebb 64 tömeg%<br>hidrazintartalommal                          | 8              | CT1                          | II                                     | Víz   |
| 2030       | Hidrazin-hidrát   | vizes oldat 64%<br>hidrazintartalommal   | 8              | CT1                          | II                                     | Víz   |
| 2031       | Salétromsav   | a vörösen füstölő<br>salétromsav kivételével,<br>legfeljebb 55%<br>salétromsav-<br>tartalommal | 8              | CO1                          | II                                     | Salétromsav   |
| 2045       | Izobutiraldehid<br>(izobutilaldehid)                                |  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 2050       | Diizobutilén<br>izomerek keveréke                                   |  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 2053       | Metil-izobutil-<br>karbinol (metil-amil-<br>alkohol)                |  | 3              | F1                           | III                                    | Ecetsav   |
| 2054       | Morfolin  |  | 8              | CF1                          | I                                      | Szénhidrogén-keverék  |
| 2057       | Tripropilén<br>(propilén-trimer)                                    |  | 3              | F1                           | II/III                                 | Szénhidrogén-keverék  |
| 2058       | Valeraldehid  | tiszta izomerek és<br>izomerek keveréke  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 2059       | Gyúlékony nitro-<br>cellulóz oldat                                  |  | 3              | D                            | I/II/III                               | Gyűjtötétel-szabály<br>Az általános eljárástól eltérően<br>az F1 osztályozási kód alá<br>tartozó oldószerekre is ez a<br>szabály alkalmazható |
| 2075       | Vízmentes klorál,<br>stabilizált                                    |  | 6.1            | T1                           | II                                     | Nedvesítőszer oldat   |
| 2076       | Folyékony krezolok  | tiszta izomerek és<br>izomerek keverék   | 6.1            | TC1                          | II                                     | Ecetsav   |
| 2078       | Toluilén-diizocianát  | folyékony  | 6.1            | T1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 2079       | Dietilén-triamin  |  | 8              | C7                           | II                                     | Szénhidrogén-keverék  |
| 2209       | Formaldehid oldat   | vizes oldat 37%<br>formaldehid-tarta-<br>lommal, metanol-<br>tartalom: 8-10%                   | 8              | C9                           | III                                    | Ecetsav   |
| 2209       | Formaldehid oldat   | vizes oldat, legalább<br>25% formaldehid-<br>tartalommal                                       | 8              | C9                           | III                                    | Víz   |
| 2218       | Akrilsav, stabilizált   |  | 8              | CF1                          | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 2227       | n-Butil-metakrilát,<br>stabilizált                                  |  | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 2235       | Klór-benzil-klorid,<br>folyékony                                    | p-klór-benzil-klorid   | 6.1            | T1                           | III                                    | Szénhidrogén-keverék  |
| 2241       | Cikloheptán   |  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 2242       | Cikloheptén   |  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 2243       | Ciklohexil-acetát   |  | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 2244       | Ciklopentanol   |  | 3              | F1                           | III                                    | Ecetsav   |
| 2245       | Ciklopentén   |  | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 2247       | n-Dekán   |  | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 2248       | Di-n-butil-amin   |  | 8              | CF1                          | II                                     | Szénhidrogén-keverék  |
| 2258       | 1,2-Propilén-diamin   |  | 8              | CF1                          | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat   |
| 2259       | Trietilén-tetramin  |  | 8              | C7                           | II                                     | Víz   |

| UN<br>szám | Helyes szállítási<br>megnevezés vagy<br>műszaki megnevezés<br>3.1.2 | Leírás<br>3.1.2  | Osztály<br>2.2 | Osztályo-<br>zási kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Standardfolyadék   |
|------------|---|--|----------------|------------------------------|--|--|
| 2260       | <b>Tripropol-amin</b>   |  | 3              | FC                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                  |
| 2263       | <b>Dimetil-ciklohexánok</b>   | tiszta izomerek és<br>izomerek keveréke  | 3              | F1                           | II                                     | Szénhidrogén-keverék   |
| 2264       | <b>N,N-Dimetil-ciklo-<br/>hexil-amin</b>                            |  | 8              | CF1                          | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                  |
| 2265       | <b>N,N-dimetil-form-<br/>amid</b>                                   |  | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat  |
| 2266       | <b>Dimetil-N-propil-<br/>amin</b>                                   |  | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                  |
| 2269       | <b>3,3'-Imino-biszpro-<br/>pil-amin</b>                             |  | 8              | C7                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                  |
| 2270       | <b>Etil-amin vizes oldat</b>  | legalább 50 tömeg%, de<br>legfeljebb 70 tömeg%<br>etil-amin tartalommal,<br>lobbanáspont 23 °C<br>alatt, maró vagy<br>gyengén maró | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                  |
| 2275       | <b>2-Etil-butanol</b>   |  | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat  |
| 2276       | <b>2-Etil-hexil-amin</b>  |  | 3              | FC                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                  |
| 2277       | <b>Etil-metakrilát,<br/>stabilizált</b>                             |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat  |
| 2278       | <b>n-Heptén</b>   |  | 3              | F1                           | II                                     | Szénhidrogén-keverék   |
| 2282       | <b>Hexanolok</b>  | tiszta izomerek és<br>izomerek keveréke  | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat  |
| 2283       | <b>Izobutil-metakrilát,<br/>stabilizált</b>                         |  | 3              | F1                           | III                                    | n-Butil -acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2286       | <b>Pentametil-heptán<br/>(izododekán)</b>                           |  | 3              | F1                           | III                                    | Szénhidrogén-keverék   |
| 2287       | <b>Izoheptén</b>  |  | 3              | F1                           | II                                     | Szénhidrogén-keverék   |
| 2288       | <b>Izohexén</b>   |  | 3              | F1                           | II                                     | Szénhidrogén-keverék   |
| 2289       | <b>Izoforon-diamin</b>  |  | 8              | C7                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                  |
| 2293       | <b>4-Metoxi-4-metil-<br/>-2-pentanon</b>                            |  | 3              | F1                           | III                                    | Szénhidrogén-keverék   |
| 2296       | <b>Metil-ciklohexán</b>   |  | 3              | F1                           | II                                     | Szénhidrogén-keverék   |
| 2297       | <b>Metil-ciklohexanon</b>   | tiszta izomerek és<br>izomerek keveréke  | 3              | F1                           | III                                    | Szénhidrogén-keverék   |
| 2298       | <b>Metil-ciklopentán</b>  |  | 3              | F1                           | II                                     | Szénhidrogén-keverék   |
| 2302       | <b>5-Metil-2-hexanon</b>  |  | 3              | F1                           | III                                    | Szénhidrogén-keverék   |
| 2308       | <b>Folyékony<br/>nitrozilkénsav</b>                                 |  | 8              | C1                           | II                                     | Víz  |
| 2309       | <b>Oktadiének</b>   |  | 3              | F1                           | II                                     | Szénhidrogén-keverék   |
| 2313       | <b>Pikolinok</b>  | tiszta izomerek és<br>izomerek keveréke  | 3              | F1                           | III                                    | Szénhidrogén-keverék   |
| 2317       | <b>Nátrium-réz(I)-<br/>cianid oldat</b>                             | vizes oldat  | 6.1            | T4                           | I                                      | Víz  |
| 2320       | <b>Tetraetilén-pentamin</b>   |  | 8              | C7                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                  |

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|------------|---|---|----------------|------------------------------|--|---|
| 2324       | Triizobutilén   | C <sub>12</sub> monoolefinek<br>keveréke, lobbanáspont<br>23 °C és 60 °C között | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 2326       | Trimetil-ciklohexil-<br>amin  |   | 8              | C7                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat                 |
| 2327       | Trimetil-hexameti-<br>lén-diaminok                                  | tiszta izomerek és<br>izomerek keveréke   | 8              | C7                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat                 |
| 2330       | Undekán   |   | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 2336       | Allil-formiát   |   | 3              | FT1                          | I                                      | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 2348       | Butil-akrilátok,<br>stabilizált                                     | tiszta izomerek és<br>izomerek keveréke   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 2357       | Ciklohexil-amin   | lobbanáspont 23 °C és<br>60 °C között   | 8              | CF1                          | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat                 |
| 2361       | Diizobutil-amin   |   | 3              | FC                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat                 |
| 2366       | Dietil-karbonát   |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 2367       | alfa-Metil-valeralde-<br>hid  |   | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 2370       | 1-Hexén   |   | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 2372       | 1,2-Di(dimetil-<br>amino)-etán                                      |   | 3              | F1                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat                 |
| 2379       | 1,3-Dimetil-butil-<br>amin  |   | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat                 |
| 2383       | Dipropil-amin   |   | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat                 |
| 2385       | Etil-izobutirát   |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 2393       | Izobutil-formiát  |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 2394       | Izobutil-propionát  | lobbanáspont 23 °C és<br>60 °C között   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 2396       | Metakrilaldehid,<br>stabilizált                                     |   | 3              | FT1                          | II                                     | Szénhidrogén-keverék  |
| 2400       | Metil-izovalerát  |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 2401       | Piperidin   |   | 8              | CF1                          | I                                      | Szénhidrogén-keverék<br>és<br>nedvesítőszersz oldat                 |
| 2403       | Izopropenil-acetát  |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 2405       | Izopropil-butirát   |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 2406       | Izopropil-izobutirát  |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 2409       | Izopropil-propionát   |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszersz oldat |
| 2410       | 1,2,3,6-Tetrahidro-<br>piridin                                      |   | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 2427       | Kálium-klorát vizes<br>oldat  |   | 5.1            | O1                           | II/III                                 | Víz   |
| 2428       | Nátrium-klorát vizes<br>oldat                                       |   | 5.1            | O1                           | II/III                                 | Víz   |
| 2429       | Kalcium-klorát vizes<br>oldat                                       |   | 5.1            | O1                           | II/III                                 | Víz   |

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| 2436       | <b>Tioecetsav</b>   |  | 3              | F1                           | II                                     | Ecetsav   |
| 2457       | <b>2,3-Dimetil-bután</b>  |  | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 2491       | <b>Etanol-amin</b>  |  | 8              | C7                           | III                                    | Nedvesítőszer oldat   |
| 2491       | <b>Etanol-amin oldat</b>  | vizes oldat                                | 8              | C7                           | III                                    | Nedvesítőszer oldat   |
| 2496       | <b>Propionsavanhidrid</b>   |  | 8              | C3                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2524       | <b>Etil-ortoformiát</b>   |  | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2526       | <b>Furfuril-amin</b>  |  | 3              | FC                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 2527       | <b>Izobutil-akrilát,<br/>stabilizált</b>                            |  | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2528       | <b>Izobutil-izobutirát</b>  |  | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2529       | <b>Izovajsav</b>  |  | 3              | FC                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2531       | <b>Metakrilsav,<br/>stabilizált</b>                                 |  | 8              | C3                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2542       | <b>Tributil-amin</b>  |  | 6.1            | T1                           | II                                     | Szénhidrogén-keverék  |
| 2560       | <b>2-Metil-2-pentanol</b>   |  | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2564       | <b>Triklór-ecetsav oldat</b>  | vizes oldat                                | 8              | C3                           | II/III                                 | Ecetsav   |
| 2565       | <b>Diciklohexil-amin</b>  |  | 8              | C7                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 2571       | <b>Etil-kénsav</b>  |  | 8              | C3                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2571       | <b>Alkil-kénsavak</b>   |  | 8              | C3                           | II                                     | Gyűjtőtétel-szabály   |
| 2580       | <b>Alumínium-bromid<br/>oldat</b>                                   | vizes oldat                                | 8              | C1                           | III                                    | Víz   |
| 2581       | <b>Alumínium-klorid<br/>oldat</b>                                   | vizes oldat                                | 8              | C1                           | III                                    | Víz   |
| 2582       | <b>Vas(III)-klorid oldat</b>  | vizes oldat                                | 8              | C1                           | III                                    | Víz   |
| 2584       | <b>Metánszulfonsav</b>  | 5%-nál több szabad<br>kénsav-tartalommal   | 8              | C1                           | II                                     | Víz   |
| 2584       | <b>Folyékony alkil-<br/>szulfonsavak</b>                            | 5%-nál több szabad<br>kénsav-tartalommal   | 8              | C1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2584       | <b>Benzolszulfonsav</b>   | 5%-nál több szabad<br>kénsav-tartalommal   | 8              | C1                           | II                                     | Víz   |
| 2584       | <b>Toluolszulfonsavak</b>   | 5%-nál több szabad<br>kénsav-tartalommal   | 8              | C1                           | II                                     | Víz   |
| 2584       | <b>Folyékony aril-<br/>szulfonsavak</b>                             | 5%-nál több szabad<br>kénsav-tartalommal   | 8              | C1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2586       | <b>Metánszulfonsav</b>  | legfeljebb 5% szabad<br>kénsav-tartalommal | 8              | C3                           | III                                    | Víz   |
| 2586       | <b>Folyékony alkil-<br/>szulfonsavak</b>                            | legfeljebb 5% szabad<br>kénsav-tartalommal | 8              | C3                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2586       | <b>Benzolszulfonsav</b>   | legfeljebb 5% szabad<br>kénsav-tartalommal | 8              | C3                           | III                                    | Víz   |
| 2586       | <b>Toluolszulfonsavak</b>   | legfeljebb 5% szabad<br>kénsav-tartalommal | 8              | C3                           | III                                    | Víz   |
| 2586       | <b>Folyékony aril-<br/>szulfonsavak</b>                             | legfeljebb 5% szabad<br>kénsav-tartalommal | 8              | C3                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2610       | <b>Triallil-amin</b>  |  | 3              | FC                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 2614       | <b>Metil-allil-alkohol</b>  |  | 3              | F1                           | III                                    | Ecetsav   |

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| 2617       | <b>Metil-ciklohexanolok</b>   | tiszta izomerek és<br>izomerek keveréke,<br>lobbanáspont 23 °C és<br>60 °C között                                     | 3              | F1                           | III                                    | Ecetsav   |
| 2619       | <b>Benzil-dimetil-amin</b>  |   | 8              | CF1                          | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 2620       | <b>Amil-butirátok</b>   | tiszta izomerek és<br>izomerek keveréke,<br>lobbanáspont 23 °C és<br>60 °C között                                     | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2622       | <b>Glicidaldehid</b>  | lobbanáspont 23 °C alatt  | 3              | FT1                          | II                                     | Szénhidrogén-keverék  |
| 2626       | <b>Klórsav vizes oldat</b>  | legfeljebb 10% klórsav-<br>tartalommal  | 5.1            | O1                           | II                                     | Salétromsav   |
| 2656       | <b>Kinolin</b>  | lobbanáspont 60 °C<br>felett  | 6.1            | T1                           | III                                    | Víz   |
| 2672       | <b>Ammónia oldat</b>  | vizes, relatív sűrűség<br>15 °C-on 0,880 és 0,957<br>között, 10%-nál több, de<br>legfeljebb 35%<br>ammóniatartalommal | 8              | C5                           | III                                    | Víz   |
| 2683       | <b>Ammónium-szulfid<br/>oldat</b>   | vizes oldat,<br>lobbanáspont 23 °C és<br>60 °C között   | 8              | CFT                          | II                                     | Ecetsav   |
| 2684       | <b>3-Dietil-amino-<br/>propil-amin</b>  |   | 3              | FC                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 2685       | <b>N,N-Dietil-etilén-<br/>diamin</b>  |   | 8              | CF1                          | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 2693       | <b>Biszulfitok, vizes<br/>oldat, m.n.n.</b>   | szervetlen  | 8              | C1                           | III                                    | Víz   |
| 2707       | <b>Dimetil-dioxánok</b>   | tiszta izomerek és<br>izomerek keveréke   | 3              | F1                           | II/III                                 | Szénhidrogén-keverék  |
| 2733       | <b>Gyúlékony, maró<br/>aminok, m.n.n. vagy<br/>Gyúlékony, maró<br/>poliaminok, m.n.n.</b>                               |   | 3              | FC                           | I/II/III                               | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 2734       | <b>Di-szek-butil-amin</b>   |   | 8              | CF1                          | II                                     | Szénhidrogén-keverék  |
| 2734       | <b>Folyékony, maró,<br/>gyúlékony aminok,<br/>m.n.n. vagy<br/>Folyékony, maró,<br/>gyúlékony<br/>poliaminok, m.n.n.</b> |   | 8              | CF1                          | I/II                                   | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 2735       | <b>Folyékony, maró<br/>aminok, m.n.n. vagy<br/>Folyékony, maró<br/>poliaminok, m.n.n.</b>                               |   | 8              | C7                           | I/II/III                               | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 2739       | <b>Vajsavanhidrid</b>   |   | 8              | C3                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2789       | <b>Ecetsav,<br/>Jégecet vagy<br/>Ecetsav oldat</b>  | vizes oldat 80 tömeg%-<br>nál több ecetsav-<br>tartalommal  | 8              | CF1                          | II                                     | Ecetsav   |
| 2790       | <b>Ecetsav oldat</b>  | 10 tömeg%-nál több, de<br>legfeljebb 80 tömeg%<br>ecetsav-tartalommal   | 8              | C3                           | II/III                                 | Ecetsav   |
| 2796       | <b>Kénsav</b>   | legfeljebb 51%<br>savtartalommal  | 8              | C1                           | II                                     | Víz   |



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| 2797       | Lúgos akkumulátor<br>folyadék                                       | kálium-/nátrium-<br>hidroxid vizes oldata  | 8              | C5                           | II                                     | Víz   |
| 2810       | 2-Klór-6-fluor-benzil-<br>klorid                                    | stabilizált  | 6.1            | T1                           | III                                    | Szénhidrogén-keverék  |
| 2810       | 2-Fenil-etanol  |  | 6.1            | T1                           | III                                    | Ecetsav   |
| 2810       | Etilénglikol-mono-<br>hexil-éter                                    |  | 6.1            | T1                           | III                                    | Ecetsav   |
| 2810       | Szerves, mérgező,<br>folyékony anyag,<br>m.n.n.                     |  | 6.1            | T1                           | I/II/III                               | Gyűjtőtétel-szabály   |
| 2815       | N-amino-etil-<br>piperazin  |  | 8              | C7                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 2818       | Ammónium-poli-<br>szulfid oldat                                     | vizes oldat  | 8              | CT1                          | II/III                                 | Ecetsav   |
| 2819       | Foszforsav-mono-<br>amil-észter                                     |  | 8              | C3                           | III                                    | Nedvesítőszer oldat   |
| 2820       | Vajsav  | n-vajsav   | 8              | C3                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2821       | Fenol oldat   | vizes oldat, mérgező,<br>nemlúgos  | 6.1            | T1                           | II/III                                 | Ecetsav   |
| 2829       | Kapronsav   | n-kapronsav  | 8              | C3                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2837       | Biszulfátok vizes<br>oldatai  |  | 8              | C1                           | II/III                                 | Víz   |
| 2838       | Vinil-butirát,<br>stabilizált                                       |  | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2841       | Di-n-amil-amin  |  | 3              | FT1                          | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat                 |
| 2850       | Tetrapropilén<br>(propilén-tetramer)                                | C <sub>12</sub> -monoolefinek<br>keveréke, lobbanáspont<br>23 °C és 60 °C között | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 2873       | Dibutil-amino-etanol  | N,N-di-n-butil-amino-<br>etanol  | 6.1            | T1                           | III                                    | Ecetsav   |
| 2874       | Furfuril-alkohol  |  | 6.1            | T1                           | III                                    | Ecetsav   |
| 2920       | O,O-Dietil-ditiofosz-<br>forsav                                     | lobbanáspont 23 °C és<br>60 °C között  | 8              | CF1                          | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 2920       | O,O-Dimetil-ditio-<br>foszforsav                                    | lobbanáspont 23 °C és<br>60 °C között  | 8              | CF1                          | II                                     | Nedvesítőszer oldat   |
| 2920       | Hidrogén-bromid   | 33%-os oldat jégcetben   | 8              | CF1                          | II                                     | Nedvesítőszer oldat   |
| 2920       | Tetrametil-ammó-<br>nium-hidroxid                                   | vizes oldat,<br>lobbanáspont 23 °C és<br>60 °C között                            | 8              | CF1                          | II                                     | Víz   |
| 2920       | Gyúlékony, maró<br>folyékony anyag,<br>m.n.n.                       |  | 8              | CF1                          | I/II                                   | Gyűjtőtétel-szabály   |
| 2922       | Ammónium-szulfid  | vizes oldat,<br>lobbanáspont 60 °C<br>felett                                     | 8              | CT1                          | II                                     | Víz   |
| 2922       | Krezolok  | lúgos, vizes oldat,<br>nátrium- és kálium-<br>krezolát keveréke                  | 8              | CT1                          | II                                     | Ecetsav   |
| 2922       | Fenol   | lúgos, vizes oldat,<br>nátrium- és kálium-<br>fenolát keveréke                   | 8              | CT1                          | II                                     | Ecetsav   |
| 2922       | Nátrium-hidrogén-<br>difluorid                                      | vizes oldat  | 8              | CT1                          | III                                    | Víz   |

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|------------|---|---|----------------|------------------------------|--|---|
| 2922       | Mérgező, maró<br>folyékony anyag,<br>m.n.n.                                     |   | 8              | CT1                          | I/II/III                               | Gyűjtőtétel-szabály   |
| 2924       | Maró, gyúlékony<br>folyékony anyag,<br>m.n.n.                                   | gyengén maró  | 3              | FC                           | I/II/III                               | Gyűjtőtétel-szabály   |
| 2927       | Maró, szerves,<br>mérgező folyékony<br>anyag, m.n.n.                            |   | 6.1            | TC1                          | I/II                                   | Gyűjtőtétel-szabály   |
| 2933       | Metil-2-klór-propio-<br>nát   |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat                               |
| 2934       | Izopropil-2-klór-<br>propionát  |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat                               |
| 2935       | Etil-2-klór-propionát   |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat                               |
| 2936       | Tiolaktonsav  |   | 6.1            | T1                           | II                                     | Ecetsav   |
| 2941       | Fluor-anilinek  | tiszta izomerek és<br>izomerek keveréke   | 6.1            | T1                           | III                                    | Ecetsav   |
| 2943       | Tetrahydro-furfuril-<br>amin  |   | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 2945       | N-metil-butil-amin  |   | 3              | FC                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat   |
| 2946       | 2-Amino-5-dietil-<br>amino-pentán   |   | 6.1            | T1                           | III                                    | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat   |
| 2947       | Izopropil-klór-acetát   |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat                               |
| 2984       | Hidrogén-peroxid<br>vizes oldat   | legalább 8%, de 20%-<br>nál kevesebb hidrogén-<br>peroxid tartalommal,<br>szükség szerint<br>stabilizálva   | 5.1            | O1                           | III                                    | Salétromsav   |
| 3056       | n-Heptaldehid   |   | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 3065       | Alkoholos italok  | 24 tf. %-nál több<br>alkoholtartalommal   | 3              | F1                           | II/III                                 | Ecetsav   |
| 3066       | Festék vagy<br>Festék segédanyag  | beleértve a festéket,<br>lakkot, zománcot,<br>sellakot, kencét,<br>polírozót, folyékony<br>töltőanyagot és<br>folyékony lakkbázist,<br>ill. beleértve a<br>festékhígítókát és<br>oldószereket | 8              | C9                           | II/III                                 | Gyűjtőtétel-szabály   |
| 3079       | Metakrilnitril,<br>stabilizált  |   | 3              | FT1                          | I                                      | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat                               |
| 3082       | C <sub>6</sub> – C <sub>17</sub> alkohol<br>(szekunder) poli(3-6)-<br>-etoxilát |   | 9              | M6                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat<br>és<br>szénhidrogén-keverék |
| 3082       | C <sub>12</sub> – C <sub>15</sub> alkohol<br>poli(1-3)-etoxilát                 |   | 9              | M6                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat<br>és<br>szénhidrogén-keverék |
| 3082       | C <sub>13</sub> – C <sub>15</sub> alkohol<br>poli(1-6)-etoxilát                 |   | 9              | M6                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat<br>és<br>szénhidrogén-keverék |
| 3082       | JP-5 repülőgép turbina<br>tüzelőanyag   | lobbanáspont 60 °C<br>felett  | 9              | M6                           | III                                    | Szénhidrogén-keverék  |

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|--|---|--|----------------|------------------------------|--|---|
| 3082   | JP-7 repülőgép turbina<br>tüzelőanyag   | lobbanáspont 60 °C<br>felett                                     | 9              | M6                           | III                                    | Szénhidrogén-keverék  |
| 3082   | Kőszénkátrány   | lobbanáspont 60 °C<br>felett                                     | 9              | M6                           | III                                    | Szénhidrogén-keverék  |
| 3082   | Kőszénkátrány nafta   | lobbanáspont 60 °C<br>felett                                     | 9              | M6                           | III                                    | Szénhidrogén-keverék  |
| 3082   | Kőszénkátrányból<br>nyert kreozot   | lobbanáspont 60 °C<br>felett                                     | 9              | M6                           | III                                    | Szénhidrogén-keverék  |
| 3082   | Fakátrányból nyert<br>kreozot   | lobbanáspont 60 °C<br>felett                                     | 9              | M6                           | III                                    | Szénhidrogén-keverék  |
| 3082   | Krezil-difenil-foszfát  |  | 9              | M6                           | III                                    | Nedvesítőszer oldat   |
| 3082   | Decil-akrilát   |  | 9              | M6                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat<br>és<br>szénhidrogén-keverék                         |
| 3082   | Diizobutil-ftalát   |  | 9              | M6                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat<br>és<br>szénhidrogén-keverék                         |
| 3082   | Di-n-butil-ftalát   |  | 9              | M6                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat<br>és<br>szénhidrogén-keverék                         |
| 3082   | <b>Szénhidrogének</b>   | flyékony, lobbanáspont<br>60 °C felett, környezetre<br>veszélyes | 9              | M6                           | III                                    | Gyűjtötétel-szabály   |
| 3082   | Izodecil-difenil-foszfát  |  | 9              | M6                           | III                                    | Nedvesítőszer oldat   |
| 3082   | Metil-naftalinok  | izomerek keveréke,<br>flyékony                                   | 9              | M6                           | III                                    | Szénhidrogén-keverék  |
| 3082   | Triaril-foszfátok   | m.n.n.   | 9              | M6                           | III                                    | Nedvesítőszer oldat   |
| 3082   | Trikrezil-foszfát   | legfeljebb 3% orto-<br>izomerrel                                 | 9              | M6                           | III                                    | Nedvesítőszer oldat   |
| 3082   | Trixilenil-foszfát  |  | 9              | M6                           | III                                    | Nedvesítőszer oldat   |
| 3082   | Cink-alkil-ditiofoszfát   | C <sub>3</sub> – C <sub>14</sub>                                 | 9              | M6                           | III                                    | Nedvesítőszer oldat   |
| 3082   | Cink-aril-ditiofoszfát  | C <sub>7</sub> – C <sub>16</sub>                                 | 9              | M6                           | III                                    | Nedvesítőszer oldat   |
| 3082   | <b>Környezetre<br/>veszélyes flyékony<br/>anyag, m.n.n.</b>   |  | 9              | M6                           | III                                    | Gyűjtötétel-szabály   |
| 3099   | <b>Flyékony, mérgező,<br/>gyújtó hatású anyag,<br/>m.n.n.</b>   |  | 5.1            | OT1                          | I/II/III                               | Gyűjtötétel-szabály   |
| 3101<br>3103<br>3105<br>3107<br>3109<br>3111<br>3113<br>3115<br>3117<br>3119   | <b>B, C, D, E vagy F<br/>típusú, flyékony<br/>szerves peroxid vagy<br/>B, C, D, E vagy F<br/>típusú, flyékony<br/>szerves peroxid<br/>hőmérséklet-<br/>szabályozással</b> |  | 5.2            | P1                           |  | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat<br>és<br>szénhidrogén-keverék<br>és<br>salétromsav**) |
| **) Az UN 3101, 3103, 3105, 3107, 3109, 3111, 3113, 3115, 3117, 3119 (kivéve a terc-butil hidroperoxidot 40 %-nál több peroxidtartalommal és a peroxi-ecetsavakat) tételekhez: Minden szerves peroxid technikailag tiszta formában és olyan oldószerben oldva, amelyre összeférhetősége vonatkozásában ezen felsorolásban „szénhidrogén-keverék” standardfolyadék van feltüntetve. A szellőző-szerkezeteknek és a tömítéseknek a szerves peroxiddal való összeférhetőségét – a gyártási típus-vizsgálatról függetlenül – salétromsavval végrehajtott laboratóriumi vizsgálattal is lehet igazolni. |   |  |                |                              |  |   |
| 3145   | Butil-fenolok   | flyékony, m.n.n.   | 8              | C3                           | I/II/III                               | Ecetsav   |
| 3145   | <b>Flyékony alkil-<br/>fenolok, m.n.n.</b>  | a C <sub>2</sub> – C <sub>12</sub> homológokat<br>beleértve      | 8              | C3                           | I/II/III                               | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |

| UN<br>szám | Helyes szállítási<br>megnevezés vagy<br>műszaki megnevezés<br>3.1.2    | Leírás<br>3.1.2  | Osztály<br>2.2 | Osztályo-<br>zási kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Standardfolyadék  |
|------------|--|--|----------------|------------------------------|--|---|
| 3149       | <b>Hidrogén-peroxid és<br/>peroxi-ecetsav<br/>keverék, stabilizált</b> | UN 2790 ecetsav-, UN<br>2796 kénsav- és/vagy<br>UN 1805 foszforsav-,<br>víz- és legfeljebb 5%<br>peroxi-ecetsav<br>tartalommal | 5.1            | OC1                          | II                                     | Nedvesítőszer oldat<br>és<br>salétromsav  |
| 3210       | <b>Szervetlen klorátok<br/>vizes oldata, m.n.n.</b>                    |  | 5.1            | O1                           | II/III                                 | Víz   |
| 3211       | <b>Szervetlen perklo-<br/>rátok vizes oldata,<br/>m.n.n.</b>           |  | 5.1            | O1                           | II/III                                 | Víz   |
| 3213       | <b>Szervetlen bromátok<br/>vizes oldata, m.n.n.</b>                    |  | 5.1            | O1                           | II/III                                 | Víz   |
| 3214       | <b>Szervetlen perman-<br/>ganátok vizes oldata,<br/>m.n.n.</b>         |  | 5.1            | O1                           | II                                     | Víz   |
| 3216       | <b>Szervetlen<br/>perszulfátok vizes<br/>oldata, m.n.n.</b>            |  | 5.1            | O1                           | III                                    | Nedvesítőszer oldat   |
| 3218       | <b>Szervetlen nitrátok<br/>vizes oldata, m.n.n.</b>                    |  | 5.1            | O1                           | II/III                                 | Víz   |
| 3219       | <b>Szervetlen nitritek<br/>vizes oldata, m.n.n.</b>                    |  | 5.1            | O1                           | II/III                                 | Víz   |
| 3264       | Réz(I)-klorid  | vizes oldat, gyengén<br>maró   | 8              | C1                           | III                                    | Víz   |
| 3264       | Hidroxilamin-szulfát   | 25%-os vizes oldat   | 8              | C1                           | III                                    | Víz   |
| 3264       | Foszforsav   | vizes oldat  | 8              | C1                           | III                                    | Víz   |
| 3264       | <b>Maró, folyékony,<br/>savas szervetlen<br/>anyag, m.n.n.</b>         | lobbanáspont 60 °C<br>felett   | 8              | C1                           | I/II/III                               | Gyűjtötétel-szabály; nem<br>alkalmazható az UN 1830,<br>1832, 1906 és 2308 anyagait<br>tartalmazó keverékekre |
| 3265       | Metoxi-ecetsav   |  | 8              | C3                           | I                                      | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 3265       | Allil-szukecinsav-<br>anhidrid   |  | 8              | C3                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 3265       | Ditioglikolsav   |  | 8              | C3                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 3265       | Butil-foszfát  | monobutil- és dibutil-<br>foszfát keveréke   | 8              | C3                           | III                                    | Nedvesítőszer oldat   |
| 3265       | Kaprilsav  |  | 8              | C3                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 3265       | Izovaleriánsav   |  | 8              | C3                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 3265       | Pelargonsav  |  | 8              | C3                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 3265       | Piroszölősav   |  | 8              | C3                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat   |
| 3265       | Valeriánsav  |  | 8              | C3                           | III                                    | Ecetsav   |
| 3265       | <b>Maró, folyékony,<br/>savas szerves anyag,<br/>m.n.n.</b>            | lobbanáspont 60 °C<br>felett   | 8              | C3                           | I/II/III                               | Gyűjtötétel-szabály   |
| 3266       | Nátrium-hidroszulfid   | vizes oldat  | 8              | C5                           | II                                     | Ecetsav   |
| 3266       | Nátrium-szulfid  | vizes oldat, gyengén<br>maró   | 8              | C5                           | III                                    | Ecetsav   |
| 3266       | <b>Maró, folyékony,<br/>lúgos szervetlen<br/>anyag, m.n.n.</b>         | lobbanáspont 60 °C<br>felett   | 8              | C5                           | I/II/III                               | Gyűjtötétel-szabály   |
| 3267       | 2,2'-(Butil-imino)-<br>-bisz-etanol                                    |  | 8              | C7                           | II                                     | Szénhidrogén-keverék<br>és<br>nedvesítőszer oldat   |

| UN<br>szám | Helyes szállítási<br>megnevezés vagy<br>műszaki megnevezés<br>3.1.2 | Leírás<br>3.1.2                             | Osztály<br>2.2 | Osztályo-<br>zási kód<br>2.2 | Csoma-<br>golási<br>csoport<br>2.1.1.3 | Standardfolyadék  |
|------------|---|---|----------------|------------------------------|--|---|
| 3267       | <b>Maró, folyékony,<br/>lúgos szerves anyag,<br/>m.n.n.</b>         | lobbanáspont 60 °C<br>felett                | 8              | C7                           | I/II/III                               | Gyűjtőtétel-szabály   |
| 3271       | Etilénglikol-mono-<br>butil-éter                                    | lobbanáspont 60 °C                          | 3              | F1                           | III                                    | Ecetsav   |
| 3271       | <b>Éterek, m.n.n.</b>   |   | 3              | F1                           | II/III                                 | Gyűjtőtétel-szabály   |
| 3272       | Akrilsav terc-butil<br>észter                                       |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 3272       | Izobutil-propionát  | lobbanáspont 23 °C alatt                    | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 3272       | Metil-valerát   |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 3272       | Trimetil-orto-formiát   |   | 3              | F1                           | II                                     | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 3272       | Etil-valerát  |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 3272       | Izobutil-izovalerát   |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 3272       | n-Amil-propionát  |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 3272       | n-Butil-butirát   |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 3272       | Metil-laktát  |   | 3              | F1                           | III                                    | n-Butil-acetát/ n-butil-acetáttal<br>telített nedvesítőszer oldat |
| 3272       | <b>Észterek, m.n.n.</b>   |   | 3              | F1                           | II/III                                 | Gyűjtőtétel-szabály   |
| 3287       | Nátrium-nitrit  | 40%-os vizes oldat                          | 6.1            | T4                           | III                                    | Víz   |
| 3287       | <b>Szervetlen, mérgező<br/>folyékony anyag,<br/>m.n.n.</b>          |   | 6.1            | T4                           | I/II/III                               | Gyűjtőtétel-szabály   |
| 3291       | <b>Nem specifikált<br/>kórházi hulladék,<br/>m.n.n.</b>             | folyékony                                   | 6.2            | I3                           | II                                     | Víz   |
| 3293       | <b>Hidrazin vizes oldat</b>   | legfeljebb 37 tömeg%<br>hidrazintartalommal | 6.1            | T4                           | III                                    | Víz   |
| 3295       | Heptének  | m.n.n.                                      | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 3295       | Nonánok   | lobbanáspont 23 °C alatt                    | 3              | F1                           | II                                     | Szénhidrogén-keverék  |
| 3295       | Dekánok   | m.n.n.                                      | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 3295       | 1,2,3-Trimetil-benzol   |   | 3              | F1                           | III                                    | Szénhidrogén-keverék  |
| 3295       | <b>Folyékony<br/>szénhidrogének,<br/>m.n.n.</b>                     |   | 3              | F1                           | I/II/III                               | Gyűjtőtétel-szabály   |
| 3405       | <b>Bárium-klorát oldat</b>  | vizes oldat                                 | 5.1            | OT1                          | II/III                                 | Víz   |
| 3406       | <b>Bárium-perklorát<br/>oldat</b>                                   | vizes oldat                                 | 5.1            | OT1                          | II/III                                 | Víz   |
| 3408       | <b>Ólom-perklorát<br/>oldat</b>                                     | vizes oldat                                 | 5.1            | OT1                          | II/III                                 | Víz   |
| 3413       | <b>Kálium-cianid oldat</b>  | vizes oldat                                 | 6.1            | T4                           | I/II/III                               | Víz   |
| 3414       | <b>Nátrium-cianid<br/>oldat</b>                                     | vizes oldat                                 | 6.1            | T4                           | I/II/III                               | Víz   |
| 3415       | <b>Nátrium-fluorid<br/>oldat</b>                                    | vizes oldat                                 | 6.1            | T4                           | III                                    | Víz   |
| 3422       | <b>Kálium-fluorid oldat</b>   | vizes oldat                                 | 6.1            | T4                           | III                                    | Víz   |

#### 4.1.2 Kiegészítő általános előírások az IBC-k használatára

**4.1.2.1** Amennyiben az IBC-t 60 °C vagy alacsonyabb (zárttéri) lobbanáspontú folyékony anyagok vagy porrobbanásra hajlamos porok szállítására használják, intézkedéseket kell hozni, hogy a töltés és ürítés során a veszélyes elektrosztatikus feltöltődést elkerüljék.

**4.1.2.2** Minden fém, merev falú műanyag és összetett IBC-t a 6.5.4.4, ill. a 6.5.4.5 bekezdés szerint vizsgálatnak kell alávetni:

- üzembehelyezés előtt;
- az üzembehelyezést követően legfeljebb két és fél, ill. öt éves időközönként;
- javítás és átalakítás után, mielőtt szállításhoz újból felhasználnák.

Az IBC-k az utolsó időszakos vizsgálat, ill. felülvizsgálat érvényességének letelte után nem tölthetők meg és nem adhatók át szállításra. Az utolsó időszakos vizsgálat vagy felülvizsgálat érvényességének letelte előtt megtöltött IBC az utolsó időszakos vizsgálat vagy felülvizsgálat érvényességének letelte után legfeljebb három hónapig szállítható. Ezen kívül az IBC az utolsó időszakos vizsgálat vagy felülvizsgálat érvényességének letelte után is szállítható:

- a) kiürítés után, de tisztítás előtt az újratöltés előtt szükséges vizsgálat vagy felülvizsgálat elvégzésének céljából; és
- b) a veszélyes anyag ártalmatlanításra (megfelelő elhelyezésére) vagy visszaforgatásra történő visszaszállítása céljából az időszakos vizsgálat vagy felülvizsgálat érvényességének lejárta után legfeljebb hat hónapig, hacsak az illetékes hatóság másként nem rendelkezik.

***Megjegyzés:** A fuvarokmányba teendő bejegyzésre lásd az 5.4.1.1.11 pontot.*

**4.1.2.3** A 31HZ2 típusú IBC-ket legalább a külső burkolat ürtartalmának 80%-ig kell megtölteni.

**4.1.2.4** Ha egy fém, merev falú műanyag, hajlékony falú, ill. összetett IBC rendszeres karbantartását nem az IBC tulajdonosa végzi, akinek bejegyzési állama és neve, ill. engedélyezett jele az IBC-n tartósan fel van tüntetve, akkor az IBC-n a gyártó által felvitt UN típusjelölés közelében tartósan fel kell tüntetni a következőket:

- a) annak az államnak a jelét, ahol a rendszeres karbantartást végzik; és
- b) a rendszeres karbantartást végző nevét, ill. engedélyezett jelét.

#### **4.1.3 A csomagolási utasításokra vonatkozó általános előírások**

**4.1.3.1** Az 1 – 9 osztály veszélyes áruira vonatkozó csomagolási utasításokat a 4.1.4 szakasz tartalmazza. A csomagolási utasítások a csomagolóeszközök fajtája szerint három bekezdésre vannak felosztva:

- a 4.1.4.1 bekezdés a csomagolóeszközökre vonatkozik (az IBC-k és a nagycsomagolások kivételével): ezek az utasítások „P” betűvel kezdődő kóddal vannak ellátva, a csak RID és ADR szerinti csomagolóeszközökre vonatkozó utasítások kódja „R” betűvel kezdődik;
- a 4.1.4.2 bekezdés az IBC-kre vonatkozik: ezek az utasítások „IBC” betűvel kezdődő kóddal vannak ellátva;
- a 4.1.4.3 bekezdés a nagycsomagolásokra vonatkozik: ezek az utasítások „LP” betűvel kezdődő kóddal vannak ellátva.

A csomagolási utasítások általában azt is megadják, hogy a 4.1.1, 4.1.2 vagy 4.1.3 szakasz általános előírásait be kell tartani, ill. előírhatják, hogy a 4.1.5, 4.1.6, 4.1.7, 4.1.8 vagy 4.1.9 szakasz különleges előírásait is teljesíteni kell. A csomagolási utasításokban egyes anyagokra és tárgyakra különleges csomagolási előírások is szerepelhetnek, ezeket szintén számokból és betűkből álló kódok jelölik a következők szerint:

- „PP” az IBC-k és a nagycsomagolások kivételével minden más csomagolóeszközre, vagy
- „RR” csak a RID és az ADR szerinti szállításhoz érvényes különleges előírásokra;
- „B” az IBC-kre, vagy

„BB” csak a RID és az ADR szerinti szállításnál érvényes különleges előírásokra;

„L” a nagycsomagolásokra.

Ellenkező előírás hiányában minden csomagolóeszköznek meg kell felelnie a 6. rész vonatkozó előírásainak. A csomagolási utasítások általában nem nyújtanak információt az összeférhetőségről, így a felhasználó nem választhatja meg a csomagolóeszközt anélkül, hogy ellenőrizné a (csomagolandó) anyag összeférhetőségét a kiválasztott csomagolóanyaggal (pl. a legtöbb fluoridhoz az üvegtartályok nem megfelelőek). Ahol a csomagolási utasítás szerint üvegtartály megengedett, ott porcelán és kőagyag csomagolóeszközök ugyancsak használhatók.

**4.1.3.2** Az egyes anyagokra és tárgyakra alkalmazandó csomagolási utasítás(oka)t a 3.2 fejezet „A” táblázatának 8 oszlopa tartalmazza. A meghatározott anyagokra vagy tárgyakra vonatkozó különleges csomagolási előírásokat és az egybecsomagolási előírásokat (lásd a 4.1.10 szakaszt) a 9a és 9b oszlop tartalmazza.

**4.1.3.3** A csomagolási utasítások tartalmazzák a használható önálló és kombinált csomagolóeszközöket. A kombinált csomagolásra megadják a használható külső csomagolóeszközt, belső csomagolóeszközt, és ahol szükséges, a belső és a külső csomagolóeszközben megengedett legnagyobb mennyiséget. A legnagyobb nettó tömeg és legnagyobb űrtartalom meghatározását lásd az 1.2.1 szakaszban.

**4.1.3.4** Amennyiben a szállított anyag a szállítás alatt hajlamos folyékonyvá válni, a következő csomagolóeszközök nem használhatók:

A csomagolóeszközök közül:

Hordók: 1D és 1G

Ládák: 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H1 és 4H2

Zsákok: 5L1, 5L2, 5L3, 5H1, 5H2, 5H3, 5H4, 5M1 és 5M2

Összetett csomagolóeszközök: 6HC, 6HD2, 6HG1, 6HG2, 6HD1, 6PC, 6PD1, 6PD2, 6PG1, 6PG2 és 6PH1

A nagycsomagolások közül:

Hajlékony falú műanyag: 51H (külső csomagolóeszköz)

Az IBC-k közül:

Az I csomagolási csoport anyagaihoz: egyik IBC típus sem

A II és a III csomagolási csoport anyagaihoz:

Fa: 11C, 11D és 11F

Papírlemez: 11G

Hajlékony falú: 13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 és 13M2

Összetett: 11HZ2 és 21HZ2.

Ezen bekezdés tekintetében a 45 °C vagy annál alacsonyabb olvadáspontú anyagokat és keverékeket kell olyan szilárd anyagoknak tekinteni, amelyek a szállítás alatt hajlamosak folyékonyvá válni.

**4.1.3.5** Ha ebben a fejezetben a csomagolási utasítások megengedik egy adott kódjelű (pl. 4G; 1A2) csomagolóeszköz használatát, akkor az azonos kódjelű és a 6. rész előírásai szerint „V”, „U” vagy „W” betűvel jelölt (pl. 4GV, 4GU vagy 4GW; 1A2V, 1A2U vagy 1A2W) csomagolóeszközök is használhatók, ugyanazokkal a feltételekkel és korlátozásokkal, amelyeket a csomagolási utasítás az adott kódjelű csomagolóeszközre előír. Például a 4GV kódjelű kombinált csomagolás minden esetben használható, amikor 4G kódjelű van megengedve, feltéve, hogy betartják a vonatkozó csomagolási utasítás előírásait a belső csomagolóeszközre és a mennyiség korlátozására.



**4.1.3.6 Folyékony és szilárd anyagok szállítására szolgáló nyomástartó tartályok**

**4.1.3.6.1** Hacsak az ADR-ben másként nincs előírva, minden folyékony és szilárd anyag szállítására használhatók azok a nyomástartó tartályok, amelyek

- a) megfelelnek 6.2 fejezet vonatkozó követelményeinek; ill.
- b) a tervezésre, szerkezetre, gyártásra, vizsgálatra vonatkozóan a gyártás országában alkalmazott nemzeti vagy nemzetközi szabványoknak megfelelnek, feltéve, hogy a 4.1.3.6 bekezdés előírásait is betartják, valamint a fémből készült palackok, nagypalackok, gázhordók és palackkötegek kialakítása olyan, hogy a repesztő- és a próbanyomás hányadosa legalább
  - i) 1,50 az újratölthető nyomástartó tartályoknál, ill.
  - ii) 2,00 a nem újratölthető nyomástartó tartályoknál,

kivéve a robbanóanyagokat, a termikusan nem állandó anyagokat, a szerves peroxidokat, az önreaktív anyagokat, az olyan anyagokat, amelyeknél kémiai reakció révén jelentős nyomás alakulhat ki és a radioaktív anyagokat (hacsak a 4.1.9 szakasz nem engedélyezi).

Ez a pont nem vonatkozik a 4.1.4.1 bekezdés P200 csomagolási utasításának 3. táblázatában említett anyagokra.

**4.1.3.6.2** Minden nyomástartó tartály gyártási típust a gyártási ország illetékes hatóságának jóvá kell hagynia vagy a 6.2 fejezet szerint kell jóváhagyni.

**4.1.3.6.3** Hacsak másként nincs előírva, csak olyan nyomástartó tartály használható, amelynek próbanyomása legalább 0,6 MPa.

**4.1.3.6.4** Hacsak másként nincs előírva, a nyomástartó tartályt veszlefüvő szerkezettel lehet ellátni, amely úgy van méretezve, hogy túltöltés vagy tűz esetén megakadályozza a tartály szétrobbanását.

A nyomástartó tartály szelepeit úgy kell tervezni és gyártani, hogy eredendően képesek legyenek a sérülések elviselésére anélkül, hogy a tartalom kiszabadulna, vagy a 4.1.6.8 bekezdés a) – e) pontjaiban felsorolt módszerek valamelyikének alkalmazásával védeni kell az olyan sérülésekkel szemben, amelyek a nyomástartó tartály tartalmának véletlen kiszabadulásához vezetnének.

**4.1.3.6.5** A nyomástartó tartályt 50 °C-on legfeljebb ürtartalmának 95%-áig szabad megtölteni. Elegendő folyadékmentes szabad teret kell hagyni ahhoz, hogy 55 °C hőmérsékleten a folyadék ne töltse ki teljesen a nyomástartó tartályt.

**4.1.3.6.6** Hacsak másként nincs előírva, a nyomástartó tartályt 5 évenként időszakos vizsgálatnak kell alávetni. Az időszakos vizsgálatnak a következőkből kell állnia: külső vizsgálatból, belső vizsgálatból vagy az illetékes hatóság által jóváhagyott más módszerrel végzett vizsgálatból, nyomáspróbából vagy az illetékes hatóság által engedélyezett azonos hatékonyságú, roncsolásmentes vizsgálatból, beleértve a tartozékok vizsgálatát is (pl. a szelepek, veszlefüvő szerkezetek, ill. olvadó betétek tömörségének vizsgálatát). A nyomástartó tartály az időszakos vizsgálat esedékessége után még szállítható, azonban megtölteni már nem szabad. A nyomástartó tartály javítását a 4.1.6.11 bekezdés követelményei szerint kell végezni.

**4.1.3.6.7** A csomagolónak (töltőnek) töltés előtt meg kell vizsgálnia a nyomástartó tartályt, meg kell győződnie arról, hogy a nyomástartó tartály a szállítandó anyagra engedélyezve van és az ADR előírásait betartották. A zárószelepet töltés után le kell zárni, és a szállítás alatt zárva kell maradnia. A feladónak ellenőriznie kell a zárószerkezetek és a szerelvények tömítettségét.

**4.1.3.6.8** Újratölthető nyomástartó tartályt csak ugyanolyan anyaggal szabad megtölteni, mint ami előzőleg volt benne, kivéve, ha a töltet megváltoztatásához szükséges műveleteket végrehajtották.

**4.1.3.6.9** A 6.2 fejezet előírásainak megfelelő nyomástartó tartályok kivételével a 4.1.3.6 bekezdés szerinti, folyékony és szilárd anyagok szállítására szolgáló nyomástartó tartályokat a gyártási



ország illetékes hatóságának előírásai szerint kell jelöléssel ellátni.

- 4.1.3.7** A vonatkozó csomagolási utasításban kifejezetten nem engedélyezett csomagolóeszköz vagy IBC csak akkor használható valamely anyag vagy tárgy szállítására, ha a Szerződő Felek az 1.5.1 szakasz szerinti ideiglenes eltérésben erről kifejezetten megállapodtak.

**4.1.3.8** *Nem az 1 osztályba tartozó csomagolatlan tárgyak*

- 4.1.3.8.1** Ha egy nagyméretű, robusztus tárgy nem csomagolható a 6.1 vagy a 6.6 fejezet csomagolási előírásainak megfelelően és üres, tisztítatlan állapotban, csomagolás nélkül kell szállítani, akkor az ilyen szállítást a származási ország<sup>2)</sup> illetékes hatósága engedélyezheti. Az engedélyezéshez az illetékes hatóságnak a következőket kell figyelembe vennie:

- a) a nagyméretű, robusztus tárgynak elég erősnek kell lenni ahhoz, hogy ellenálljon azoknak az igénybevételeknek, ütődéseknek, amelyeknek rendes körülmények között a szállítás során, a szállítóeszközök közötti átrakás, a szállítóeszközből a raktárba való berakodás során ki van téve, illetve amelyek akkor léphetnek fel, amikor további kézi vagy gépi árukezelés céljából a rakodólapról eltávolítják;
- b) minden zárószerkezetnek és nyílásnak zárva kell lennie, hogy ne következhesen be a tartalom szabadba jutása, ami normális szállítási körülmények között különösen a rezgésekből, illetve a hőmérséklet, a páratartalom vagy a nyomás változásából adódhat (pl. a tengerszint feletti magasság változásának eredményeként). Veszélyes anyagnak nem szabad a nagyméretű, robusztus tárgy külsejére tapadnia;
- c) a nagyméretű, robusztus tárgyak veszélyes áruval közvetlenül érintkező
  - i) részeit a veszélyes áru nem támadhatja meg, sem lényegesen nem gyengítheti, és
  - ii) ezek a részek nem okozhatnak veszélyes hatást, pl. reakció katalizálását vagy a veszélyes áruval való reakciót;
- d) a folyadékot tartalmazó, nagyméretű, robusztus tárgyakat úgy kell berakni és rögzíteni, hogy a szállítás alatt sem a tartalom kiszabadulása, sem a tárgyak maradandó alakváltozása ne következhesen be;
- e) a nagyméretű, robusztus tárgyakat úgy kell rögzíteni a rekeszben, keretben, egyéb kezelőeszközben vagy magában a szállítóeszközben vagy konténerben, hogy normális szállítási feltételek esetén ne lazulhassanak ki.

- 4.1.3.8.2** Az illetékes hatóság által a 4.1.3.8.1 pont szerint engedélyezett, csomagolás nélküli tárgyak az 5. rész feladási eljárásainak hatálya alá tartoznak. Ezenkívül az ilyen tárgyak feladójának gondoskodnia kell arról, hogy az engedély a fuvarokmányhoz legyen csatolva.

**Megjegyzés:** A nagyméretű, robusztus tárgyak közé tartoznak pl. a hajlékony falú tüzelőanyagtartályok, a katonai berendezések, a gépek és készülékek, amelyek a 3.4.6 szakasz szerinti korlátozott mennyiségnél nagyobb mennyiségű veszélyes árut tartalmaznak.

**4.1.4** **A csomagolási utasítások felsorolása**

**Megjegyzés:** Bár a következő csomagolási utasítások számozási rendszere megegyezik az IMDG Kódex és az ENSZ Minta Szabályzat által használt rendszerrel, a felhasználóknak tekintettel kell lenniük arra, hogy bizonyos részletek az ADR esetében eltérőek lehetnek.

- 4.1.4.1** *A csomagolóeszközök (kivéve az IBC-eket és a nagycsomagolásokat) használatára vonatkozó csomagolási utasítások*

2) Ha a származási ország nem valamely ADR Szerződő Fél, akkor a jóváhagyást a küldeménnyel érintett első ADR Szerződő Fél illetékes hatóságának kell elismernie.

| P001   |  | CSOMAGOLÁSI UTASÍTÁS (folyékony anyagokhoz)         |                       |                        | P001                    |
|--|--|---|-----------------------|------------------------|-------------------------|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják. |  |   |                       |                        |                         |
| Kombinált csomagolás:  |  | Legnagyobb úrtartalom/nettó tömeg<br>(lásd 4.1.3.3) |                       |                        |                         |
| Belső csomagolóeszközök  |  | Külső csomagolóeszközök                             | I csomagolási csoport | II csomagolási csoport | III csomagolási csoport |
| Üveg 10 l  |  | <b>Hordók</b>                                       |                       |                        |                         |
| Műanyag 30 l   |  | acél (1A2)  | 250 kg                | 400 kg                 | 400 kg                  |
| Fém 40 l   |  | alumínium (1B2)                                     | 250 kg                | 400 kg                 | 400 kg                  |
|  |  | fém (acélt és alumíniumot kivéve) (1N2)             | 250 kg                | 400 kg                 | 400 kg                  |
|  |  | műanyag (1H2)                                       | 250 kg                | 400 kg                 | 400 kg                  |
|  |  | rétegelt falemez (1D)                               | 150 kg                | 400 kg                 | 400 kg                  |
|  |  | papírlemez (1G)                                     | 75 kg                 | 400 kg                 | 400 kg                  |
|  |  | <b>Ládák</b>  |                       |                        |                         |
|  |  | acél (4A)   | 250 kg                | 400 kg                 | 400 kg                  |
|  |  | alumínium (4B)                                      | 250 kg                | 400 kg                 | 400 kg                  |
|  |  | fa (4C1, 4C2)                                       | 150 kg                | 400 kg                 | 400 kg                  |
|  |  | rétegelt falemez (4D)                               | 150 kg                | 400 kg                 | 400 kg                  |
|  |  | farostlemez (4F)                                    | 75 kg                 | 400 kg                 | 400 kg                  |
|  |  | papírlemez (4G)                                     | 75 kg                 | 400 kg                 | 400 kg                  |
|  |  | habosított műanyag (4H1)                            | 60 kg                 | 60 kg                  | 60 kg                   |
|  |  | tömör műanyag (4H2)                                 | 150 kg                | 400 kg                 | 400 kg                  |
|  |  | <b>Kannák</b>                                       |                       |                        |                         |
|  |  | acél (3A2)  | 120 kg                | 120 kg                 | 120 kg                  |
|  |  | alumínium (3B2)                                     | 120 kg                | 120 kg                 | 120 kg                  |
|  |  | műanyag (3H2)                                       | 120 kg                | 120 kg                 | 120 kg                  |
| <b>Önálló csomagolóeszközök:</b>   |  |   |                       |                        |                         |
| <b>Hordók</b>  |  |   |                       |                        |                         |
| acél, nem levehető tetővel (1A1)   |  |   | 250 l                 | 450 l                  | 450 l                   |
| acél, levehető tetővel (1A2)   |  |   | 250 l <sup>a)</sup>   | 450 l                  | 450 l                   |
| alumínium, nem levehető tetővel (1B1)  |  |   | 250 l                 | 450 l                  | 450 l                   |
| alumínium, levehető tetővel (1B2)  |  |   | 250 l <sup>a)</sup>   | 450 l                  | 450 l                   |
| fém (acélt és alumíniumot kivéve), nem levehető tetővel (1N1)  |  |   | 250 l                 | 450 l                  | 450 l                   |
| fém (acélt és alumíniumot kivéve), levehető tetővel (1N2)  |  |   | 250 l <sup>a)</sup>   | 450 l                  | 450 l                   |
| műanyag, nem levehető tetővel (1H1)  |  |   | 250 l                 | 450 l                  | 450 l                   |
| műanyag, levehető tetővel (1H2)  |  |   | 250 l <sup>a)</sup>   | 450 l                  | 450 l                   |
| <b>Kannák</b>  |  |   |                       |                        |                         |
| acél, nem levehető tetővel (3A1)   |  |   | 60 l                  | 60 l                   | 60 l                    |
| acél, levehető tetővel (3A2)   |  |   | 60 l <sup>a)</sup>    | 60 l                   | 60 l                    |
| alumínium, nem levehető tetővel (3B1)  |  |   | 60 l                  | 60 l                   | 60 l                    |
| alumínium, levehető tetővel (3B2)  |  |   | 60 l <sup>a)</sup>    | 60 l                   | 60 l                    |
| műanyag, nem levehető tetővel (3H1)  |  |   | 60 l                  | 60 l                   | 60 l                    |
| műanyag, levehető tetővel (3H2)  |  |   | 60 l <sup>a)</sup>    | 60 l                   | 60 l                    |

a) Csak 2680 mm<sup>2</sup>/s-nál nagyobb viszkozitású anyagokhoz használhatók.

| P001<br>(folyt.)  | CSOMAGOLÁSI UTASÍTÁS<br>(folyékony anyagokhoz)      |                        |                         | P001<br>(folyt.) |
|---|---|------------------------|-------------------------|------------------|
| Önálló csomagolóeszközök (folyt.)   | Legnagyobb ürtartalom/nettó tömeg<br>(lásd 4.1.3.3) |                        |                         |                  |
| Összetett csomagolóeszközök:  | I csomagolási csoport                               | II csomagolási csoport | III csomagolási csoport |                  |
| műanyag tartály külső acél- vagy alumíniumhordóval (6HA1, 6HB1)   | 250 l   | 250 l                  | 250 l                   |                  |
| műanyag tartály külső papírlemez, műanyag vagy rétegelt falemez hordóval (6HG1, 6HH1, 6HD1)   | 120 l   | 250 l                  | 250 l                   |                  |
| műanyag tartály külső acél- vagy alumíniumládával vagy -rekesszel; vagy műanyag tartály külső fa, rétegelt falemez, papírlemez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2)   | 60 l  | 60 l                   | 60 l                    |                  |
| üvegtartály külső acél, alumínium, rétegelt falemez, papírlemez, habosított műanyag vagy tömör műanyag hordóval (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 vagy 6PH2) vagy külső acél- vagy alumíniumládával vagy -rekesszel; vagy külső fa vagy papírlemez-ládával vagy külső vessző-kosárral (6PA2, 6PB2, 6PC, 6PG2 vagy 6PD2)   | 60 l  | 60 l                   | 60 l                    |                  |
| <b>Nyomástartó tartályok</b> , feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.   |   |                        |                         |                  |
| <b>Kiegészítő követelmény:</b><br>A 3 osztály III csomagolási csoportjának azon anyagai esetében, amelyek kis mennyiségben széndioxidot vagy nitrogént bocsátanak ki, a csomagolóeszközöket szellőző-szerkezettel kell ellátni.   |   |                        |                         |                  |
| <b>Különleges csomagolási előírások:</b><br><b>PP1</b> Az UN 1133, 1210, 1263 és 1866 tétel anyagai, valamint az UN 3082 alá sorolt ragasztó, nyomdafesték, nyomdafesték segédanyag, festék, festék segédanyag és gyanta oldat esetén, a II és III csomagolási csoport anyagaihoz csomagolóeszközönként legfeljebb 5 l mennyiségig a fém vagy műanyag csomagolóeszközöket nem kell a 6.1 fejezet szerinti igénybevételi próbáknak alávetni, ha azokat:<br>a) rakodólapon, rakodólap-ládában vagy egységgrakomány-képző eszközben szállítják, azaz az egyedi csomagolóeszközök pántszalaggal, zsugor- vagy nyújtható fóliával vagy más alkalmas módon a rakodólapon vannak rögzítve; vagy<br>b) legfeljebb 40 kg nettó tömegű kombinált csomagolás belső csomagolásaként szállítják.<br><b>PP2</b> Az UN 3065 anyagaihoz olyan, legfeljebb 250 l ürtartalmú fahordók is használhatók, amelyek nem felelnek meg a 6.1 fejezet előírásainak.<br><b>PP4</b> Az UN 1774 anyagaihoz használt csomagolóeszközöknek ki kell elégíteniük a II csomagolási csoport igénybevételi szintjét.<br><b>PP5</b> Az UN 1204 anyagaihoz a csomagolóeszközöket úgy kell kialakítani, hogy a megnövekedett belső nyomás következtében ne következhesen be robbanás. Palackok, nagypalackok és gázhordók ezekhez az anyagokhoz nem használhatók.<br><b>PP6</b> (törölve)<br><b>PP10</b> Az UN 1791, II csomagolási csoport anyagaihoz szellőző-szerkezettel ellátott csomagolóeszközöket kell használni.<br><b>PP31</b> Az UN 1131 anyag csomagolóeszközeit légmentesen zárni kell.<br><b>PP33</b> Az UN 1308 anyagaihoz csak az I vagy a II csomagolási csoportnak megfelelő, legfeljebb 75 kg bruttó tömegű kombinált csomagolások használhatók.<br><b>PP81</b> A 60%-nál több, de legfeljebb 85% hidrogén-fluoridot tartalmazó UN 1790 fluor-hidrogénsav oldat és az 55%-nál több tiszta savat tartalmazó UN 2031 salétromsav oldat szállítására önálló csomagolóeszközként használt műanyag hordók és kannák megengedett használati időtartama a gyártásuk időpontjától számított 2 év. |   |                        |                         |                  |
| <b>Csak a RID és az ADR szerinti szállításhoz érvényes különleges csomagolási előírás:</b>  |   |                        |                         |                  |
| <b>RR2</b> Az UN 1261 anyagaihoz levehető tetejű csomagolóeszközök nem használhatók.  |   |                        |                         |                  |

| P002   |       | CSOMAGOLÁSI UTASÍTÁS (szilárd anyagokhoz)  |                       |                        | P002                    |
|--|-------|--|-----------------------|------------------------|-------------------------|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.                             |       |  |                       |                        |                         |
| Kombinált csomagolás:  |       | Legnagyobb nettó tömeg (lásd 4.1.3.3)  |                       |                        |                         |
| Belső csomagolóeszközök  |       | Külső csomagolóeszközök  | I csomagolási csoport | II csomagolási csoport | III csomagolási csoport |
| Üveg   | 10 kg | <b>Hordók</b><br>acél (1A2)<br>alumínium (1B2)<br>fém (acélt és alumíni-<br>umot kivéve) (1N2) |                       |                        |                         |
| Műanyag <sup>a)</sup>  | 50 kg |  | 400 kg                | 400 kg                 | 400 kg                  |
| Fém  | 50 kg |  | 400 kg                | 400 kg                 | 400 kg                  |
| Papír <sup>a, b, c)</sup>  | 50 kg |  | 400 kg                | 400 kg                 | 400 kg                  |
| Papírlemez <sup>a, b, c)</sup>   | 50 kg |  |                       |                        |                         |
| <i>a) Ezeknek a belső csomagolóeszközöknek portömörnek kell lenniük.</i>   |       | műanyag (1H2)  | 400 kg                | 400 kg                 | 400 kg                  |
|  |       | rétegelt falemez (1D)  | 400 kg                | 400 kg                 | 400 kg                  |
|  |       | papírlemez (1G)  | 400 kg                | 400 kg                 | 400 kg                  |
|  |       | <b>Ládák</b>   |                       |                        |                         |
| <i>b) Ezek a belső csomagolóeszközök nem használhatók, ha a szállított anyag a szállítás alatt folyékonyá válhat (lásd a 4.1.3.4 bekezdést).</i> |       | acél (4A)  | 400 kg                | 400 kg                 | 400 kg                  |
|  |       | alumínium (4B)   | 400 kg                | 400 kg                 | 400 kg                  |
|  |       | fa (4C1)   | 250 kg                | 400 kg                 | 400 kg                  |
|  |       | fa, portömör falakkal (4C2)  | 250 kg                | 400 kg                 | 400 kg                  |
|  |       | rétegelt falemez (4D)  | 250 kg                | 400 kg                 | 400 kg                  |
|  |       | farostlemez (4F)   | 125 kg                | 400 kg                 | 400 kg                  |
|  |       | papírlemez (4G)  | 125 kg                | 400 kg                 | 400 kg                  |
|  |       | habosított műanyag (4H1)   | 60 kg                 | 60 kg                  | 60 kg                   |
| <i>c) Ezek a belső csomagolóeszközök nem használhatók az I csomagolási csoport anyagaihoz.</i>   |       | tömör műanyag (4H2)  | 250 kg                | 400 kg                 | 400 kg                  |
|  |       | <b>Kannák</b>  |                       |                        |                         |
|  |       | acél (3A2)   | 120 kg                | 120 kg                 | 120 kg                  |
|  |       | alumínium (3B2)  | 120 kg                | 120 kg                 | 120 kg                  |
|  |       | műanyag (3H2)  | 120 kg                | 120 kg                 | 120 kg                  |
| <b>Önálló csomagolóeszközök:</b>   |       |  |                       |                        |                         |
| <b>Hordók</b>  |       |  |                       |                        |                         |
| acél (1A1 vagy 1A2 <sup>d)</sup> )   |       |  | 400 kg                | 400 kg                 | 400 kg                  |
| alumínium (1B1 vagy 1B2 <sup>d)</sup> )  |       |  | 400 kg                | 400 kg                 | 400 kg                  |
| fém (acélt és alumíniumot kivéve) (1N1 vagy 1N2 <sup>d)</sup> )  |       |  | 400 kg                | 400 kg                 | 400 kg                  |
| műanyag (1H1 vagy 1H2 <sup>d)</sup> )  |       |  | 400 kg                | 400 kg                 | 400 kg                  |
| papírlemez (1G <sup>e)</sup> )   |       |  | 400 kg                | 400 kg                 | 400 kg                  |
| rétegelt falemez (1D <sup>e)</sup> )   |       |  | 400 kg                | 400 kg                 | 400 kg                  |
| <b>Kannák</b>  |       |  |                       |                        |                         |
| acél (3A1 vagy 3A2 <sup>d)</sup> )   |       |  | 120 kg                | 120 kg                 | 120 kg                  |
| alumínium (3B1 vagy 3B2 <sup>d)</sup> )  |       |  | 120 kg                | 120 kg                 | 120 kg                  |
| műanyag (3H1 vagy 3H2 <sup>d)</sup> )  |       |  | 120 kg                | 120 kg                 | 120 kg                  |

d) Ezek a csomagolóeszközök nem használhatók az I csomagolási csoport azon anyagaihoz, amelyek a szállítás alatt folyékonyá válhatnak (lásd a 4.1.3.4 bekezdést).

e) Ezek a csomagolóeszközök nem használhatók, ha a szállított anyagok a szállítás alatt folyékonyá válhatnak (lásd a 4.1.3.4 bekezdést).

| <b>P002</b><br><b>(folyt.)</b> <b>CSOMAGOLÁSI UTASÍTÁS (szilárd anyagokhoz)</b> <b>P002</b><br><b>(folyt.)</b>   |                                       |                        |                         |
|--|---------------------------------------|------------------------|-------------------------|
| Önálló csomagolóeszközök:(folyt.)  | Legnagyobb nettó tömeg (lásd 4.1.3.3) |                        |                         |
|  | I csomagolási csoport                 | II csomagolási csoport | III csomagolási csoport |
| <b>Ládák</b>   |                                       |                        |                         |
| acélláda (4A <sup>e</sup> )  | Nem használható                       | 400 kg                 | 400 kg                  |
| alumíniumláda (4B <sup>e</sup> )   | Nem használható                       | 400 kg                 | 400 kg                  |
| közönséges faláda (4C1 <sup>e</sup> )  | Nem használható                       | 400 kg                 | 400 kg                  |
| rétegelt falemez láda (4D <sup>e</sup> )   | Nem használható                       | 400 kg                 | 400 kg                  |
| farostlemezláda (4F <sup>e</sup> )   | Nem használható                       | 400 kg                 | 400 kg                  |
| portömör faláda (4C2 <sup>e</sup> )  | Nem használható                       | 400 kg                 | 400 kg                  |
| papírlemez láda (4G <sup>e</sup> )   | Nem használható                       | 400 kg                 | 400 kg                  |
| tömör műanyag láda (4H2 <sup>e</sup> )   | Nem használható                       | 400 kg                 | 400 kg                  |
| <b>Zsákok</b>  |                                       |                        |                         |
| zsákok (5H3, 5H4, 5L3, 5M2) <sup>e</sup> )   | Nem használható                       | 50 kg                  | 50 kg                   |
| <b>Összetett csomagolóeszközök</b>   |                                       |                        |                         |
| műanyag tartály külső acél-, alumínium-, rétegelt falemez, papírlemez vagy műanyag hordóval (6HA1, 6HB1, 6HG1 <sup>e</sup> , 6HD1 <sup>e</sup> , vagy 6HH1)  | 400 kg                                | 400 kg                 | 400 kg                  |
| műanyag tartály külső acél- vagy alumíniumládával vagy -rekesszel, vagy külső faládával, rétegelt falemez ládával, papírlemez ládával vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2 <sup>e</sup> , 6HG2 <sup>e</sup> vagy 6HH2)  | 75 kg                                 | 75 kg                  | 75 kg                   |
| üvegtartály külső acél-, alumínium-, rétegelt falemez vagy papírlemez hordóval (6PA1, 6PB1, 6PD1 <sup>e</sup> vagy 6PG1 <sup>e</sup> ) vagy külső acél- vagy alumíniumládával vagy -rekesszel, vagy külső fa- vagy papírlemez ládával vagy külső vesszőkosárral (6PA2, 6PB2, 6PC, 6PG2 <sup>e</sup> vagy 6PD2 <sup>e</sup> ) vagy külső tömör műanyag vagy habosított műanyag csomagolóeszkővel (6PH2 vagy 6PH1 <sup>e</sup> ) | 75 kg                                 | 75 kg                  | 75 kg                   |
| <i>e) Ezek a csomagolóeszközök nem használhatók, ha a szállított anyagok a szállítás alatt folyékonyra válhatnak (lásd a 4.1.3.4 bekezdést).</i>   |                                       |                        |                         |
| <b>Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.</b>   |                                       |                        |                         |
| <b>Különleges csomagolási előírások:</b>   |                                       |                        |                         |
| <b>PP6</b> (törölve)   |                                       |                        |                         |
| <b>PP7</b> Az UN 2000 alá tartozó celluloid lapokat teljes rakományként, fedett járműben vagy zárt konténerben csomagolás nélkül is lehet szállítani rakodólapra rakva, műanyag fóliával burkolva és megfelelő módon, pl. acél pántszalaggal rögzítve. Egy rakodólap nem lehet 1000 kg-nál nagyobb tömegű.   |                                       |                        |                         |
| <b>PP8</b> Az UN 2002 anyagaihoz a csomagolóeszközöket úgy kell kialakítani, hogy a megnövekedett belső nyomás következtében ne következhesen be robbanás. Palackok, nagypalackok és gázhordók ezekhez az anyagokhoz nem használhatók.   |                                       |                        |                         |

| P002<br>(folyt.)   | CSOMAGOLÁSI UTASÍTÁS (szilárd anyagokhoz)   | P002<br>(folyt.) |
|--|---|------------------|
| <b>Különleges csomagolási előírások (folyt.):</b>  |   |                  |
| <b>PP9</b>   | Az UN 3175, 3243 és 3244 anyagaihoz a csomagolóeszköznek olyan gyártási típusnak kell megfelelnie, amely sikeresen kiállta a tömörségi próbát a II csomagolási csoport igénybevételi szintjén. Az UN 3175 esetén nincs szükség a tömörségi próbára, ha a folyadék a zárt zsákokban levő szilárd anyagban teljesen abszorbeálva van. |                  |
| <b>PP11</b>  | Az UN 1309, III csomagolási csoport és UN 1362 anyagaihoz 5H1, 5L1 és 5M1 jelű zsákok használhatók, ha műanyag zsákokba vannak helyezve és rakodólapon zsugor- vagy nyújtható fóliával vannak burkolva.   |                  |
| <b>PP12</b>  | Az UN 1361, 2213 és 3077 anyagaihoz 5H1, 5L1 és 5M1 jelű zsákok is használhatók, ha a szállítás fedett járműben vagy zárt konténerben történik.   |                  |
| <b>PP13</b>  | Az UN 2870 alá sorolt tárgyakhoz csak az I csomagolási csoport igénybevételi szintjét kielégítő kombinált csomagolások használhatók.  |                  |
| <b>PP14</b>  | Az UN 2211, 2698 és 3314 anyagaihoz használt csomagolóeszközöket nem kell alávetni a 6.1 fejezet igénybevételi próbáinak.   |                  |
| <b>PP15</b>  | Az UN 1324 és 2623 anyagaihoz használt csomagolóeszközöknek ki kell elégíteniük a III csomagolási csoport igénybevételi szintjét.   |                  |
| <b>PP20</b>  | Az UN 2217 anyagaihoz bármilyen portömör és tépésálló anyagú tartály is használható.  |                  |
| <b>PP30</b>  | Az UN 2471 anyagaihoz papír vagy papírlemez belső csomagolóeszközök nem használhatók.   |                  |
| <b>PP34</b>  | Az UN 2969 anyagaihoz (egész ricinusmag esetén) 5H1, 5L1 vagy 5M1 jelű zsákok is használhatók.  |                  |
| <b>PP37</b>  | Az UN 2590 és 2212 anyagaihoz 5M1 jelű zsákok is használhatók. Minden zsákot fedett járműben vagy zárt konténerben kell szállítani, vagy zárt, merevfalú egyesítőcsomagolásba kell helyezni.  |                  |
| <b>PP38</b>  | Az UN 1309, II csomagolási csoport anyagaihoz zsákok csak fedett járműben vagy zárt konténerben való szállításnál használhatók.   |                  |
| <b>PP84</b>  | Az UN 1057 tárgyaihoz a II csomagolási csoport igénybevételi szintjét kielégítő, merev külső csomagolóeszközöket kell használni. A csomagolóeszközöket úgy kell tervezni, gyártani és használni, hogy ne következessen be elmozdulás, az eszközök nem szándékos begyűjtása vagy gyúlékony gáz, ill. folyadék kibocsátása.           |                  |
| <i><b>Megjegyzés:</b> Az elkülönítve összegyűjtött hulladék öngyűjtőkre lásd a 3.3 fejezet 654 különleges előírását.</i> |   |                  |
| <b>Csak a RID és az ADR szerinti szállításnál érvényes különleges csomagolási előírás:</b>                               |   |                  |
| <b>RR5</b>   | Az UN 1057 tárgyait tartalmazó küldeménydaraboknak a PP84 különleges csomagolási előírástól eltérően csak a 4.1.1.1, a 4.1.1.2 és a 4.1.1.5 – 4.1.1.7 bekezdés általános előírásainak kell megfelelniük, ha bruttó tömegük legfeljebb 10 kg.  |                  |
| <i><b>Megjegyzés:</b> Az elkülönítve összegyűjtött hulladék öngyűjtőkre lásd a 3.3 fejezet 654 különleges előírását.</i> |   |                  |



| P003   | CSOMAGOLÁSI UTASÍTÁS   | P003 |
|--|--|------|
| <p>A veszélyes árut alkalmas külső csomagolóeszközbe kell helyezni. A csomagolóeszköznek meg kell felelnie a 4.1.1.1, a 4.1.1.2, a 4.1.1.4, a 4.1.1.8 bekezdés és a 4.1.3 szakasz előírásainak és úgy kell tervezni, hogy kielégítsék a 6.1.4 szakasz gyártásra vonatkozó követelményeit. A befogadóképességnek és a tervezett felhasználásnak megfelelő kialakítású és megfelelő szilárdságú, alkalmas anyagból készített külső csomagolóeszközt kell használni. Ha ezt a csomagolási utasítást tárgyak szállításánál vagy kombinált csomagolások belső csomagolásainál alkalmazzák, a csomagolóeszközt úgy kell tervezni és gyártani, hogy normális szállítási feltételek között a tárgyak nem szándékos működésbe lépését megakadályozza.</p> |  |      |
| <p><b>Különleges csomagolási előírások:</b></p>  |  |      |
| PP16   | <p>Az UN 2800-hoz: a telepeket védeni kell a csomagoláson belüli rövidzárlattal szemben és erős külső csomagolásokba kell biztonságosan csomagolni.</p> <p><i>Megjegyzés: 1. A kifolyásmentes, nedves akkumulátortelepeket, amelyek mechanikai vagy elektromos készülékek beépített alkatrészei és azok működéséhez szükségesek, a készülék akkumulátortartójában szilárdan kell rögzíteni, és oly módon kell védeni, hogy sérülés és rövidzárlat ne következhesse be.</i></p> <p><i>2. A használt telepekre (UN 2800) lásd a P801a utasítást.</i></p> |      |
| PP17   | <p>Az UN 1950 és az UN 2037 tételeknél egy küldeménydarab nettó tömege papírlemez csomagolóeszköz esetén legfeljebb 55 kg, egyéb csomagolóeszköz esetén legfeljebb 125 kg lehet.</p>   |      |
| PP19   | <p>Az UN 1364 és 1365 anyagai bálákban is szállíthatók.</p>  |      |
| PP20   | <p>Az UN 1363, 1386, 1408 és 2793 anyagaihoz bármilyen portömör és tépésálló anyagból gyártott tartály is használható.</p>   |      |
| PP32   | <p>Az UN 2857 és 3358 tárgyai csomagolatlanul, rekeszekben vagy megfelelő egyesítőcsomagolásban is szállíthatók.</p>   |      |
| PP87   | <p>A 327 különleges előírás szerint szállított, UN 1950 hulladék aeroszol csomagolások esetén a csomagolóeszközt a szállítás alatt esetleg szabaddá váló folyadék visszatartására alkalmas eszközzel (pl. nedvszívóanyaggal) kell ellátni. A csomagolóeszközt megfelelően szellőztetni kell, hogy nyomásnövekedés vagy gyűlékony légkör ne alakulhasson ki.</p>  |      |
| PP88   | <p>(törölve)</p>   |      |
| <p><b>Csak a RID és az ADR szerinti szállításnál érvényes különleges csomagolási előírás:</b></p>  |  |      |
| RR6  | <p>Az UN 1950 és az UN 2037 tételek teljes rakományként való szállítása esetén a fémből készült tárgyakat a következőképpen is lehet csomagolni:</p> <p>a tárgyakat alátétre helyezve, alkalmas műanyag fóliával burkolva – amely a megfelelő helyzetben rögzíti – egységekké kell összefogni. Ezeket az egységeket rakodólapon egymásra kell helyezni, és megfelelően rögzíteni kell.</p>   |      |

| P004   | CSOMAGOLÁSI UTASÍTÁS   | P004 |
|--|--|------|
| Ezt a csomagolási utasítást az UN 3473, 3476, 3477, 3478 és 3479 tételre kell alkalmazni.  |  |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1.1, a 4.1.1.2, a 4.1.1.3, a 4.1.1.6 bekezdés és a 4.1.3 szakasz általános előírásait betartják: |  |      |
| 1)   | Üzemanyagcella kazettákra: a II csomagolási csoport igénybevételi szintjének megfelelő csomagolóeszközök; és   |      |
| 2)   | Készülékben lévő vagy készülékkel egybecsomagolt üzemanyagcella kazettákra: erős, külső csomagolóeszközök. Az üzemanyagcella kazettát tartalmazó, nagyméretű, robusztus készülékek (lásd a 4.1.3.8 bekezdést) csomagolás nélkül is szállíthatók. Ha az üzemanyagcella kazettát a készülékkel egybecsomagolják, akkor a kazettát vagy belső csomagolásba kell tenni, vagy a külső csomagolásba olyan párnázóanyag vagy osztóbetétek közé helyezni, amely(ek) megvédi(k) a kazettát a sérüléstől, amit a tartalom elmozdulása vagy a külső csomagolásban való elhelyezkedése okozhat. A készülékben lévő üzemanyagcella kazettákat rövidzárlattal ellen védeni kell, és az egész rendszert védeni kell, nehogy véletlenszerűen működésbe lépjen. |      |

| P010   |  | CSOMAGOLÁSI UTASÍTÁS  | P010 |
|--|--|---|------|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják. |  |   |      |
| Kombinált csomagolások:  |  | Legnagyobb nettó tömeg  |      |
| Belső csomagolóeszközök  | Külső csomagolóeszközök  |   |      |
| Üveg 1 l<br>Acél 40 l  | <b>Hordók</b><br>acélhordók (1A2)<br>műanyag hordók (1H2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br><b>Ládák</b><br>acélládák (4A)<br>faládák (4C1, 4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>habosított műanyag ládák (4H1)<br>tömör műanyag ládák (4H2) | 400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br>60 kg<br>400 kg |      |
| Önálló csomagolóeszközök:  |  | Legnagyobb úrtartalom<br>(lásd a 4.1.3.3 bekezdést)   |      |
| <b>Hordók</b><br>acél, nem levehető tetővel (1A1)<br><b>Kannák</b><br>acél, nem levehető tetővel (3A1)               |  | 450 l<br>60 l   |      |
| <b>Összetett csomagolóeszközök</b><br>műanyagtartály külső acélhordóval (6HA1)                                       |  | 250 l   |      |

| P099  | CSOMAGOLÁSI UTASÍTÁS | P099 |
|---|----------------------|------|
| Csak az illetékes hatóság által, ezen áruhoz jóváhagyott csomagolóeszközök használhatók. Az illetékes hatóság jóváhagyásának másolatát a küldeményhez mellékelni kell, vagy a fuvarokmányban utalni kell arra, hogy a csomagolóeszközt az illetékes hatóság jóváhagyta. |                      |      |

| P101   | CSOMAGOLÁSI UTASÍTÁS | P101 |
|--|----------------------|------|
| Csak a származási ország illetékes hatósága által engedélyezett csomagolóeszközök használhatók. Ha a származási ország nem ADR Szerződő Fél, akkor a csomagolóeszközt a küldemény által érintett első ADR Szerződő Fél illetékes hatóságának jóvá kell hagynia. A nemzetközi forgalomban részt vevő gépjárművek államjelzését azon országra nézve, amelynek hatósága intézkedik, a fuvarokmányban fel kell tüntetni a következők szerint: „... illetékes hatósága által engedélyezett csomagolás” [lásd az 5.4.1.2.1 e) pontot]. |                      |      |

| P110a   | CSOMAGOLÁSI UTASÍTÁS | P110a |
|---|----------------------|-------|
| FENNTARTVA  |                      |       |
| <b>Megjegyzés:</b> Az ENSZ Minta Szabályzatban ezen a számon szereplő csomagolási utasítás ADR szerinti szállításhoz nem megengedett. |                      |       |



| <b>P110b</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P110b</b>   |   |   |
|---|---|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.   |   |   |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások                                      | Külső csomagolóeszközök és kialakítások   |
| <b>Tartályok</b><br>fémből<br>fából<br>vezetőképes gumiból<br>vezetőképes műanyagból<br><b>Zsákok</b><br>vezetőképes gumiból<br>vezetőképes műanyagból  | <b>Megosztó válaszfalak</b><br>fémből<br>fából<br>műanyagból<br>papírlamezből | <b>Ládák</b><br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F) |
| <b>Különleges csomagolási előírás:</b><br><b>PP42</b> Az UN 0074, 0113, 0114, 0129, 0130, 0135 és 0224 anyagai esetében a következő feltételeket kell teljesíteni:<br>a) egyetlen belső csomagolás sem tartalmazhat 50 g-nál több robbanóanyagot (száraz anyagra vonatkoztatva);<br>b) a megosztó válaszfalak közötti egyetlen térrész sem tartalmazhat egynél több, szilárdan elhelyezett belső csomagolást; és<br>c) a külső csomagolás legfeljebb 25 térrészre osztható. |   |   |

| <b>P111</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P111</b>  |  |   |
|--|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.                                    |  |   |
| Belső csomagolóeszközök és kialakítások  | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások   |
| <b>Zsákok</b><br>vízálló papírból<br>műanyagból<br>gumibevonatú textilszövetből<br><br><b>Burkolatok</b><br>műanyagból<br>gumibevonatú textilszövetből   | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlamez ládák (4G)<br>habosított műanyag ládák (4H1)<br>tömör műanyag ládák (4H2)<br><br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlamez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Különleges csomagolási előírás:</b><br><b>PP43</b> Az UN 0159 esetében nem szükséges belső csomagolás, ha külső csomagolásként fémhordót (1A2 vagy 1B2) vagy műanyag hordót (1H2) használnak. |  |   |

| <b>P112a</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P112a</b><br><b>(az 1.1D osztályozási kód szilárd, nedvesített anyagaihoz)</b>  |  |   |
|---|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.   |  |   |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások   | Külső csomagolóeszközök és kialakítások   |
| <b>Zsákok</b><br>többrétegű, vízálló papírból<br>műanyagból<br>textilszövetből<br>gumibevonatú textilszövetből<br>műanyagszövetből<br><br><b>Tartályok</b><br>fémből<br><br>műanyagból  | <b>Zsákok</b><br>műanyagból<br>műanyag bevonatú vagy bélésű<br>textilszövetből<br><br><b>Tartályok</b><br>fémből<br>műanyagból | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>habosított műanyag ládák (4H1)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Kiegészítő követelmény:</b><br>Nem szükséges köztes csomagolás, ha külső csomagolásként folyadéktömör, levehető tetejű hordót használnak.  |  |   |
| <b>Különleges csomagolási előírások:</b><br><b>PP26</b> Az UN 0004, 0076, 0078, 0154, 0219 és 0394-hez használt csomagolóeszközök nem tartalmazhatnak ólmot.<br><b>PP45</b> Az UN 0072-höz és az UN 0226-hoz nem szükséges köztes csomagolás. |  |   |

| <b>P112b</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P112b</b><br><b>(az 1.1D osztályozási kód szilárd, száraz, nem porszerű anyagaihoz)</b>   |  |  |
|---|--|--|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.   |  |  |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások   | Külső csomagolóeszközök és kialakítások  |
| <b>Zsákok</b><br>nátronpapírból<br>többretegű, vízálló papírból<br>műanyagból<br>textilszövetből<br>gumibevonatú textilszövetből<br>műanyagszövetből  | <b>Zsákok (csak az UN 0150-hez)</b><br>műanyagból<br>műanyag bevonatú vagy bélésű<br>textilszövetből | <b>Zsákok</b><br>portömör műanyagszövet<br>zsákok (5H2)<br>vízálló műanyagszövet zsákok (5H3)<br>műanyagfólia zsákok (5H4)<br>portömör textilzsákok (5L2)<br>vízálló textilzsákok (5L3)<br>többretegű vízálló papírszákok (5M2)<br><b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>habosított műanyag ládák (4H1)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Különleges csomagolási előírások:</b><br><b>PP26</b> Az UN 0004, 0076, 0078, 0154, 0216, 0219, 0386-hoz használt csomagolóeszközök nem tartalmazhatnak ólmot.<br><b>PP46</b> Az UN 0209 esetében portömör zsák (5H2) csak a pelyhesített vagy szemcsézett, száraz TNT-hez és legfeljebb 30 kg nettó tömegig ajánlott.<br><b>PP47</b> Az UN 0222 anyagaihoz nem szükséges belső csomagolás, ha a külső csomagolás zsák. |  |  |

| <b>P112c</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P112c</b><br><b>(az 1.1D osztályozási kód szilárd, száraz, porszerű anyagaihoz)</b>   |  |   |
|---|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.   |  |   |
| <b>Belső csomagolóeszközök és kialakítások</b>  | <b>Köztes csomagolóeszközök és kialakítások</b>  | <b>Külső csomagolóeszközök és kialakítások</b>  |
| <b>Zsákok</b><br>többrétegű vízálló papírból<br>műanyagból<br>műanyagszövetből<br><br><b>Tartályok</b><br>papírolemből<br>fémből<br>műanyagból<br>fából   | <b>Zsákok</b><br>többrétegű, vízálló papírból,<br>béléssel<br>műanyagból<br><br><b>Tartályok</b><br>fémből<br>műanyagból | <b>Ládák</b><br>acélládák (4A)<br>közönséges faládák (4C1)<br>alumíniumládák (4B)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírolemez ládák (4G)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírolemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Kiegészítő követelmények:</b><br><b>1.</b> Nem szükségesek belső csomagolások, ha külső csomagolásként hordót használnak.<br><b>2.</b> A csomagolóeszköznek portömörnek kell lennie.   |  |   |
| <b>Különleges csomagolási előírások:</b><br><b>PP26</b> Az UN 0004, 0076, 0078, 0154, 0216, 0219, 0386-hez használt csomagolóeszközök nem tartalmazhatnak ólmot.<br><b>PP46</b> Az UN 0209 esetében portömör zsák (5H2) csak a pelyhesített vagy szemcsézett, száraz TNT-hez és legfeljebb 30 kg nettó tömegig ajánlott.<br><b>PP48</b> Az UN 0504 anyagaihoz fém csomagolóeszközök nem használhatók. |  |   |

| P113 CSOMAGOLÁSI UTASÍTÁS P113  |  |   |
|---|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.   |  |   |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások   |
| <b>Zsákok</b><br>papírból<br>műanyagból<br>gumibevonatú textilszövetből<br><br><b>Tartályok</b><br>papírlémezről<br>fémből<br>műanyagból<br>fából   | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlémez ládák (4G)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlémez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Kiegészítő követelmény:</b><br>A csomagolóeszköznek portömörnek kell lennie.   |  |   |
| <b>Különleges csomagolási előírások:</b><br><b>PP49</b> Az UN 0094 és 0305 esetében egy belső csomagolásba legfeljebb 50 g anyag csomagolható.<br><b>PP50</b> Az UN 0027 esetében belső csomagolások nem szükségesek, ha külső csomagolásként hordót használnak.<br><b>PP51</b> Az UN 0028-hoz belső csomagolásként nátronpapír vagy viaszolt papír burkolatok is használhatók. |  |   |

| <b>P114a</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P114a</b><br><b>(nedvesített szilárd anyagokhoz)</b>   |  |  |
|--|--|--|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.  |  |  |
| Belső csomagolóeszközök és kialakítások  | Köztes csomagolóeszközök és kialakítások   | Külső csomagolóeszközök és kialakítások  |
| <b>Zsákok</b><br>műanyagból<br>textilszövetből<br>műanyagszövetből<br><br><b>Tartályok</b><br>fémből<br>műanyagból   | <b>Zsákok</b><br>műanyagból<br>műanyag bevonatú vagy bélésű<br>textilszövetből<br><br><b>Tartályok</b><br>fémből<br>műanyagból | <b>Ládák</b><br>acélládák (4A)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Kiegészítő követelmény:</b><br>Nem szükséges köztes csomagolás, ha külső csomagolásként folyadéktömör, levehető tetejű hordót használnak.   |  |  |
| <b>Különleges csomagolási előírások:</b><br><b>PP26</b> Az UN 0077, 0132, 0234, 0235 és 0236-hoz használt csomagolóeszközök nem tartalmazhatnak ólmot.<br><b>PP43</b> Az UN 0342 esetében nem szükséges belső csomagolás, ha külső csomagolásként fémhordót (1A2 vagy 1B2) vagy műanyag hordót (1H2) használnak. |  |  |

| <b>P114b</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P114b</b><br><b>(száraz szilárd anyagokhoz)</b>   |  |  |
|---|--|--|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.   |  |  |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások  |
| <b>Zsákok</b><br>nátrónpapírból<br>műanyagból<br>portömör textilszövetből<br>portömör műanyagszövetből<br><br><b>Tartályok</b><br>papírlemezről<br>fémből<br>papírból<br>műanyagból<br>portömör műanyagszövetből  | Nem szükséges                            | <b>Ládák</b><br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)/<br>papírlemez ládák (4G)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Különleges csomagolási előírások:</b><br><b>PP26</b> Az UN 0077, 0132, 0234, 0235 és 0236-hoz használt csomagolóeszközök nem tartalmazhatnak ólmot.<br><b>PP48</b> Az UN 0508 anyaghoz fém csomagolóeszköz nem használható.<br><b>PP50</b> Az UN 0160, UN 0161 és UN 0508 anyagaihoz nem szükségesek belső csomagolóeszközök, ha külső csomagolásként hordókat használnak.<br><b>PP52</b> Ha az UN 0160 és UN 0161 anyagaihoz külső csomagolásként fémhordót (1A2 vagy 1B2) használnak, a fém csomagolóeszközöket úgy kell kialakítani, hogy a belső nyomás belső vagy külső okokból történő növekedése ne okozzon robbanásveszélyt. |  |  |

| P115 CSOMAGOLÁSI UTASÍTÁS P115  |   |  |
|---|---|--|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.   |   |  |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások                                    | Külső csomagolóeszközök és kialakítások  |
| <b>Tartályok</b><br>műanyagból  | <b>Zsákok</b><br>műanyagból fém tartályokban<br><br><b>Hordók</b><br>fémből | <b>Ládák</b><br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Különleges csomagolási előírások:</b><br><b>PP45</b> Az UN 0144-hez nem szükséges köztes csomagolás.<br><b>PP53</b> Ha az UN 0075, 0143, 0495 és 0497 anyagaihoz külső csomagolásként ládákat használnak, akkor a belső csomagolásokat kúpos, csavarmenetes kupakkal kell zárni és térfogatuk egyenként nem haladhatja meg az 5 litert. A belső csomagolásokat körül kell venni nem éghető, abszorbeáló párnázóanyaggal. Az abszorbeáló párnázóanyag mennyiségének elegendőnek kell lennie a folyadéktartalmak felszívásához. A fémtartályokat párnázattal kell egymástól elválasztani. Ha a külső csomagolás láda, a hajtóanyag nettó mennyisége egy küldeménydarabban legfeljebb 30 kg lehet.<br><b>PP54</b> Ha az UN 0075, 0143, 0495 és 0497 anyagaihoz külső csomagolásként hordókat használnak és a köztes csomagolás hordó, ezt olyan mennyiségű nem éghető párnázóanyaggal kell körülvenni, ami elegendő a folyadéktartalmak abszorbeálásához. A belső és a köztes csomagolóeszközök helyett fémhordóban levő műanyag tartályból álló összetett csomagolóeszköz is használható. A hajtóanyag nettó mennyisége egy küldeménydarabban nem haladhatja meg a 120 litert.<br><b>PP55</b> Az UN 0144 anyagaihoz abszorbeáló párnázóanyagot kell behelyezni.<br><b>PP56</b> Az UN 0144 anyagaihoz belső csomagolásként fém tartályok is használhatók.<br><b>PP57</b> Az UN 0075, 0143, 0495 és 0497 anyagaihoz köztes csomagolásként zsákot kell használni ha külső csomagolásként ládákat használnak.<br><b>PP58</b> Az UN 0075, 0143, 0495 és 0497 anyagaihoz köztes csomagolásként hordót kell használni, ha külső csomagolásként hordókat használnak.<br><b>PP59</b> Az UN 0144 anyagaihoz külső csomagolásként papírlemez ládák (4G) is használhatók.<br><b>PP60</b> Az UN 0144 anyagaihoz levehető tetejű alumíniumhordók (1B2) nem használhatók. |   |  |



| CSOMAGOLÁSI UTASÍTÁS   |  |  |
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| P116   |  | P116   |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.  |  |  |
| Belső csomagolóeszközök és kialakítások  | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások  |
| <b>Zsákok</b><br>víz- és olajálló papírból<br>műanyagból<br>portömör műanyagszövetből<br>műanyag bevonatú vagy bélésű<br>textilszövetből<br><br><b>Tartályok</b><br>vízálló papírlemezről<br>fémről<br>műanyagból<br>fából portömör kivitelben<br><br><b>Burkolatok</b><br>vízálló papírból<br>viaszolt papírból<br>műanyagból   | Nem szükséges                            | <b>Zsákok</b><br>műanyagszövet zsákok (5H1)<br>többrétegű vízálló papírsákok (5M2)<br>műanyagfólia zsákok (5H4)<br>portömör textilsákok (5L2)<br>vízálló textilsákok (5L3)<br><b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2)<br><b>Kannák</b><br>acélkannák levehető tetővel (3A2)<br>műanyag kannák levehető tetővel (3H2) |
| <b>Különleges csomagolási előírások:</b><br><b>PP61</b> Az UN 0082, 0241, 0331 és 0332 anyagaihoz nem szükségesek belső csomagolóeszközök, ha folyadéktömör, levehető tetejű hordókat használnak külső csomagolásként.<br><b>PP62</b> Az UN 0082, 0241, 0331 és 0332 anyagaihoz belső csomagolóeszközök nem szükségesek, ha a robbanóanyagot folyadékot át nem eresztő anyag tartalmazza.<br><b>PP63</b> Az UN 0081 anyagaihoz nem szükségesek belső csomagolóeszközök, ha az merev falú műanyag csomagolóeszközben van, ami a salétromsav-észterekkel szemben áthatolhatatlan.<br><b>PP64</b> Az UN 0331 anyagaihoz belső csomagolóeszközök nem szükségesek, ha külső csomagolásként zsákok (5H2), (5H3) vagy (5H4) használatosak.<br><b>PP65</b> Az UN 0082, 0241, 0331 és 0332 anyagaihoz külső csomagolásként zsákok (5H2 és 5H3) is használhatók<br><b>PP66</b> Az UN 0081 anyagaihoz külső csomagolásként zsákok nem használhatók. |  |  |

| P130   | CSOMAGOLÁSI UTASÍTÁS                     |   | P130 |
|--|--|---|------|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.  |  |   |      |
| Belső csomagolóeszközök és kialakítások  | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások   |      |
| Nem szükséges  | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>habosított műanyag ládák (4H1)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |      |
| <b>Különleges csomagolási előírások:</b>   |  |   |      |
| <b>PP67</b> A következőket kell alkalmazni az UN 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0243, 0244, 0245, 0246, 0254, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0328, 0329, 0344, 0345, 0346, 0347, 0362, 0363, 0370, 0412, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0488 és 0502 tárgyaihoz: A rendszerint katonai célú, nagyméretű, robusztus robbanótárgyak gyújtószerkezeteik nélkül vagy gyújtószerkezettel, de legalább két hatékony védszerkezettel csomagolatlanul szállíthatók. Ha az ilyen tárgyak hajtótöltetet tartalmaznak vagy önhajtók, akkor gyújtórendszereiket védeni kell a normális szállítási feltételek melletti működésbe lépéssel szemben. Ha a csomagolatlan tárgy a 4. vizsgálati sorozatban negatív eredményt ad, ez jelzi, hogy az csomagolás nélküli szállításra figyelembe vehető. Az ilyen csomagolatlan tárgyak csúszótalpakra erősíthetők vagy keretekbe vagy más alkalmas anyagmozgató eszközbe helyezhetők. |  |   |      |

| P131 CSOMAGOLÁSI UTASÍTÁS P131  |  |  |
|---|--|--|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják. |  |  |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások  |
| <b>Zsákok</b><br>papírból<br>műanyagból<br><br><b>Tartályok</b><br>papírlemezről<br>fémből<br>műanyagból<br>fából<br><br><b>Orsók</b>                         | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közösleges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Különleges csomagolási előírás:</b><br><b>PP68</b> Az UN 0029, 0267 és 0455 esetében belső csomagolásként zsákok és orsók nem használhatók.                |  |  |

| P132a CSOMAGOLÁSI UTASÍTÁS P132a   |  |  |
|--|--|--|
| (zárt fém, műanyag vagy papírlemez házból álló tárgyakhoz, amelyek detonáló robbanóanyagot tartalmaznak vagy műanyag kötésű detonáló robbanóanyagokból készült tárgyakhoz) |  |  |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.              |  |  |
| Belső csomagolóeszközök és kialakítások  | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások  |
| Nem szükséges  | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közösleges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>tömör műanyag ládák (4H2) |

| <b>P132b</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P132b</b>   |   |  |
|---|---|--|
| <b>(zárt ház nélküli tárgyakhoz)</b>  |   |  |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják. |   |  |
| <b>Belső csomagolóeszközök és kialakítások</b>  | <b>Köztes csomagolóeszközök és kialakítások</b> | <b>Külső csomagolóeszközök és kialakítások</b>   |
| <b>Tartályok</b><br>papírlémezről<br>fémből<br>műanyagból<br><br><b>Burkolatok</b><br>papírból<br>műanyagból  | Nem szükséges                                   | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlémez ládák (4G)<br>tömör műanyag ládák (4H2) |

| <b>P133</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P133</b>   |  |  |
|---|--|--|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják. |  |  |
| <b>Belső csomagolóeszközök és kialakítások</b>  | <b>Köztes csomagolóeszközök és kialakítások</b>                    | <b>Külső csomagolóeszközök és kialakítások</b>   |
| <b>Tartályok</b><br>papírlémezről<br>fémből<br>műanyagból<br>fából<br><br><b>Tálcák megosztó válaszfalakkal</b><br>papírlémezről<br>műanyagból<br>fából       | <b>Tartályok</b><br>papírlémezről<br>fémből<br>műanyagból<br>fából | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlémez ládák (4G)<br>tömör műanyag ládák (4H2) |
| <b>Kiegészítő követelmény:</b><br>Tartályok köztes csomagolásként csak akkor szükségesek, ha a belső csomagolóeszközök tálcák.                                |  |  |
| <b>Különleges csomagolási előírás:</b><br><b>PP69</b> Az UN 0043, 0212, 0225, 0268 és 0306-hoz belső csomagolóeszközként tálcák nem használhatók.             |  |  |

| P134 CSOMAGOLÁSI UTASÍTÁS P134   |  |   |
|--|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.                              |  |   |
| Belső csomagolóeszközök és kialakítások  | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások   |
| <b>Zsákok</b><br>vízálló<br><br><b>Tartályok</b><br>papírlemezből<br>fémből<br>műanyagból<br>fából<br><br><b>Burkolatok</b><br>hullámpapírlemezről<br><br><b>Hüvelyek</b><br>papírlemezről | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>habosított műanyag ládák (4H1)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |

| P135 CSOMAGOLÁSI UTASÍTÁS P135   |  |   |
|--|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.            |  |   |
| Belső csomagolóeszközök és kialakítások  | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások   |
| <b>Zsákok</b><br>papírból<br>műanyagból<br><br><b>Tartályok</b><br>papírlemezről<br>fémből<br>műanyagból<br>fából<br><br><b>Burkolatok</b><br>papírból<br><br>műanyagból | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>habosított műanyag ládák (4H1)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |

| P136 CSOMAGOLÁSI UTASÍTÁS P136  |  |   |
|---|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.       |  |   |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások   |
| <b>Zsákok</b><br>műanyagból<br>textilszövetből<br><br><b>Ládák</b><br>papírlamezből<br>műanyagból<br>fából<br><br><b>Megosztó válaszfalak a külső csomagolásban</b> | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlamez ládák (4G)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlamez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |

| P137 CSOMAGOLÁSI UTASÍTÁS P137  |  |  |
|---|--|--|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.   |  |  |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások  |
| <b>Zsákok</b><br>műanyagból<br><br><b>Ládák</b><br>papírlamezből<br><br><b>Hüvelyek</b><br>papírlamezből<br>fémből<br>műanyagból<br><br><b>Megosztó válaszfalak a külső csomagolásban</b>   | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlamez ládák (4G)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlamez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Különleges csomagolási előírás:</b><br><b>PP70</b> Ha az UN 0059, 0439, 0440 és 0441 formázott tölteteket egyenként csomagolják, a kúpos üregnek lefelé kell néznie és a küldeménydarabot el kell látni a „FÖLFELÉ” jelöléssel. Ha a formázott tölteteket páronként csomagolják, a kúpos üregeknek befelé kell nézniük, hogy véletlen beindulás esetén a jet-hatás minimális legyen. |  |  |

| P138 CSOMAGOLÁSI UTASÍTÁS P138  |  |   |
|---|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják. |  |   |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások   |
| <b>Zsákok</b><br>műanyagból   | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Kiegészítő követelmény:</b><br>Ha a tárgyak végei zártak, belső csomagolóeszközök nem szükségesek.   |  |   |

| P139 CSOMAGOLÁSI UTASÍTÁS P139  |  |   |
|---|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.   |  |   |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások   |
| <b>Zsákok</b><br>műanyagból<br><br><b>Tartályok</b><br>papírlemezből<br>fémből<br>műanyagból<br>fából<br><br><b>Orsók</b><br><br><b>Burkolatok</b><br>papírból<br>műanyagból  | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Különleges csomagolási előírások:</b><br><b>PP71</b> Az UN 0065, 0102, 0104, 0289 és 0290 estében a robbanózsínórok végeit le kell zárni, pl. szorosan záró dugóval, úgy, hogy a robbanóanyag ne szabadulhasson ki. A hajlékony robbanózsínórok végeit szorosan le kell kötni.<br><b>PP72</b> Az UN 0065 és 0289 esetében nem szükségesek belső csomagolóeszközök, ha azok tekercselve vannak. |  |   |

| P140 CSOMAGOLÁSI UTASÍTÁS P140   |  |   |
|--|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.  |  |   |
| Belső csomagolóeszközök és kialakítások  | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások   |
| <b>Zsákok</b><br>műanyagból<br><br><b>Orsók</b><br><br><b>Burkolatok</b><br>nátronpapírból<br>műanyagból   | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Különleges csomagolási előírások:</b><br><b>PP73</b> Az UN 0105 esetében nem szükségesek belső csomagolóeszközök, ha a tárgyak végei zártak.<br><b>PP74</b> Az UN 0101 esetében a csomagolóeszköznek portömörnek kell lennie, kivéve, ha a gyújtó papírhüvellyel van burkolva és a hüvely mindkét vége el van látva levehető sapkával.<br><b>PP75</b> Az UN 0101 tárgyaihoz acél vagy alumínium ládák és hordók nem használhatók. |  |   |

| P141 CSOMAGOLÁSI UTASÍTÁS P141  |  |   |
|---|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.                                   |  |   |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások   |
| <b>Tartályok</b><br>papírlemezről<br>fémből<br>műanyagból<br>fából<br><br><b>Tálcák megosztó válaszfalakkal</b><br>műanyagból<br>fából<br><br><b>Megosztó válaszfalak a külső csomagolásban</b> | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |



| P142 CSOMAGOLÁSI UTASÍTÁS P142  |  |   |
|---|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.   |  |   |
| Belső csomagolóeszközök és kialakítások   | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások   |
| <b>Zsákok</b><br>papírból<br>műanyagból<br><br><b>Tartályok</b><br>papírlemezről<br>fémből<br>műanyagból<br>fából<br><br><b>Burkolatok</b><br><br>papírból<br><br><b>Tálcák megosztó válaszfalakkal</b><br>műanyagból | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |

| P143 CSOMAGOLÁSI UTASÍTÁS P143   |  |   |
|--|--|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.  |  |   |
| Belső csomagolóeszközök és kialakítások  | Köztes csomagolóeszközök és kialakítások | Külső csomagolóeszközök és kialakítások   |
| <b>Zsákok</b><br>nátronpapírból<br>műanyagból<br>textilszövetből<br>gumibevonatú textilszövetből<br><br><b>Tartályok</b><br>papírlemezről<br>fémből<br>műanyagból<br><br><b>Tálcák megosztó válaszfalakkal</b><br>műanyagból<br>fából  | Nem szükséges                            | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Kiegészítő követelmény:</b><br>A fenti belső és külső csomagolóeszközök helyett összetett csomagolóeszköz (6HH2) (műanyag tartály külső tömör műanyag ládával) is használható.  |  |   |
| <b>Különleges csomagolási előírás:</b><br><b>PP76</b> Ha az UN 0271, 0272, 0415 vagy 0491-hez fém csomagolóeszközöket használnak, a fém csomagolóeszközöket úgy kell kialakítani, hogy a belső nyomás belső vagy külső okokból történő növekedése ne okozzon robbanásveszélyt. |  |   |

| <b>P144</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P144</b>   |   |   |
|---|---|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.   |   |   |
| <b>Belső csomagolóeszközök és kialakítások</b>  | <b>Köztes csomagolóeszközök és kialakítások</b> | <b>Külső csomagolóeszközök és kialakítások</b>  |
| <b>Tartályok</b><br>papírlémezről<br>fémről<br>műanyagból<br><br><b>Megosztó válaszfalak a külső csomagolásban</b>  | Nem szükséges                                   | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1) fém-béléssel<br>rétegelt falemez ládák (4D) fém-béléssel<br>farostlemez ládák (4F) fém-béléssel<br>habosított műanyag ládák (4H1)<br>tömör műanyag ládák (4H2)<br><b>Hordók</b><br>acélhordók levehető tetővel (1A2)<br>alumíniumhordók levehető tetővel (1B2)<br>műanyag hordók levehető tetővel (1H2) |
| <b>Különleges csomagolási előírás:</b><br><b>PP77</b> Az UN 0248 és 0249-hez használt csomagolásokat védeni kell a víz behatolásával szemben. Ha a vízzel aktiválható szerkezeteket csomagolatlanul szállítják, azokat legalább két, független védőszerkezettel kell ellátni, ami megakadályozza a víz behatolását. |   |   |

| P200  | CSOMAGOLÁSI UTASÍTÁS   | P200 |
|---|--|------|
| <b>A csomagolóeszköz típusa</b>   |  |      |
| Palack, nagypalack, gázhordó és palackköteg.  |  |      |
| Palackok, nagypalackok, gázhordók és palackkötegek használhatók, feltéve, hogy a 4.1.6 szakasz különleges csomagolási előírásait és a következő 1) – 11) bekezdés előírásait betartják.   |  |      |
| <b>Általános előírások</b>  |  |      |
| 1) A tartályokat úgy kell lezárni és tömíteni, hogy megakadályozzák a gáz kiszabadulását.   |  |      |
| 2) A táblázatok szerint 200 ml/m <sup>3</sup> (ppm) vagy annál kisebb LC <sub>50</sub> értékkel rendelkező mérgező anyagokat tartalmazó nyomástartó tartályokon nem lehet semmiféle nyomáscsökkentő szerkezet. Az UN 1013 szén-dioxid és az UN 1070 dinitrogén-oxid szállítására használt UN nyomástartó tartályokat nyomáscsökkentő szerkezettel kell ellátni. |  |      |
| 3) A következő három táblázat a sűrített gázokra (1 táblázat), a cseppfolyósított és oldott gázokra (2 táblázat) és a nem a 2 osztályba tartozó anyagokra (3 táblázat) vonatkozik. A táblázatokban a következők szerepelnek:  |  |      |
| a) az anyag UN száma, megnevezése és leírása, valamint osztályozási kódja;  |  |      |
| b) mérgező anyagok esetén az LC <sub>50</sub> érték;  |  |      |
| c) az anyaghoz használható nyomástartó tartály típusa, amit „X” betű jelöl;   |  |      |
| d) a nyomástartó tartályok időszakos vizsgálatának legnagyobb időköze;  |  |      |
| <b>Megjegyzés:</b> A kompozit anyagok felhasználásával készült nyomástartó tartályokra az időszakos vizsgálat gyakoriságát a tartályt jóváhagyó illetékes hatóságnak kell meghatározni.   |  |      |
| e) a nyomástartó tartályok legkisebb próbanyomása;  |  |      |
| f) sűrített gázok tartályainál a legnagyobb üzemi nyomás vagy cseppfolyósított, ill. oldott gázok tartályainál a legnagyobb töltési fok(ok);  |  |      |
| g) az egyes anyagokra vonatkozó különleges csomagolási előírások.   |  |      |
| <b>Próbanyomás, töltési fok és töltési előírások</b>  |  |      |
| 4) Az előírt legkisebb próbanyomás 1 MPa (10 bar);  |  |      |
| 5) A nyomástartó tartályokat semmilyen esetben sem szabad a következő követelmények által meghatározott határoknál nagyobb mértékben megtölteni:  |  |      |
| a) Sűrített gázok esetén az üzemi nyomás nem lehet nagyobb, mint a nyomástartó tartály próbanyomásának kétharmada. Az üzemi nyomás felső határára az „o” különleges csomagolási előírás további korlátozást tartalmaz. A belső nyomás 65 °C-on semmilyen esetben sem haladhatja meg a próbanyomást.   |  |      |
| b) Nagy nyomáson cseppfolyósított gázok esetén a töltési foknak akkorának kell lennie, hogy az állandósult nyomás 65 °C-on ne haladja meg a nyomástartó tartály próbanyomását.  |  |      |
| A táblázatban megadottól eltérő próbanyomás és töltési fok is alkalmazható, kivéve ott, ahol az „o” különleges csomagolási előírás szerepel, akkor ha   |  |      |
| i) az „r” különleges csomagolási előírás teljesül, ha az elő van írva; vagy   |  |      |
| ii) minden más esetben az előző követelmény teljesül.   |  |      |
| Azoknál a nagy nyomáson cseppfolyósított gázoknál és gázkeverékeknél, amelyekre vonatkozóan nem áll rendelkezésre adat, a legnagyobb töltési fokot (TF) a következő képlettel kell meghatározni:  |  |      |
| $TF = 8,5 \cdot 10^{-4} \cdot d_g \cdot P_e$  |  |      |
| ahol  | TF = a megengedett legnagyobb töltési fok  |      |
|   | d <sub>g</sub> = a gáz sűrűsége (15 °C-on és 1 bar nyomáson) (kg/m <sup>3</sup> -ben)      |      |
|   | P <sub>e</sub> = a legkisebb próbanyomás (bar-ban).  |      |
| Ha a gáz sűrűsége nem ismert, a töltési fokot a következő képlettel kell meghatározni:  |  |      |
| $TF = \frac{P_e \cdot MM \cdot 10^{-3}}{R \cdot 338}$   |  |      |
| ahol  | TF = megengedett legnagyobb töltési fok  |      |
|   | P <sub>e</sub> = a legkisebb próbanyomás (bar-ban)   |      |
|   | MM = a gáz molekulatömege (g/mol-ban)  |      |
|   | R = 8,31451 · 10 <sup>-2</sup> bar · l · mol <sup>-1</sup> · K <sup>-1</sup> (gázállandó). |      |
| Gázkeverékeknél az egyes alkotórészek térfogat arányának figyelembevételével kapott átlagos molekulatömeget kell alkalmazni.  |  |      |

| P200<br>(folyt.) | CSOMAGOLÁSI UTASÍTÁS   | P200<br>(folyt.) |
|------------------|--|------------------|
|                  | <p>c) Kis nyomáson cseppfolyósított gázoknál a töltési fok (az ürtartalom-literenkénti legnagyobb töltőtömeg) a folyadékfázis 50 °C-on fennálló sűrűségének 0,95-szorosa, ezenkívül a folyadékfázis 60 °C alatt nem töltheti ki teljesen a tartályt. A próbanyomásnak legalább akkorának kell lennie, mint a folyékony anyag 65 °C-on fennálló gőznyomása (abszolút nyomás) mínusz 100 kPa (1 bar).</p> <p>Azoknál a kis nyomáson cseppfolyósított gázoknál és gázkeverékeknél, amelyekre vonatkozóan nem áll rendelkezésre adat, a legnagyobb töltési fokot a következő képlettel kell meghatározni:</p> $TF = (0,0032 \cdot BP - 0,24) \cdot d_l,$ <p>ahol</p> <p><math>TF</math> = a megengedett legnagyobb töltési fok</p> <p><math>BP</math> = a forráspont (Kelvin fokban)</p> <p><math>d_l</math> = a folyékony anyag sűrűsége a forrásponton (kg/l-ben).</p> <p>d) Az UN 1001 oldott acetilénre és az UN 3374 oldószermentes acetilénre lásd a 10) bekezdésben a „p” különleges csomagolási előírást.</p> <p>6) Eltérő próbanyomás és töltési fok is alkalmazható, amennyiben az előző 4) és 5) bekezdésben leírt általános követelményeket kielégítik.</p> <p>7) A nyomástartó tartályok töltése csak különleges felszereltségű helyeken, szakképzett személyzettel és megfelelő eljárással végezhető.</p> <p>Az eljárásnak ki kell terjednie annak ellenőrzésére, hogy</p> <ul style="list-style-type: none"> <li>– a tartály és szerelvényei megfelelnek a vonatkozó szabályzatoknak;</li> <li>– a szállítandó termékkel összeférhetőek;</li> <li>– nincs biztonságot befolyásoló sérülésük;</li> <li>– a töltési fokot, ill. a töltési nyomást betartották;</li> <li>– a feliratok és a jelölések szabályszerűek.</li> </ul> <p><b>Időszakos vizsgálat</b></p> <p>8) Az újratölthető, nyomástartó tartályokat a 6.2.1.6, ill. a 6.2.3.5 bekezdés előírásai szerint kell időszakos vizsgálatnak alávetni.</p> <p>9) Ha valamely anyagra a következő táblázatokban nincs különleges előírás feltüntetve, az időszakos vizsgálatot a következők szerint kell végrehajtani:</p> <ul style="list-style-type: none"> <li>a) az 1T, 1TF, 1TO, 1TC, 1TFC, 1TOC, 2T, 2TO, 2TF, 2TC, 2TFC, 2TOC, 4A, 4F és 4TC osztályozási kód alá tartozó gázok szállítására szolgáló nyomástartó tartályok esetében 5 évenként;</li> <li>b) a többi osztály anyagainak szállítására szolgáló nyomástartó tartályok esetében 5 évenként;</li> <li>c) az 1A, 1O, 1F, 2A, 2O és 2F osztályozási kód alá tartozó gázok szállítására szolgáló nyomástartó tartályok esetében 10 évenként.</li> </ul> <p>E bekezdéstől eltérően a kompozit anyagok felhasználásával készült, nyomástartó tartályok (nyomástartó kompozit tartályok) időszakos vizsgálatát azon ADR Szerződő Fél illetékes hatósága által meghatározott időszakonként kell elvégezni, amely a szerkezetre és a gyártásra vonatkozó műszaki szabályzatot jóváhagyta.</p> <p><b>Különleges csomagolási előírások</b></p> <p>10) A „különleges csomagolási előírások” oszlop jelmagyarázata</p> <p>Az <i>anyagok összeférhetősége</i> (gázokra lásd az ISO 11114-1:1997 és az ISO 11114-2:2000 szabványt)</p> <ul style="list-style-type: none"> <li>a: Alumíniumötvözetből készült tartály nem használható.</li> <li>b: Rézből készült szelepek nem használhatók.</li> <li>c: A tartalommal érintkezésbe kerülő fémrészek legfeljebb 65% rezet tartalmazhatnak.</li> <li>d: Acélból készült, nyomástartó tartályokhoz csak a hidrogén hatására bekövetkező ridegedésnek ellenálló minőségű acélok használhatók.</li> </ul> <p>A 200 ml/m<sup>3</sup>-nél (ppm-nél) kisebb <math>LC_{50}</math> értékű anyagokra vonatkozó követelmények</p> <ul style="list-style-type: none"> <li>k: A szelepníylásokat gázzáró dugóval vagy sapkával kell ellátni, ami olyan anyagból készült, amit a nyomástartó tartály tartalma nem támad meg.</li> </ul> <p>Egy palackkötegen belül minden palackot saját zárószeleppel kell ellátni, amelyet a szállítás alatt zárva kell tartani. Töltés után a gyújtócsövet légteleníteni kell, át kell öblíteni és le kell</p> |                  |

| P200<br>(folyt.) | CSOMAGOLÁSI UTASÍTÁS  | P200<br>(folyt.) |
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|                  | <p>zárni.</p> <p>Az UN 1045 sűrített fluort tartalmazó palackkötegek palackjainál nem szükséges minden palackot leválasztó szeleppel ellátni, ehelyett elegendő a legfeljebb 150 l összes víztérfogatú palack-csoportokra leválasztó szelepet tenni.</p> <p>A palackoknál, ill. a palackkötegek egyes palackjainál a próbanyomásnak legalább 200 bar-nak kell lennie, és a legkisebb falvastagság alumínium ötvözet esetén 3,5 mm, acél esetén 2 mm lehet. Azok az egyedi palackok, amelyek nem felelnek meg ezeknek a követelményeknek, csak olyan merev, külső csomagolóeszközben szállíthatók, amely az I csomagolási csoport követelményeit kielégíti és kellően megvédi a palackot és szerelvényeit. A gázhordók legkisebb falvastagságát az illetékes hatóságnak kell meghatároznia.</p> <p>A nyomástartó tartályon nem lehet nyomáscsökkentő szerkezet.</p> <p>A palackoknak, ill. a palackkötegek egyes palackjainak a víztérfogata legfeljebb 85 liter lehet.</p> <p>A szelepeknek kúpos menetes csatlakozással közvetlenül a nyomástartó tartályhoz kell csatlakozniuk és képesnek kell lenniük a nyomástartó tartály próbanyomásának elviselésére.</p> <p>A szelepeknek vagy nem perforált membránnal kialakított, tömítés nélküli típusúnak kell lenniük vagy olyanoknak, ami megakadályozza a tömítésen keresztüli vagy a tömítés melletti szivárgást.</p> <p>Kapszulákban történő szállítás nem engedélyezett.</p> <p>Töltés után minden nyomástartó tartály tömörségét ellenőrizni kell.</p> <p><i>Egyes gázokra vonatkozó előírások</i></p> <p>l: Az UN 1040 etilén-oxid légmentesen zárt üveg vagy fém belső csomagolásokban is szállítható, amelyek párnázóanyag között, az I csomagolási csoportnak megfelelő papírlemez, fa- vagy fémládában vannak. A megengedett legnagyobb mennyiség üveg belső csomagolás esetén 30 g, fém belső csomagolás esetén 200 g. Töltés után minden belső csomagolás tömörségét forróvizet fürdőbe mártva olyan hőmérsékleten és időtartamig kell vizsgálni, ami elegendő ahhoz, hogy a belső nyomás elérje az etilén-oxid 55 °C-on fennálló gőznyomását. Egy külső csomagolásban a legnagyobb nettó tömeg legfeljebb 2,5 kg lehet.</p> <p>m: A nyomástartó tartályokat úgy kell megtölteni, hogy az üzemi nyomás ne haladja meg az 5 bar-t.</p> <p>n: A palackok, ill. a palackköteg egyes palackjai legfeljebb 5 kg gázt tartalmazhatnak. Ha az UN 1045 sűrített fluort tartalmazó palackköteg a „k” különleges csomagolási előírás szerint palack-csoportokra van osztva, egy csoport legfeljebb 5 kg gázt tartalmazhat.</p> <p>o: Az üzemi nyomás, ill. a töltési fok semmi esetre sem haladhatja meg a táblázatban feltüntetett értéket.</p> <p>p: UN 1001 oldott acetilén és az UN 3374 oldószermentes acetilén esetén a palackokat homogén, monolit, porózus anyaggal kell kitölteni; az üzemi nyomás és az acetilén mennyisége nem haladhatja meg a jóváhagyásban meghatározott vagy az ISO 3807-1:2000, ill. az ISO 3807-2:2000 szabványban szereplő értéket.</p> <p>UN 1001 oldott acetilén esetén a palacknak a jóváhagyásban meghatározott mennyiségű acetont vagy más alkalmas oldószert kell tartalmaznia (lásd az ISO 3807-1:2000, ill. az ISO 3807-2:2000 szabványt); a nyomáscsökkentő szerkezettel ellátott és az összekapcsolt palackokat függőleges helyzetben kell szállítani.</p> <p>Alternatívaként az UN 1001 oldott acetilénhez használt olyan palack, amely nem UN nyomástartó tartály, nem monolit, porózus anyaggal is megtölthető; az üzemi nyomás, az acetilén és az oldószer mennyisége nem haladhatja meg az engedélyben előírt értéket. A palack időszakos vizsgálatának időköze legfeljebb öt év lehet.</p> <p>Az 52 bar próbanyomást csak az ISO 3807-2:2000 szabványnak megfelelő palackokra kell alkalmazni.</p> <p>q: A piroforos gázokhoz és az 1%-nál több piroforos alkotórészt tartalmazó, gyúlékony gázkeverékekhez használt nyomástartó tartályokat gázzáró dugóval vagy sapkával kell ellátni, ami olyan anyagból készült, amit a nyomástartó tartály tartalma nem támad meg. Ha a nyomástartó tartályok palackköteget képeznek, minden egyes tartályt saját szeleppel kell ellátni, amit a szállítás alatt zárva kell tartani, és a gyűjtőcső vezeték kimenő szelepeit</p> |                  |

| P200<br>(folyt.) | CSOMAGOLÁSI UTASÍTÁS  | P200<br>(folyt.) |
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|                  | <p>gázzáró dugóval vagy sapkával kell ellátni. Kapszulákban történő szállítás nem engedélyezett.</p> <p>r: A gáz töltési fokát úgy kell korlátozni, hogy a nyomás a gáz teljes elbomlása esetén sem lehet nagyobb, mint a nyomástartó tartály próbanyomásának kétharmada.</p> <p>ra: Kapszulákban szállítható a következő feltételek mellett:</p> <ul style="list-style-type: none"> <li>a) a gáz mennyisége nem haladhatja meg a 150 g-ot kapszulánként;</li> <li>b) a kapszuláknak mentesnek kell lenniük az olyan hibáktól, amelyek ellenálló-képességüket csökkenthetnék;</li> <li>c) a zárás tömörségét kiegészítő szerkezettel (kupakkal, sapkával, lehegesztéssel, lekötéssel stb.) kell biztosítani, ami alkalmas a zárórendszer szállítás alatti tömítetlenné válásának megakadályozására;</li> <li>d) a kapszulákat kielégítő szilárdságú külső csomagolásba kell helyezni. Egy küldeménydarab tömege nem lehet 75 kg-nál nagyobb.</li> </ul> <p>s: Az alumíniumötvözet nyomástartó tartályokat:</p> <ul style="list-style-type: none"> <li>– csak réz vagy rozsdamentes acél szelepekkel szabad ellátni; és</li> <li>– a szénhidrogén szennyeződéstől meg kell tisztítani és nem lehetnek olajjal szennyezettek. Az UN nyomástartó tartályokat az ISO 11621:1997 szerint kell kitisztítani.</li> </ul> <p>ta: Az UN 1965 számú anyagok szállítására használt, hegesztett acélpalackokra eltérő feltételek alkalmazhatók</p> <ul style="list-style-type: none"> <li>a) azon országok illetékes hatóságának egyetértésével, ahol a szállítás történik; és</li> <li>b) az illetékes hatóság által elismert belföldi műszaki szabályzat vagy nemzeti szabvány előírásainak megfelelően.</li> </ul> <p>Ha a töltési feltételek eltérőek a P200 5) bekezdésben meghatározottaktól, a fuvarokmányba a következő bejegyzést kell tenni: „A P200 csomagolási utasítás „ta” különleges előírása szerinti szállítás” és fel kell tüntetni a töltési fok számításához használt referencia hőmérsékletet.</p> <p>Időszakos vizsgálat</p> <p>u: Az alumíniumötvözet nyomástartó tartályoknál az időszakos vizsgálatok időköze 10 évre növelhető. Ez az eltérés az UN nyomástartó tartályokra csak akkor alkalmazható, ha az ötvözetet, amelyből a nyomástartó tartály készült, alávetették az ISO 7866:1999 szabvány szerinti feszültségkorrozíós vizsgálatnak.</p> <p>v: Az időszakos vizsgálatok időköze acélpalackok esetén 15 évre növelhető:</p> <ul style="list-style-type: none"> <li>a) azon ország(ok) illetékes hatóságának (hatóságainak) egyetértésével, amely(ek)ben az időszakos vizsgálatokat végzik és a szállítás történik, és</li> <li>b) az illetékes hatóság által elismert műszaki szabályzat vagy szabvány, vagy az EN 1440:1996 „Szállítható, újratölthető hegesztett acélpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Időszakos újraminősítő vizsgálatok” szabvány előírásainak megfelelően.</li> </ul> <p><i>Az m.n.n. tételekre és a keverékekre vonatkozó követelmények</i></p> <p>z: A nyomástartó tartály és szerelvényei anyagának a tartalommal összeférhetőnek kell lennie és nem képezhet azzal ártalmas vagy veszélyes vegyületeket.</p> <p>A próbanyomást és a töltési fokot az 5) bekezdés vonatkozó követelményei szerint kell kiszámítani.</p> <p>A 200 ml/m<sup>3</sup> vagy annál kisebb LC<sub>50</sub> értékkel bíró mérgező gázokra és gázkeverékekre a „k” különleges előírás követelményeit kell betartani, az ilyen gázok szállítása nagypalackban, gázhordóban, ill. MEG-konténerben nem engedélyezett, kivéve az UN 1975 nirogén-monoxid és dinitrogén-tetroxid keverékét, amely gázhordóban szállítható.</p> <p>A piroforos gázokhoz vagy 1%-nál több piroforos vegyületet tartalmazó gyúlékony gázkeverékekhez használt nyomástartó tartályoknak a „q” különleges csomagolási előírás követelményeinek kell megfelelniük.</p> <p>Meg kell tenni a szükséges intézkedéseket a szállítás alatt a veszélyes reakciók (pl. polimerizáció, bomlás) elkerülésére. Szükség esetén stabilizátorokat vagy inhibitorokat kell a gázhoz adni.</p> <p>Az UN 1911 diboránt tartalmazó keverékeket olyan nyomásig kell betölteni, hogy ha a</p> |                  |



| P200<br>(folyt.)  | CSOMAGOLÁSI UTASÍTÁS                          |  | P200<br>(folyt.) |
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| <p>diborán teljes bomlása bekövetkezik, a nyomás ne múlja felül a nyomástartó tartály próba-nyomásának kétharmadát.</p> <p>Az UN 2192 germánt tartalmazó keverékek (kivéve a legfeljebb 35% germántartalmú, hidrogént vagy nitrogént tartalmazó keverékeket, valamint a legfeljebb 28% germántartalmú, héliumot vagy argont tartalmazó keverékeket) csak addig szabad tölteni, hogy a nyomás a germán teljes elbomlása esetén se legyen nagyobb, mint a nyomástartó tartály próbanyomásának kétharmada.</p> <p>A nem a 2 osztályba tartozó anyagokra vonatkozó követelmények</p> <p>ab: A nyomástartó tartályoknak a következő feltételeket kell kielégíteniük:</p> <ul style="list-style-type: none"><li>i) a nyomáspróba alkalmával a nyomástartó tartály belsejét és a szerelvényeket is meg kell vizsgálni;</li><li>ii) a tartály korrózióállóságát két évente alkalmas (pl. ultrahangos) készülékkel meg kell vizsgálni és ellenőrizni kell a szerelvények állapotát;</li><li>iii) a falvastagság nem lehet 3 mm-nél kisebb.</li></ul> <p>ac: A vizsgálatokat az illetékes hatóság által elismert szakértő felügyelete mellett kell végezni.</p> <p>ad: A nyomástartó tartályoknak a következő feltételeket kell kielégíteniük:</p> <ul style="list-style-type: none"><li>i) a nyomástartó tartályokat legalább 2,1 MPa (21 bar) (túlnyomás) tervezési nyomásra kell méretezni;</li><li>ii) az újratölthető tartályokon feltüntetendő jelölésen kívül a nyomástartó tartályokon jól látható és tartós módon fel kell tüntetni a következőket:<ul style="list-style-type: none"><li>– az anyag UN számát és helyes szállítási megnevezését a 3.1.2 szakasz szerint;</li><li>– a töltet engedélyezett legnagyobb tömegét és a tartály tára tömegét, beleértve a töltés alatt rajta levő szerelvényeket, vagy a bruttó tömeget.</li></ul></li></ul> |   |  |                  |
| 11) Ezen csomagolási utasítás követelményei a következő szabványok értelemszerű alkalmazása esetén teljesítettnek tekinthetők:  |   |  |                  |
| Követelmények   | Hivatkozás                                    | A dokumentum címe  |                  |
| 7)  | EN 1919:2000                                  | Szállítható gázpalackok. Gázpalackok cseppfolyósított gázokhoz (acetilén és cseppfolyósított szénhidrogéngáz kivételével). Ellenőrzés töltéskor.                               |                  |
| 7)  | EN 1920:2000                                  | Szállítható gázpalackok. Gázpalackok sűrített gázokhoz (acetilén kivételével). Ellenőrzés töltéskor.   |                  |
| 7)  | EN 12754:2001                                 | Szállítható gázpalackok. Gázpalackok oldott acetilénhez. Ellenőrzés töltéskor.   |                  |
| 7)  | EN 13365:2002 + A1:2005                       | Szállítható gázpalackok. Palackkötegek sűrített és cseppfolyósított gázokhoz (acetilén kivételével). Ellenőrzés töltéskor.   |                  |
| 7) és 10) ta b)   | EN 1439:2008 (3.5 és G Melléklet kivételével) | LPG-berendezések és -tartozékok. Ellenőrzési eljárás LPG palackok töltése előtt, közben és után.   |                  |
| 7) és 10) ta b)   | EN 14794:2005                                 | LPG-berendezések és -tartozékok. Szállítható, újratölthető, alumíniumpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Ellenőrzési eljárás töltés előtt, közben és után. |                  |
| 10) p   | EN1801:1998                                   | Szállítható gázpalackok. Egyedi acetilénpalackok töltési feltételei (beleértve az engedélyezett porózus anyagok felsorolását).   |                  |
| 10) p   | EN 12755:2000                                 | Szállítható gázpalackok. Acetilénpalack-kötegek töltési feltételei.  |                  |

| P200<br>(folyt.)            |  | CSOMAGOLÁSI UTASÍTÁS |                               |        |            |          |             |                                     |                                | P200<br>(folyt.)                              |                                   |
|-----------------------------|--|----------------------|-------------------------------|--------|------------|----------|-------------|-------------------------------------|--------------------------------|---|-----------------------------------|
| 1. táblázat: SŰRÍTETT GÁZOK |  |                      |                               |        |            |          |             |                                     |                                |   |                                   |
| UN<br>szám                  | Megnevezés és leírás   | Osztályozási kód     | $LC_{50}$ , ml/m <sup>3</sup> | Palack | Nagypalack | Gázhordó | Palackköteg | Vizsgálati időköz, év <sup>a)</sup> | Próbanyomás, bar <sup>b)</sup> | Legnagyobb üzemi<br>nyomás, bar <sup>b)</sup> | Különleges<br>csomagolási előírás |
| 1002                        | LEVEGŐ, SŰRÍTETT   | 1A                   |                               | X      | X          | X        | X           | 10                                  |                                |   |                                   |
| 1006                        | ARGON, SŰRÍTETT  | 1A                   |                               | X      | X          | X        | X           | 10                                  |                                |   |                                   |
| 1016                        | SZÉN-MONOXID, SŰRÍTETT   | 1TF                  | 3760                          | X      | X          | X        | X           | 5                                   |                                |   | u                                 |
| 1023                        | VÁROSI GÁZ, SŰRÍTETT   | 1TF                  |                               | X      | X          | X        | X           | 5                                   |                                |   |                                   |
| 1045                        | FLUOR, SŰRÍTETT  | 1TOC                 | 185                           | X      |            |          | X           | 5                                   | 200                            | 30  | a, k,<br>n, o                     |
| 1046                        | HÉLIUM, SŰRÍTETT   | 1A                   |                               | X      | X          | X        | X           | 10                                  |                                |   |                                   |
| 1049                        | HIDROGÉN, SŰRÍTETT   | 1F                   |                               | X      | X          | X        | X           | 10                                  |                                |   | d                                 |
| 1056                        | KRIPTON, SŰRÍTETT  | 1A                   |                               | X      | X          | X        | X           | 10                                  |                                |   |                                   |
| 1065                        | NEON, SŰRÍTETT   | 1A                   |                               | X      | X          | X        | X           | 10                                  |                                |   |                                   |
| 1066                        | NITROGÉN, SŰRÍTETT   | 1A                   |                               | X      | X          | X        | X           | 10                                  |                                |   |                                   |
| 1071                        | KRAKKGÁZ, SŰRÍTETT   | 1TF                  |                               | X      | X          | X        | X           | 5                                   |                                |   |                                   |
| 1072                        | OXIGÉN, SŰRÍTETT   | 1O                   |                               | X      | X          | X        | X           | 10                                  |                                |   | s                                 |
| 1612                        | HEXAETIL-TETRAFOSZFÁT<br>ÉS SŰRÍTETT GÁZ<br>KEVERÉK                  | 1T                   |                               | X      | X          | X        | X           | 5                                   |                                |   | z                                 |
| 1660                        | NITROGÉN-MONOXID,<br>SŰRÍTETT  | 1TOC                 | 115                           | X      |            |          | X           | 5                                   | 225                            | 33  | k, o                              |
| 1953                        | SŰRÍTETT GÁZ, MÉRGEZŐ,<br>GYÚLÉKONY, M.N.N.                          | 1TF                  | ≤ 5000                        | X      | X          | X        | X           | 5                                   |                                |   | z                                 |
| 1954                        | SŰRÍTETT GÁZ,<br>GYÚLÉKONY, M.N.N.                                   | 1F                   |                               | X      | X          | X        | X           | 10                                  |                                |   | z                                 |
| 1955                        | SŰRÍTETT GÁZ, MÉRGEZŐ,<br>M.N.N.                                     | 1T                   | ≤ 5000                        | X      | X          | X        | X           | 5                                   |                                |   | z                                 |
| 1956                        | SŰRÍTETT GÁZ, M.N.N.   | 1A                   |                               | X      | X          | X        | X           | 10                                  |                                |   | z                                 |
| 1957                        | DEUTÉRIUM, SŰRÍTETT  | 1F                   |                               | X      | X          | X        | X           | 10                                  |                                |   | d                                 |
| 1964                        | SZÉNHIDROGÉN-GÁZ<br>KEVERÉK, SŰRÍTETT,<br>M.N.N.                     | 1F                   |                               | X      | X          | X        | X           | 10                                  |                                |   | z                                 |
| 1971                        | METÁN, SŰRÍTETT vagy<br>FÖLDGÁZ, SŰRÍTETT, magas<br>metántartalommal | 1F                   |                               | X      | X          | X        | X           | 10                                  |                                |   |                                   |
| 2034                        | HIDROGÉN ÉS METÁN<br>KEVERÉKE, SŰRÍTETT                              | 1F                   |                               | X      | X          | X        | X           | 10                                  |                                |   | d                                 |



| P200<br>(folyt.)                     |  | CSOMAGOLÁSI UTASÍTÁS |                               |        |            |          |             |                                     |                                | P200<br>(folyt.)                              |                                   |
|--------------------------------------|--|----------------------|-------------------------------|--------|------------|----------|-------------|-------------------------------------|--------------------------------|---|-----------------------------------|
| 1. táblázat: SŰRÍTETT GÁZOK (folyt.) |  |                      |                               |        |            |          |             |                                     |                                |   |                                   |
| UN<br>szám                           | Megnevezés és leírás                                     | Osztályozási kód     | $LC_{50}$ , ml/m <sup>3</sup> | Palack | Nagypalack | Gázhordó | Palackköteg | Vizsgálati időköz, év <sup>a)</sup> | Próbanyomás, bar <sup>b)</sup> | Legnagyobb üzemi<br>nyomás, bar <sup>b)</sup> | Különleges<br>csomagolási előírás |
| 2190                                 | OXIGÉN-DIFLUORID,<br>SŰRÍTETT                            | 1TOC                 | 2,6                           | X      |            |          | X           | 5                                   | 200                            | 30  | a, k,<br>n, o                     |
| 3156                                 | SŰRÍTETT GÁZ, GYÚJTÓ<br>HATÁSÚ, M.N.N.                   | 1O                   |                               | X      | X          | X        | X           | 10                                  |                                |   | z                                 |
| 3303                                 | SŰRÍTETT GÁZ, MÉRGEZŐ,<br>GYÚJTÓ HATÁSÚ, M.N.N.          | 1TO                  | ≤ 5000                        | X      | X          | X        | X           | 5                                   |                                |   | z                                 |
| 3304                                 | SŰRÍTETT GÁZ, MÉRGEZŐ,<br>MARÓ, M.N.N.                   | 1TC                  | ≤ 5000                        | X      | X          | X        | X           | 5                                   |                                |   | z                                 |
| 3305                                 | SŰRÍTETT GÁZ, MÉRGEZŐ,<br>GYÚLÉKONY, MARÓ,<br>M.N.N.     | 1TFC                 | ≤ 5000                        | X      | X          | X        | X           | 5                                   |                                |   | z                                 |
| 3306                                 | SŰRÍTETT GÁZ, MÉRGEZŐ,<br>GYÚJTÓ HATÁSÚ, MARÓ,<br>M.N.N. | 1TOC                 | ≤ 5000                        | X      | X          | X        | X           | 5                                   |                                |   | z                                 |

a) Nem érvényes a kompozit tartályokra.

b) Ha a rovatban nincs bejegyzés, az üzemi nyomás nem haladhatja meg a próbanyomás kétharmadát.

| 2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK |   |                  |                               |        |            |          |             |                                      |                  |                      |                                   |
|---|---|------------------|-------------------------------|--------|------------|----------|-------------|--------------------------------------|------------------|----------------------|-----------------------------------|
| UN<br>szám  | Megnevezés és leírás                              | Osztályozási kód | $LC_{50}$ , ml/m <sup>3</sup> | Palack | Nagypalack | Gázhordó | Palackköteg | Vizsgálati időköze, év <sup>a)</sup> | Próbanyomás, bar | Töltési fok          | Különleges<br>csomagolási előírás |
| 1001  | ACETILÉN, OLDOTT                                  | 4F               |                               | X      |            |          | X           | 10                                   | 60               |                      | c, p                              |
| 1005  | AMMÓNIA, VÍZMENTES                                | 2TC              | 4000                          | X      | X          | X        | X           | 5                                    | 29               | 0,54                 | b, ra                             |
| 1008  | BÓR-TRIFLUORID                                    | 2TC              | 387                           | X      | X          | X        | X           | 5                                    | 225<br>300       | 0,715<br>0,86        |                                   |
| 1009  | BRÓM-TRIFLUOR-METÁN<br>(R 13B1 HŰTŐGÁZ)           | 2A               |                               | X      | X          | X        | X           | 10                                   | 42<br>120<br>250 | 1,13<br>1,44<br>1,60 | ra<br>ra<br>ra                    |
| 1010  | BUTADIÉNEK,<br>STABILIZÁLT (1,2-butadién)<br>vagy | 2F               |                               | X      | X          | X        | X           | 10                                   | 10               | 0,59                 | ra                                |
| 1010  | BUTADIÉNEK,<br>STABILIZÁLT (1,3-butadién)<br>vagy | 2F               |                               | X      | X          | X        | X           | 10                                   | 10               | 0,55                 | ra                                |

| P200<br>(folyt.)   |  | CSOMAGOLÁSI UTASÍTÁS |                               |        |            |          |             |                                     |                          | P200<br>(folyt.)             |                                   |
|--|--|----------------------|-------------------------------|--------|------------|----------|-------------|-------------------------------------|--------------------------|------------------------------|-----------------------------------|
| 2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.) |  |                      |                               |        |            |          |             |                                     |                          |                              |                                   |
| UN<br>szám   | Megnevezés és leírás   | Osztályozási kód     | $LC_{50}$ , ml/m <sup>3</sup> | Palack | Nagypalack | Gázhordó | Palackköteg | Vizsgálat időköze, év <sup>a)</sup> | Próbanyomás, bar         | Töltési fok                  | Különleges<br>csomagolási előírás |
| 1010   | BUTADIÉNEK ÉS SZÉNHIDROGÉN KEVERÉKE, STABILIZÁLT   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10                       | 0,50                         | ra, v, z                          |
| 1011   | BUTÁN  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10                       | 0,52                         | ra, v                             |
| 1012   | BUTÉN KEVERÉK vagy   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10                       | 0,50                         | ra, z                             |
| 1012   | 1-BUTÉN vagy   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10                       | 0,53                         |                                   |
| 1012   | cisz-2-BUTÉN vagy  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10                       | 0,55                         |                                   |
| 1012   | transz-2-BUTÉN   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10                       | 0,54                         |                                   |
| 1013   | SZÉN-DIOXID  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 190<br>250               | 0,68<br>0,76                 | ra<br>ra                          |
| 1017   | KLÓR   | 2TOC                 | 293                           | X      | X          | X        | X           | 5                                   | 22                       | 1,25                         | a, ra                             |
| 1018   | KLÓR-DIFLUOR-METÁN (R 22 HŰTŐGÁZ)  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 27                       | 1,03                         | ra                                |
| 1020   | KLÓR-PENTAFLUOR-ETÁN (R 115 HŰTŐGÁZ)   | 2A                   |                               | X      | X          | X        | X           | 10                                  | 25                       | 1,05                         | ra                                |
| 1021   | 1-KLÓR-1,2,2,2-TETRA-FLUOR-ETÁN (R 124 HŰTŐGÁZ)  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 11                       | 1,20                         | ra                                |
| 1022   | KLÓR-TRIFLUOR-METÁN (R 13 HŰTŐGÁZ)   | 2A                   |                               | X      | X          | X        | X           | 10                                  | 100<br>120<br>190<br>250 | 0,83<br>0,90<br>1,04<br>1,11 | ra<br>ra<br>ra<br>ra              |
| 1026   | DICIÁN   | 2TF                  | 350                           | X      | X          | X        | X           | 5                                   | 100                      | 0,70                         | ra, u                             |
| 1027   | CIKLOPROPÁN  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 18                       | 0,55                         | ra                                |
| 1028   | DIKLÓR-DIFLUOR-METÁN (R 12 HŰTŐGÁZ)  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 16                       | 1,15                         | ra                                |
| 1029   | DIKLÓR-FLUOR-METÁN (R 21 HŰTŐGÁZ)  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 10                       | 1,23                         | ra                                |
| 1030   | 1,1-DIFLUOR-ETÁN (R 152a HŰTŐGÁZ)  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 16                       | 0,79                         | ra                                |
| 1032   | DIMETIL-AMIN, VÍZMENTES  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10                       | 0,59                         | b, ra                             |
| 1033   | DIMETIL-ÉTER   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 18                       | 0,58                         | ra                                |
| 1035   | ETÁN   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 95<br>120<br>300         | 0,25<br>0,30<br>0,40         | ra<br>ra<br>ra                    |
| 1036   | ETIL-AMIN  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10                       | 0,61                         | b, ra                             |
| 1037   | ETIL-KLORID  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10                       | 0,80                         | a, ra                             |
| 1039   | ETIL-METIL-ÉTER  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10                       | 0,64                         | ra                                |
| 1040   | ETILÉN-OXID vagy ETILÉN-OXID NITROGÉNNEL 50 °C-on legfeljebb 1 MPa (10 bar) össznyomásig | 2TF                  | 2900                          | X      | X          | X        | X           | 5                                   | 15                       | 0,78                         | l, ra                             |

| P200<br>(folyt.)   |   | CSOMAGOLÁSI UTASÍTÁS |                               |        |            |          |             |                                     |   | P200<br>(folyt.)             |  |
|--|---|----------------------|-------------------------------|--------|------------|----------|-------------|-------------------------------------|---|------------------------------|--|
| 2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.) |   |                      |                               |        |            |          |             |                                     |   |                              |  |
| UN<br>szám   | Megnevezés és leírás  | Osztályozási kód     | $LC_{50}$ , ml/m <sup>3</sup> | Palack | Nagypalack | Gázhordó | Palackköteg | Vizsgálat időköze, év <sup>a)</sup> | Próbanyomás, bar                                    | Töltési fok                  | Különleges<br>csomagolási előírás            |
| 1041   | ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 9%-nál több, de legfeljebb 87% etilén-oxid tartalommal | 2F                   |                               | X      | X          | X        | X           | 10                                  | 190<br>250  | 0,60<br>0,75                 | ra<br>ra                                     |
| 1043   | AMMÓNIA MŰTRÁGYA OLDAT szabad ammónia-tartalommal   | 4A                   |                               | X      |            | X        | X           | 5                                   |   |                              | b, z   |
| 1048   | HIDROGÉN-BROMID, VÍZMENTES  | 2TC                  | 2860                          | X      | X          | X        | X           | 5                                   | 60  | 1,51                         | a, d, ra                                     |
| 1050   | HIDROGÉN-KLORID, VÍZMENTES  | 2TC                  | 2810                          | X      | X          | X        | X           | 5                                   | 100<br>120<br>150<br>200                            | 0,30<br>0,56<br>0,67<br>0,74 | a, d, ra<br>a, d, ra<br>a, d, ra<br>a, d, ra |
| 1053   | HIDROGÉN-SZULFID  | 2TF                  | 712                           | X      | X          | X        | X           | 5                                   | 48  | 0,67                         | d, ra, u                                     |
| 1055   | IZOBUTÉN  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10  | 0,52                         | ra   |
| 1058   | CSEPPFOLYÓSÍTOTT GÁZ, nem gyúlékony, nitrogén, szén-dioxid vagy levegő alatt              | 2A                   |                               | X      | X          | X        | X           | 10                                  | Próbanyomás<br>= az üzemi<br>nyomás 1,5-<br>szerese |                              | ra   |
| 1060   | METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK, -STABILIZÁLT   | 2F                   |                               | X      | X          | X        | X           | 10                                  |   |                              | c, ra, z                                     |
|  | Propadién 1%...4% metil-acetilénnel   |                      |                               | X      | X          | X        | X           | 10                                  | 22  | 0,52                         | c, ra  |
|  | P1 keverék  |                      |                               | X      | X          | X        | X           | 10                                  | 30  | 0,49                         | c, ra  |
|  | P2 keverék  |                      |                               | X      | X          | X        | X           | 10                                  | 24  | 0,47                         | c, ra  |
| 1061   | METIL-AMIN, VÍZMENTES   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 13  | 0,58                         | b, ra  |
| 1062   | METIL-BROMID legfeljebb 2% klórpikrin tartalommal   | 2T                   | 850                           | X      | X          | X        | X           | 5                                   | 10  | 1,51                         | a  |
| 1063   | METIL-KLORID (R 40 HŰTŐGÁZ)   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 17  | 0,81                         | a, ra  |
| 1064   | METIL-MERKAPTÁN   | 2TF                  | 1350                          | X      | X          | X        | X           | 5                                   | 10  | 0,78                         | d, ra, u                                     |
| 1067   | DINITROGÉN-TETROXID (NITROGÉN-DIOXID)   | 2TOC                 | 115                           | X      |            | X        | X           | 5                                   | 10  | 1,30                         | k  |
| 1069   | NITROZIL-KLORID   | 2TC                  | 35                            | X      |            |          | X           | 5                                   | 13  | 1,10                         | k, ra  |
| 1070   | DINITROGÉN-OXID (kéjgáz)  | 2O                   |                               | X      | X          | X        | X           | 10                                  | 180<br>225<br>250                                   | 0,68<br>0,74<br>0,75         |  |
| 1075   | PETRÓLEUMGÁZ, CSEPPFOLYÓSÍTOTT  | 2F                   |                               | X      | X          | X        | X           | 10                                  |   |                              | v, z   |
| 1076   | FOSZGÉN   | 2T                   | 5                             | X      |            | X        | X           | 5                                   | 20  | 1,23                         | k, ra  |
| 1077   | PROPIÉN   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 27  | 0,43                         | ra   |
| 1078   | HŰTŐGÁZ, M.N.N., mint   | 2A                   |                               | X      | X          | X        | X           | 10                                  |   |                              | ra, z  |
|  | F1 keverék  |                      |                               | X      | X          | X        | X           | 10                                  | 12  | 1,23                         |  |

| P200<br>(folyt.)   |  | CSOMAGOLÁSI UTASÍTÁS |                               |        |            |          |             |                                     |                  | P200<br>(folyt.)     |                                   |
|--|--|----------------------|-------------------------------|--------|------------|----------|-------------|-------------------------------------|------------------|----------------------|-----------------------------------|
| 2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.) |  |                      |                               |        |            |          |             |                                     |                  |                      |                                   |
| UN<br>szám   | Megnevezés és leírás   | Osztályozási kód     | $LC_{50}$ , ml/m <sup>3</sup> | Palack | Nagypalack | Gázhordó | Palackköteg | Vizsgálat időköze, év <sup>a)</sup> | Próbanyomás, bar | Töltési fok          | Különleges<br>csomagolási előírás |
| 1078<br>folyt  | F2 keverék   | 2A                   |                               | X      | X          | X        | X           | 10                                  | 18               | 1,15                 |                                   |
|  | F3 keverék   |                      |                               | X      | X          | X        | X           | 10                                  | 29               | 1,03                 |                                   |
| 1079   | KÉN-DIOXID   | 2TC                  | 2520                          | X      | X          | X        | X           | 5                                   | 12               | 1,23                 | ra                                |
| 1080   | KÉN-HEXAFLUORID  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 70<br>140<br>160 | 1,06<br>1,34<br>1,38 | ra<br>ra<br>ra                    |
| 1081   | TETRAFLUOR-ETILÉN,<br>STABILIZÁLT  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 200              |                      | m, o, ra                          |
| 1082   | TRIFLUOR-KLÓR-ETILÉN,<br>STABILIZÁLT   | 2TF                  | 2000                          | X      | X          | X        | X           | 5                                   | 19               | 1,13                 | ra, u                             |
| 1083   | TRIMETIL-AMIN,<br>VÍZMENTES  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10               | 0,56                 | b, ra                             |
| 1085   | VINIL-BROMID,<br>STABILIZÁLT   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10               | 1,37                 | a, ra                             |
| 1086   | VINIL-KLORID,<br>STABILIZÁLT   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 12               | 0,81                 | a, ra                             |
| 1087   | VINIL-METIL-ÉTER,<br>STABILIZÁLT   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10               | 0,67                 | ra                                |
| 1581   | KLÓRPIKRIN ÉS METIL-<br>BROMID KEVERÉK   | 2T                   | 850                           | X      | X          | X        | X           | 5                                   | 10               | 1,51                 | a                                 |
| 1582   | KLÓRPIKRIN ÉS METIL-<br>KLORID KEVERÉK   | 2T                   | d)                            | X      | X          | X        | X           | 5                                   | 17               | 0,81                 | a                                 |
| 1589   | KLÓR-CIÁN, STABILIZÁLT   | 2TC                  | 80                            | X      |            |          | X           | 5                                   | 20               | 1,03                 | k                                 |
| 1741   | BÓR-TRIKLORID  | 2TC                  | 2541                          | X      | X          | X        | X           | 5                                   | 10               | 1,19                 | ra                                |
| 1749   | KLÓR-TRIFLUORID  | 2TOC                 | 299                           | X      | X          | X        | X           | 5                                   | 30               | 1,40                 | a                                 |
| 1858   | HEXAFLUOR-PROPILEN<br>(R 1216 HŰTŐGÁZ)   | 2A                   |                               | X      | X          | X        | X           | 10                                  | 22               | 1,11                 | ra                                |
| 1859   | SZILÍCIUM-TETRAFLUORID   | 2TC                  | 450                           | X      | X          | X        | X           | 5                                   | 200<br>300       | 0,74<br>1,10         |                                   |
| 1860   | VINIL-FLUORID,<br>STABILIZÁLT  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 250              | 0,64                 | a, ra                             |
| 1911   | DIBORÁN  | 2TF                  | 80                            | X      |            |          | X           | 5                                   | 250              | 0,07                 | d, k, o                           |
| 1912   | METIL-KLORID ÉS DIKLÓR-<br>METÁN KEVERÉK   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 17               | 0,81                 | a, ra                             |
| 1952   | ETILÉN-OXID ÉS SZÉN-<br>-DIOXID KEVERÉKE<br>legfeljebb 9% etilén-oxid<br>tartalommal | 2A                   |                               | X      | X          | X        | X           | 10                                  | 190<br>250       | 0,66<br>0,75         | ra<br>ra                          |
| 1958   | 1,2-DIKLÓR-1,1,2,2-TETRA-<br>FLUOR-ETÁN<br>(R 114 HŰTŐGÁZ)                           | 2A                   |                               | X      | X          | X        | X           | 10                                  | 10               | 1,30                 | ra                                |
| 1959   | 1,1-DIFLUOR-ETILÉN<br>(R 1132a HŰTŐGÁZ)  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 250              | 0,77                 | ra                                |
| 1962   | ETILÉN   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 225<br>300       | 0,34<br>0,38         |                                   |

| P200<br>(folyt.)   |  | CSOMAGOLÁSI UTASÍTÁS |                               |        |            |          |             |                                     |                  | P200<br>(folyt.) |                                   |
|--|--|----------------------|-------------------------------|--------|------------|----------|-------------|-------------------------------------|------------------|------------------|-----------------------------------|
| 2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.) |  |                      |                               |        |            |          |             |                                     |                  |                  |                                   |
| UN<br>szám   | Megnevezés és leírás   | Osztályozási kód     | $LC_{50}$ , ml/m <sup>3</sup> | Palack | Nagypalack | Gázhordó | Palackköteg | Vizsgálat időköze, év <sup>a)</sup> | Próbanyomás, bar | Töltési fok      | Különleges<br>csomagolási előírás |
| 1965   | SZÉNHYDROGÉN-GÁZ<br>KEVERÉK,<br>CSEPPFOLYÓSÍTOTT,<br>M.N.N.  | 2F                   |                               | X      | X          | X        | X           | 10                                  |                  | b)               | ra, ta,<br>v, z                   |
|  | A keverék  |                      |                               |        |            |          | 10          | 10                                  | 0,50             |                  |                                   |
|  | A01 keverék  |                      |                               |        |            |          | 10          | 15                                  | 0,49             |                  |                                   |
|  | A02 keverék  |                      |                               |        |            |          | 10          | 15                                  | 0,48             |                  |                                   |
|  | A0 keverék   |                      |                               |        |            |          | 10          | 15                                  | 0,47             |                  |                                   |
|  | A1 keverék   |                      |                               |        |            |          | 10          | 20                                  | 0,46             |                  |                                   |
|  | B1 keverék   |                      |                               |        |            |          | 10          | 25                                  | 0,45             |                  |                                   |
|  | B2 keverék   |                      |                               |        |            |          | 10          | 25                                  | 0,44             |                  |                                   |
|  | B keverék  |                      |                               |        |            |          | 10          | 25                                  | 0,43             |                  |                                   |
|  | C keverék  |                      |                               |        |            |          | 10          | 30                                  | 0,42             |                  |                                   |
| 1967   | ROVARIRTÓ GÁZ,<br>MÉRGEZŐ, M.N.N.  | 2T                   |                               | X      | X          | X        | X           | 5                                   |                  |                  | z                                 |
| 1968   | ROVARIRTÓ GÁZ, M.N.N.  | 2A                   |                               | X      | X          | X        | X           | 10                                  |                  |                  | ra, z                             |
| 1969   | IZOBUTÁN   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10               | 0,49             | ra, v                             |
| 1973   | KLÓR-DIFLUOR-METÁN ÉS<br>KLÓR-PENTAFLUOR-ETÁN<br>KEVERÉK állandó<br>forrásponttal, kb. 49% klór-<br>difluor-metán tartalommal<br>(R 502 HŰTŐGÁZ) | 2A                   |                               | X      | X          | X        | X           | 10                                  | 31               | 1,01             | ra                                |
| 1974   | BRÓM-KLÓR-DIFLUOR-<br>METÁN<br>(R 12B1 HŰTŐGÁZ)  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 10               | 1,61             | ra                                |
| 1975   | NITROGÉN-MONOXID ÉS<br>DINITROGÉN-TETROXID<br>KEVERÉKE (NITROGÉN-<br>MONOXID ÉS NITROGÉN-<br>DIOXID KEVERÉKE)                                    | 2TOC                 | 115                           | X      |            | X        | X           | 5                                   |                  |                  | k, z                              |
| 1976   | OKTAFLUOR-CIKLOBUTÁN<br>(RC 318 HŰTŐGÁZ)   | 2A                   |                               | X      | X          | X        | X           | 10                                  | 11               | 1,32             | ra                                |
| 1978   | PROPÁN   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 23               | 0,43             | ra, v                             |
| 1982   | TETRAFLUOR-METÁN<br>(R 14 HŰTŐGÁZ)   | 2A                   |                               | X      | X          | X        | X           | 10                                  | 200<br>300       | 0,71<br>0,90     |                                   |
| 1983   | 1-KLÓR-2,2,2-TRIFLUOR-<br>-ETÁN (R 133a HŰTŐGÁZ)   | 2A                   |                               | X      | X          | X        | X           | 10                                  | 10               | 1,18             | ra                                |
| 1984   | TRIFLUOR-METÁN<br>(R 23 HŰTŐGÁZ)   | 2A                   |                               | X      | X          | X        | X           | 10                                  | 190<br>250       | 0,88<br>0,96     | ra<br>ra                          |
| 2035   | 1,1,1-TRIFLUOR-ETÁN<br>(R 143a HŰTŐGÁZ)  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 35               | 0,73             | ra                                |
| 2036   | XENON  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 130              | 1,28             |                                   |
| 2044   | 2,2-DIMETIL-PROPÁN   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10               | 0,53             | ra                                |

| P200<br>(folyt.)   |  | CSOMAGOLÁSI UTASÍTÁS |                               |        |            |          |             |                                     |                  |              | P200<br>(folyt.)                  |  |
|--|--|----------------------|-------------------------------|--------|------------|----------|-------------|-------------------------------------|------------------|--------------|-----------------------------------|--|
| 2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.) |  |                      |                               |        |            |          |             |                                     |                  |              |                                   |  |
| UN<br>szám   | Megnevezés és leírás   | Osztályozási kód     | $LC_{50}$ , ml/m <sup>3</sup> | Palack | Nagypalack | Gázhordó | Palackköteg | Vizsgálat időköze, év <sup>a)</sup> | Próbanyomás, bar | Töltési fok  | Különleges<br>csomagolási előírás |  |
| 2073   | AMMÓNIA OLDAT, vizes,<br>relatív sűrűség 15 °C-on kisebb,<br>mint 0,880, | 4A                   |                               |        |            |          |             |                                     |                  |              |                                   |  |
|  | 35%-nál több, de legfeljebb 40%<br>ammóniatartalommal                    |                      |                               | X      | X          | X        | X           | 5                                   | 10               | 0,80         | b                                 |  |
|  | 40%-nál több, de legfeljebb 50%<br>ammóniatartalommal                    |                      |                               | X      | X          | X        | X           | 5                                   | 12               | 0,77         | b                                 |  |
| 2188   | ARZIN  | 2TF                  | 20                            | X      |            |          | X           | 5                                   | 42               | 1,10         | d, k                              |  |
| 2189   | DIKLÓR-SZILÁN  | 2TFC                 | 314                           | X      | X          | X        | X           | 5                                   | 10<br>200        | 0,90<br>1,08 |                                   |  |
| 2191   | SZULFURIL-FLUORID  | 2T                   | 3020                          | X      | X          | X        | X           | 5                                   | 50               | 1,10         | u                                 |  |
| 2192   | GERMÁN <sup>c)</sup>   | 2TF                  | 620                           | X      | X          | X        | X           | 5                                   | 250              | 0,064        | d, q,<br>r, ra                    |  |
| 2193   | HEXAFLUOR-ETÁN<br>(R 116 HŰTŐGÁZ)  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 200              | 1,13         |                                   |  |
| 2194   | SZELÉN-HEXAFLUORID   | 2TC                  | 50                            | X      |            |          | X           | 5                                   | 36               | 1,46         | k, ra                             |  |
| 2195   | TELLUR-HEXAFLUORID   | 2TC                  | 25                            | X      |            |          | X           | 5                                   | 20               | 1,00         | k, ra                             |  |
| 2196   | VOLFRAM-HEXAFLUORID  | 2TC                  | 160                           | X      |            |          | X           | 5                                   | 10               | 3,08         | a, k, ra                          |  |
| 2197   | HIDROGÉN-JODID,<br>VÍZMENTES   | 2TC                  | 2860                          | X      | X          | X        | X           | 5                                   | 23               | 2,25         | a, d, ra                          |  |
| 2198   | FOSZFOR-PENTAFLUORID   | 2TC                  | 190                           | X      |            |          | X           | 5                                   | 200<br>300       | 0,90<br>1,25 | k<br>k                            |  |
| 2199   | FOSZFIN <sup>c)</sup>  | 2TF                  | 20                            | X      |            |          | X           | 5                                   | 225<br>250       | 0,30<br>0,45 | d, k,<br>q, ra<br>d, k,<br>q, ra  |  |
| 2200   | PROPADIÉN, STABILIZÁLT   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 22               | 0,50         | ra                                |  |
| 2202   | HIDROGÉN-SZELENID,<br>VÍZMENTES  | 2TF                  | 2                             | X      |            |          | X           | 5                                   | 31               | 1,60         | k                                 |  |
| 2203   | SZILÍCIUM-HIDROGÉN<br>(SZILÁN) <sup>c)</sup>                             | 2F                   |                               | X      | X          | X        | X           | 10                                  | 225<br>250       | 0,32<br>0,36 | q<br>q                            |  |
| 2204   | KARBONIL-SZULFID   | 2TF                  | 1700                          | X      | X          | X        | X           | 5                                   | 30               | 0,87         | ra, u                             |  |
| 2417   | KARBONIL-FLUORID   | 2TC                  | 360                           | X      | X          | X        | X           | 5                                   | 200<br>300       | 0,47<br>0,70 |                                   |  |
| 2418   | KÉN-TETRAFLUORID   | 2TC                  | 40                            | X      |            |          | X           | 5                                   | 30               | 0,91         | k, ra                             |  |
| 2419   | BRÓM-TRIFLUOR-ETILÉN   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10               | 1,19         | ra                                |  |
| 2420   | HEXAFLUOR-ACETON   | 2TC                  | 470                           | X      | X          | X        | X           | 5                                   | 22               | 1,08         | ra                                |  |
| 2421   | NITROGÉN-TRIOXID   | 2TOC                 | A szállításból ki van zárva   |        |            |          |             |                                     |                  |              |                                   |  |
| 2422   | OKTAFLUOR-2-BUTÉN<br>(R 1318 HŰTŐGÁZ)                                    | 2A                   |                               | X      | X          | X        | X           | 10                                  | 12               | 1,34         | ra                                |  |
| 2424   | OKTAFLUOR-PROPÁN<br>(R 218 HŰTŐGÁZ)                                      | 2A                   |                               | X      | X          | X        | X           | 10                                  | 25               | 1,04         | ra                                |  |
| 2451   | NITROGÉN-TRIFLUORID  | 2O                   |                               | X      | X          | X        | X           | 10                                  | 200              | 0,50         |                                   |  |
| 2452   | ETIL-ACETILÉN,<br>STABILIZÁLT  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10               | 0,57         | c, ra                             |  |

| P200<br>(folyt.)   |  | CSOMAGOLÁSI UTASÍTÁS |                               |        |            |          |             |                                     |                  | P200<br>(folyt.)     |                                   |
|--|--|----------------------|-------------------------------|--------|------------|----------|-------------|-------------------------------------|------------------|----------------------|-----------------------------------|
| 2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.) |  |                      |                               |        |            |          |             |                                     |                  |                      |                                   |
| UN<br>szám   | Megnevezés és leírás   | Osztályozási kód     | $LC_{50}$ , ml/m <sup>3</sup> | Palack | Nagypalack | Gázhordó | Palackköteg | Vizsgálat időköze, év <sup>a)</sup> | Próbanyomás, bar | Töltési fok          | Különleges<br>csomagolási előírás |
| 2453   | ETIL-FLUORID<br>(R 161 HŰTŐGÁZ)  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 30               | 0,57                 | ra                                |
| 2454   | METIL-FLUORID<br>(R 41 HŰTŐGÁZ)  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 300              | 0,63                 | ra                                |
| 2455   | METIL-NITRIT   | 2A                   | A szállításból ki van zárva   |        |            |          |             |                                     |                  |                      |                                   |
| 2517   | 1-KLÓR-1,1-DIFLUOR-ETÁN<br>(R 142b HŰTŐGÁZ)  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10               | 0,99                 | ra                                |
| 2534   | METIL-KLÓR-SZILÁN  | 2TFC                 | 600                           | X      | X          | X        | X           | 5                                   |                  |                      | ra, z                             |
| 2548   | KLÓR-PENTAFLUORID  | 2TOC                 | 122                           | X      |            |          | X           | 5                                   | 13               | 1,49                 | a, k                              |
| 2599   | KLÓR-TRIFLUOR-METÁN ÉS<br>TRIFLUOR-METÁN<br>AZEOTRÓP KEVERÉK kb.<br>60% klór-trifluor-metán<br>tartalommal (R 503 HŰTŐGÁZ)     | 2A                   |                               | X      | X          | X        | X           | 10                                  | 31<br>42<br>100  | 0,12<br>0,17<br>0,64 | ra<br>ra<br>ra                    |
| 2601   | CIKLOBUTÁN   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10               | 0,63                 | ra                                |
| 2602   | DIKLÓR-DIFLUOR-METÁN<br>ÉS 1,1-DIFLUOR-ETÁN<br>AZEOTROP KEVERÉK kb.<br>74% diklór-difluor-metán<br>tartalommal (R 500 HŰTŐGÁZ) | 2A                   |                               | X      | X          | X        | X           | 10                                  | 22               | 1,01                 | ra                                |
| 2676   | SZTIBIN  | 2TF                  | 20                            | X      |            |          | X           | 5                                   | 200              | 0,49                 | k, r, ra                          |
| 2901   | BRÓM-KLORID  | 2TOC                 | 290                           | X      | X          | X        | X           | 5                                   | 10               | 1,50                 | a                                 |
| 3057   | TRIFLUOR-ACETIL-KLORID   | 2TC                  | 10                            | X      |            | X        | X           | 5                                   | 17               | 1,17                 | k, ra                             |
| 3070   | ETILÉN-OXID ÉS DIKLÓR-<br>DIFLUOR-METÁN KEVERÉK<br>legfeljebb 12,5% etilén-oxiddal   | 2A                   |                               | X      | X          | X        | X           | 10                                  | 18               | 1,09                 | ra                                |
| 3083   | PERKLORIL-FLUORID  | 2TO                  | 770                           | X      | X          | X        | X           | 5                                   | 33               | 1,21                 | u                                 |
| 3153   | PERFLUOR-(METIL-VINIL-<br>ÉTER)  | 2F                   |                               | X      | X          | X        | X           | 10                                  | 20               | 0,75                 | ra                                |
| 3154   | PERFLUOR-(ETIL-VINIL-<br>ÉTER)   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 10               | 0,98                 | ra                                |
| 3157   | CSEPPFOLYÓSÍTOTT GÁZ,<br>GYÚJTÓ HATÁSÚ, M.N.N.   | 2O                   |                               | X      | X          | X        | X           | 10                                  |                  |                      | z                                 |
| 3159   | 1,1,1,2-TETRAFLUOR-ETÁN<br>(R 134a HŰTŐGÁZ)  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 18               | 1,05                 | ra                                |
| 3160   | CSEPPFOLYÓSÍTOTT GÁZ,<br>MÉRGEZŐ, GYÚLÉKONY,<br>M.N.N.   | 2TF                  | ≤ 5000                        | X      | X          | X        | X           | 5                                   |                  |                      | ra, z                             |
| 3161   | CSEPPFOLYÓSÍTOTT GÁZ,<br>GYÚLÉKONY, M.N.N.   | 2F                   |                               | X      | X          | X        | X           | 10                                  |                  |                      | ra, z                             |
| 3162   | CSEPPFOLYÓSÍTOTT GÁZ,<br>MÉRGEZŐ, M.N.N.   | 2T                   | ≤ 5000                        | X      | X          | X        | X           | 5                                   |                  |                      | z                                 |
| 3163   | CSEPPFOLYÓSÍTOTT GÁZ,<br>M.N.N.  | 2A                   |                               | X      | X          | X        | X           | 10                                  |                  |                      | ra, z                             |

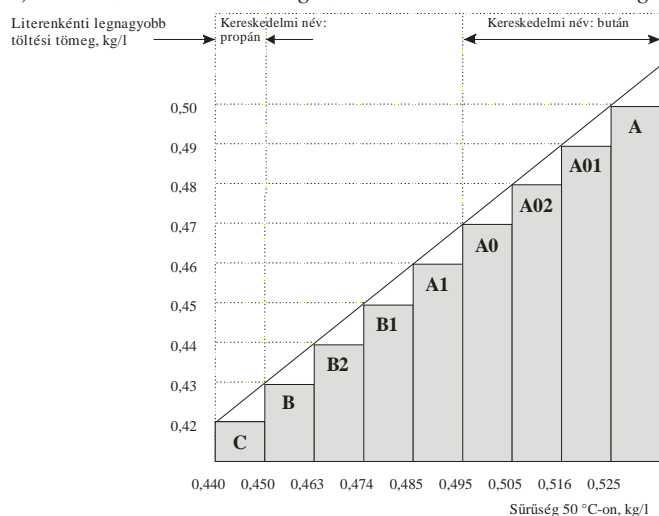
| P200<br>(folyt.)   |  | CSOMAGOLÁSI UTASÍTÁS |                               |        |            |          |             |                                     |                  | P200<br>(folyt.) |                                   |
|--|--|----------------------|-------------------------------|--------|------------|----------|-------------|-------------------------------------|------------------|------------------|-----------------------------------|
| 2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.) |  |                      |                               |        |            |          |             |                                     |                  |                  |                                   |
| UN<br>szám   | Megnevezés és leírás   | Osztályozási kód     | $LC_{50}$ , ml/m <sup>3</sup> | Palack | Nagypalack | Gázhordó | Palackköteg | Vizsgálat időköze, év <sup>a)</sup> | Próbanyomás, bar | Töltési fok      | Különleges<br>csomagolási előírás |
| 3220   | PENTAFLUOR-ETÁN<br>(R 125 HŰTŐGÁZ)   | 2A                   |                               | X      | X          | X        | X           | 10                                  | 49<br>35         | 0,95<br>0,87     | ra<br>ra                          |
| 3252   | DIFLUOR-METÁN<br>(R32 HŰTŐGÁZ)   | 2F                   |                               | X      | X          | X        | X           | 10                                  | 48               | 0,78             | ra                                |
| 3296   | HEPTAFLUOR-PROPÁN<br>(R 227 HŰTŐGÁZ)   | 2A                   |                               | X      | X          | X        | X           | 10                                  | 13               | 1,21             | ra                                |
| 3297   | ETILÉN-OXID ÉS KLÓR-<br>TETRAFLUOR-ETÁN<br>KEVERÉK legfeljebb 8,8%<br>etilén-oxid tartalommal  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 10               | 1,16             | ra                                |
| 3298   | ETILÉN-OXID ÉS<br>PENTAFLUOR-ETÁN<br>KEVERÉK legfeljebb 7,9%<br>etilén-oxid tartalommal  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 26               | 1,02             | ra                                |
| 3299   | ETILÉN-OXID ÉS<br>TETRAFLUOR-ETÁN<br>KEVERÉK legfeljebb 5,6%<br>etilén-oxid tartalommal  | 2A                   |                               | X      | X          | X        | X           | 10                                  | 17               | 1,03             | ra                                |
| 3300   | ETILÉN-OXID ÉS SZÉN-<br>DIOXID KEVERÉK 87%-nál<br>nagyobb etilén-oxid tartalommal  | 2TF                  | > 2900                        | X      | X          | X        | X           | 5                                   | 28               | 0,73             | ra                                |
| 3307   | CSEPPFOLYÓSÍTOTT GÁZ,<br>MÉRGEZŐ, GYÚJTÓ<br>HATÁSÚ, M.N.N.   | 2TO                  | ≤ 5000                        | X      | X          | X        | X           | 5                                   |                  |                  | z                                 |
| 3308   | CSEPPFOLYÓSÍTOTT GÁZ,<br>MÉRGEZŐ, MARÓ, M.N.N.   | 2TC                  | ≤ 5000                        | X      | X          | X        | X           | 5                                   |                  |                  | ra, z                             |
| 3309   | CSEPPFOLYÓSÍTOTT GÁZ,<br>MÉRGEZŐ, GYÚLÉKONY,<br>MARÓ, M.N.N  | 2TFC                 | ≤ 5000                        | X      | X          | X        | X           | 5                                   |                  |                  | ra, z                             |
| 3310   | CSEPPFOLYÓSÍTOTT GÁZ,<br>MÉRGEZŐ, GYÚJTÓ<br>HATÁSÚ, MARÓ, M.N.N.   | 2TOC                 | ≤ 5000                        | X      | X          | X        | X           | 5                                   |                  |                  | z                                 |
| 3318   | AMMÓNIA OLDAT, vizes,<br>relatív sűrűség 15 °C-on kisebb,<br>mint 0,880, 50%-nál több<br>ammóniatartalommal  | 4TC                  |                               | X      | X          | X        | X           | 5                                   |                  |                  | b                                 |
| 3337   | R 404A HŰTŐGÁZ (pentafluor-<br>etán, 1,1,1-trifluor- etán és<br>1,1,1,2-tetrafluor-etán zeotrop<br>keveréke kb. 44% pentafluor-<br>etán és 52% 1,1,1-trifluor-etán<br>tartalommal) | 2A                   |                               | X      | X          | X        | X           | 10                                  | 36               | 0,82             | ra                                |



| P200<br>(folyt.)   |  | CSOMAGOLÁSI UTASÍTÁS |                               |        |            |          |             |                                     |                  | P200<br>(folyt.) |                                   |
|--|--|----------------------|-------------------------------|--------|------------|----------|-------------|-------------------------------------|------------------|------------------|-----------------------------------|
| 2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.) |  |                      |                               |        |            |          |             |                                     |                  |                  |                                   |
| UN<br>szám   | Megnevezés és leírás   | Osztályozási kód     | $LC_{50}$ , ml/m <sup>3</sup> | Palack | Nagypalack | Gázhordó | Palackköteg | Vizsgálat időköze, év <sup>a)</sup> | Próbanyomás, bar | Töltési fok      | Különleges<br>csomagolási előírás |
| 3338   | R 407A HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 20% difluor-metán és 40% pentafluor-etán tartalommal) | 2A                   |                               | X      | X          | X        | X           | 10                                  | 32               | 0,94             | ra                                |
| 3339   | R 407B HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 10% difluor-metán és 70% pentafluor-etán tartalommal) | 2A                   |                               | X      | X          | X        | X           | 10                                  | 33               | 0,93             | ra                                |
| 3340   | R 407C HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 23% difluor-metán és 25% pentafluor-etán tartalommal) | 2A                   |                               | X      | X          | X        | X           | 10                                  | 30               | 0,95             | ra                                |
| 3354   | GYÚLÉKONY ROVARIRTÓ GÁZ, M.N.N.  | 2F                   |                               | X      | X          | X        | X           | 10                                  |                  |                  | ra, z                             |
| 3355   | MÉRGEZŐ, GYÚLÉKONY ROVARIRTÓ GÁZ, M.N.N.   | 2TF                  |                               | X      | X          | X        | X           | 5                                   |                  |                  | ra, z                             |
| 3374   | OLDÓSZERMENTES ACETILÉN  | 2F                   |                               | X      |            |          | X           | 5                                   | 60               |                  | c, p                              |

a) Nem érvényes a kompozit tartályokra.

b) Az UN 1965 számú gázkeverékeknél a literenkénti legnagyobb töltési tömeg a következő:



c) Piroforosnak tekintendő.

d) Mérgezőnek tekinthető. Az  $LC_{50}$  értéket még meg kell határozni.

| P200<br>(folyt.)                               |  | CSOMAGOLÁSI UTASÍTÁS |                  |                             |        |            |          |             |                                     |                  |             | P200<br>(folyt.)               |
|--|--|----------------------|------------------|-----------------------------|--------|------------|----------|-------------|-------------------------------------|------------------|-------------|--------------------------------|
| 3. táblázat: NEM A 2 OSZTÁLYBA TARTOZÓ ANYAGOK |  |                      |                  |                             |        |            |          |             |                                     |                  |             |                                |
| UN<br>szám                                     | Megnevezés és leírás   | Osztály              | Osztályozási kód | $LC_{50}$ ml/m <sup>3</sup> | Palack | Nagypalack | Gázhordó | Palackköteg | Vizsgálati időköz, év <sup>a)</sup> | Próbanyomás, bar | Töltési fok | Különleges csomagolási előírás |
| 1051   | HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál - kevesebb víztartalommal | 6.1                  | TF1              | 40                          | X      |            |          | X           | 5                                   | 100              | 0,55        | k                              |
| 1052   | HIDROGÉN-FLUORID, VÍZMENTES                                    | 8                    | CT1              | 966                         | X      |            | X        | X           | 5                                   | 10               | 0,84        | ab, ac                         |
| 1745   | BRÓM-PENTAFLUORID  | 5.1                  | OTC              | 25                          | X      |            | X        | X           | 5                                   | 10               | b)          | k, ab, ad                      |
| 1746   | BRÓM-TRIFLUORID  | 5.1                  | OTC              | 50                          | X      |            | X        | X           | 5                                   | 10               | b)          | k, ab, ad                      |
| 1790   | FLUOR-HIDROGÉNSAV 85%-nál több hidrogén-fluorid tartalommal    | 8                    | CT1              | 966                         | X      |            | X        | X           | 5                                   | 10               | 0,84        | ab, ac                         |
| 2495   | JÓD-PENTAFLUORID   | 5.1                  | OTC              | 120                         | X      |            | X        | X           | 5                                   | 10               | b)          | k, ab, ad                      |

a) Nem érvényes a kompozit tartályokra.

b) Legalább 8 térf.% szabad légtér szükséges.

| P201   | CSOMAGOLÁSI UTASÍTÁS | P201 |
|--|----------------------|------|
| Ezt az utasítást az UN 3167, 3168 és 3169 tétel anyagaira kell alkalmazni.   |                      |      |
| A következő csomagolóeszközök használhatók:  |                      |      |
| 1) Az illetékes hatóság által jóváhagyott gyártási, vizsgálati és töltési előírásoknak megfelelő palackok nagypalackok és gázhordók;   |                      |      |
| 2) Ezenkívül a következő csomagolóeszközök is használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:   |                      |      |
| a) Nem mérgező gázokhoz:   |                      |      |
| olyan, III csomagolási csoportnak megfelelő kombinált csomagolás, amelynek belső csomagolása légmentesen zárt üveg vagy fém; küldeménydarabonként legfeljebb 5 liter űrtartalomig; |                      |      |
| b) Mérgező gázokhoz:   |                      |      |
| olyan, III csomagolási csoportnak megfelelő kombinált csomagolás, amelynek belső csomagolása légmentesen zárt üveg vagy fém; küldeménydarabonként legfeljebb 1 liter űrtartalomig. |                      |      |

| P202         | CSOMAGOLÁSI UTASÍTÁS | P202 |
|--------------|----------------------|------|
| (fenntartva) |                      |      |

| P203   | CSOMAGOLÁSI UTASÍTÁS | P203 |
|--|----------------------|------|
| A csomagolóeszköz típusa: mélyhűtő tartály.  |                      |      |
| <b>Általános előírások:</b>  |                      |      |
| 1) A 4.1.6 szakasz különleges csomagolási előírásait be kell tartani.<br>2) A tartályokat úgy kell szigetelni, hogy felületükön sem dér, sem harmat ne képződhessen.<br>3) A 3O osztályozási kód alá tartozó gázok szállítására szolgáló tartályok illesztéseinek tömítésére és zárószervezeik karbantartására használt anyagoknak a tartalommal összeférhetőnek kell lenniük.   |                      |      |
| <b>Különleges utasítások a zárt mélyhűtő tartályokra:</b>  |                      |      |
| 4) Azok a zárt mélyhűtő tartályok, amelyeket a 6.2 fejezet szerint gyártottak, mélyhűtött, cseppfolyósított gázok szállítására használhatók.<br>5) Próbanyomás<br>A mélyhűtött, cseppfolyósított anyagokat olyan zárt mélyhűtő tartályba kell tölteni, amelynek legkisebb próbanyomása a következő:<br>a) vákuumszigeteléssel ellátott zárt mélyhűtő tartály esetén a próbanyomás nem lehet kisebb, mint a megtöltött tartály legnagyobb belső nyomása – figyelembe véve a töltés, ill. az ürítés során kialakuló nyomást – és 100 kPa (1 bar) nyomás összegének 1,3-szerese;<br>b) egyéb zárt mélyhűtő tartály esetén a próbanyomás nem lehet kisebb, mint a megtöltött tartály legnagyobb belső nyomásának – figyelembe véve a töltés, ill. az ürítés során kialakuló nyomást – 1,3-szerese;<br>6) Töltési fok<br>Nem gyúlékony, nem mérgező (3A és 3O osztályozási kódú) mélyhűtött, cseppfolyósított gázok esetén a folyékony fázis térfogata a töltési hőmérsékleten és 100 kPa (1 bar) nyomáson ne haladja meg a nyomástartó tartály víztérfogatának 98%-át.<br>Gyúlékony (3F osztályozási kódú) mélyhűtött, cseppfolyósított gázoknál a töltési fokot úgy kell meghatározni, hogy a tartalom olyan hőmérsékletre történő felmelegedése esetén, amelyen a gőznyomás megegyezik a biztonsági szelep nyitónyomásával, a folyékony fázis térfogata ne haladja meg a nyomástartó tartály víztérfogatának 98%-át ezen a hőmérsékleten.<br>7) Nyomáscsökkentő szerkezetek<br>A zárt mélyhűtő tartályokat el kell látni legalább egy nyomáscsökkentő szerkezettel.<br>8) Összeférhetőség<br>Az illesztések tömítéséhez, ill. a zárószervezetek karbantartásához felhasznált anyagoknak összeférhetőeknek kell lenniük a tartalommal. Gyújtó hatású (3O osztályozási kódú) gázokra lásd még az előző 3) pontot is.<br>9) Időszakos vizsgálat<br>A tartályokat a 6.2.1.6, ill. 6.2.3.5 bekezdés előírásai szerint időszakos vizsgálatnak kell alávetni. Az időszakos vizsgálatot 10 évenként kell végrehajtani.<br>Ettől eltérően a kompozit anyagok felhasználásával készült tartályok (kompozit tartályok) időszakos vizsgálata azon ADR Szerződő Fél illetékes hatósága által meghatározott időszakonként is végrehajtható, amely a tervezésre és a gyártásra vonatkozó műszaki szabályzatot jóváhagyta. |                      |      |
| <b>Különleges utasítások a nyitott mélyhűtő tartályokra:</b>   |                      |      |
| 10) Nyitott mélyhűtő tartályok nem használhatók a 3F osztályozási kód alá tartozó gyúlékony, mélyhűtött, cseppfolyósított gázokhoz és az UN 2187 mélyhűtött, cseppfolyósított szén-dioxidhoz és keverékeihez.<br>11) A tartályokat a folyadék kifröccsenését megakadályozó szerkezettel kell ellátni.<br>12) A üvegtartályoknak légritkított kettős falúnak kell lenniük és azokat nedvszívó szigetelőanyaggal kell körülvénni és drótfonattal védve fémládába kell helyezni. Az üvegtartályokat tartalmazó fémládákat, ill. az egyéb tartályokat is fogantyúkkal kell ellátni.<br>13) A tartályok nyílásait olyan gázáteresztő szerkezettel kell ellátni, ami a folyadék kifröccsenését megakadályozza és kiesés ellen biztosítva van.<br>14) Az UN 1073 mélyhűtött, cseppfolyósított oxigén és keverékei esetén ezeket a szerkezeteket, valamint a nedvszívó szigetelőanyagot, ami az üvegtartályokat körülveszi, nem éghető anyagból kell készíteni.  |                      |      |
| <b>Szabvány hivatkozás:</b>  |                      |      |
| (fenntartva)   |                      |      |

|             |                             |             |
|-------------|-----------------------------|-------------|
| <b>P204</b> | <b>CSOMAGOLÁSI UTASÍTÁS</b> | <b>P204</b> |
| (törölve)   |                             |             |

|             |                             |             |
|-------------|-----------------------------|-------------|
| <b>P205</b> | <b>CSOMAGOLÁSI UTASÍTÁS</b> | <b>P205</b> |
| (törölve)   |                             |             |

|   |                             |             |
|---|-----------------------------|-------------|
| <b>P206</b>   | <b>CSOMAGOLÁSI UTASÍTÁS</b> | <b>P206</b> |
| Ezt a csomagolási utasítást az UN 3150 kisméretű eszközök szénhidrogén-gáz töltettel vagy szénhidrogén-gáz utántöltő patronok kisméretű eszközökhöz tételhez kell alkalmazni.   |                             |             |
| 1) A 4.1.6 szakasz vonatkozó különleges csomagolási utasításait be kell tartani.<br>2) A tárgyaknak meg kell felelniük azon ország előírásainak, ahol töltötték.<br>3) Ezeket az eszközöket és utántöltő patronokat a 6.1.4 szakasz szerinti külső csomagolásokba kell helyezni, amelyeket a 6.1 fejezet szerint a II csomagolási csoportra vizsgáltak és hagytak jóvá. |                             |             |

|   |                             |             |
|---|-----------------------------|-------------|
| <b>P300</b>   | <b>CSOMAGOLÁSI UTASÍTÁS</b> | <b>P300</b> |
| Ezt a csomagolási utasítást az UN 3064 tételre kell alkalmazni.   |                             |             |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:<br>Egyenként legfeljebb 1 liter űrtartalmú belső fémdobozokból és külső faládából (4C1, 4C2, 4D vagy 4F) álló kombinált csomagolások, amelyek legfeljebb 5 liter oldatot tartalmaznak. |                             |             |
| <b>Kiegészítő követelmények:</b>  |                             |             |
| 1. A fémdobozokat teljesen körül kell venni nedvszívó párnázóanyaggal.<br>2. A faládákat teljesen ki kell bélelni a víz és a nitroglicerín áthatolásával szemben ellenálló, alkalmas anyaggal.  |                             |             |

|  |                             |             |
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| <b>P301</b>  | <b>CSOMAGOLÁSI UTASÍTÁS</b> | <b>P301</b> |
| Ezt a csomagolási utasítást az UN 3165 tételre kell alkalmazni.  |                             |             |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:   |                             |             |
| 1) Csőből gyártott és hegesztett fenekekkel kialakított nyomásálló alumíniumtartály<br>A tartályon belül a folyadék megtartó résznek legfeljebb 46 liter térfogattal rendelkező, hegesztett alumínium (monoblokk) belső tartályból kell állnia.<br>A külső tartály legkisebb tervezési nyomásának 1275 kPa-nak, legkisebb repesztőnyomásának 2755 kPa-nak kell lennie.<br>Minden egyes tartályt a gyártás során és a szállítás előtt szivárgás szempontjából meg kell vizsgálni és szivárgásmentesnek kell lennie.<br>A komplett egységet nem éghető párnázóanyag, pl. csillám közé erős, szorosan zárt külső fém csomagolóeszközbe kell biztonságosan csomagolni, amely megfelelően védi az összes szerelvényt.<br>Az egységenkénti és küldeménydarabonkénti folyadékmennyiség legfeljebb 42 liter lehet. |                             |             |
| 2) Nyomásálló alumíniumtartály<br>A tartályon belül a folyadék megtartó résznek legfeljebb 46 liter térfogattal rendelkező, fúvott műanyag belső tartályból kell állnia.<br>A nyomásálló tartály legkisebb tervezési nyomásának 2860 kPa-nak, legkisebb repesztőnyomásának 5170 kPa-nak kell lennie.<br>Minden egyes tartályt a gyártás során és a szállítás előtt szivárgás szempontjából meg kell vizsgálni és szivárgásmentesnek kell lennie.<br>A komplett egységet nem éghető párnázóanyag, pl. csillám közé erős, szorosan zárt külső fém csomagolóeszközbe kell biztonságosan csomagolni, amely megfelelően védi az összes szerelvényt.<br>Az egységenkénti és küldeménydarabonkénti folyadék mennyiség legfeljebb 42 liter lehet.  |                             |             |

| P302  | CSOMAGOLÁSI UTASÍTÁS | P302 |
|---|----------------------|------|
| Ezt a csomagolási utasítást az UN 3269 tételre kell alkalmazni.   |                      |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:  |                      |      |
| Olyan kombinált csomagolások, amelyek az alapanyagra kielégítik a 3 osztály kritériumai szerint a II vagy a III csomagolási csoport igénybevételi szintjét. |                      |      |
| Az alapanyagot és az aktiváló anyagot (szerves peroxidot) külön-külön kell belső csomagolásokba helyezni.   |                      |      |
| Ezek a komponensek ugyanabba a külső csomagolásba helyezhetők, amennyiben kifolyás esetén nem reagálnak egymással veszélyesen.                              |                      |      |
| Az aktiváló anyag mennyisége belső csomagolásonként folyékony anyag esetén 125 ml-re, szilárd anyag esetén 500 g-ra van korlátozva.                         |                      |      |

| P400  | CSOMAGOLÁSI UTASÍTÁS | P400 |
|---|----------------------|------|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:  |                      |      |
| 1) Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják. Csak acélból készült tartályok használhatók, amelyeket üzembe helyezés előtt és azután 10 évente időszakosan legalább 1 MPa (10 bar) nyomással (túlnyomással) kell vizsgálni. Szállítás alatt a folyadéknak inert gázréteg alatt kell lennie, amelynek túlnyomása nem lehet 20 kPa-nál (0,2 bar-nál) kevesebb.   |                      |      |
| 2) Olyan ládák (4A, 4B, 4C1, 4C2, 4D, 4F vagy 4G), hordók (1A2, 1B2, 1N2, 1D vagy 1G) vagy kannák (3A2 vagy 3B2), amelyekben légmentesen zárt fémdobozokba helyezett, legfeljebb 1 liter űrtartalmú, tömítéssel rendelkező, menetes zárószerezettel ellátott üveg vagy fém belső csomagolóeszközök vannak. A belső csomagolóeszközt minden oldalról száraz, nem éghető, nedvszívó anyaggal kell párnázni, amely párnázóanyagnak elegendőnek kell lennie a teljes tartalom felszívására. A belső csomagolóeszközöket legfeljebb űrtartalmuk 90%-áig szabad megtölteni. A külső csomagolóeszköz legfeljebb 125 kg nettó tömeget tartalmazhat.                         |                      |      |
| 3) Legfeljebb 150 kg nettó tömeget tartalmazó acél, alumínium vagy egyéb fémhordók (1A2, 1B2 vagy 1N2), kannák (3A2 vagy 3B2) vagy ládák (4A vagy 4B), amelyekben tömítéssel rendelkező, menetes zárószerezettel ellátott, legfeljebb 4 liter űrtartalmú, légmentesen zárt belső fémdobozok vannak. A belső csomagolóeszközt minden oldalról száraz, nem éghető, nedvszívó anyaggal kell párnázni, amely párnázóanyagnak elegendőnek kell lennie a teljes tartalom felszívására. A belső csomagolóeszközök rétegeit a párnázóanyagon kívül megosztó betétekkel is el kell választani. A belső csomagolóeszközöket legfeljebb űrtartalmuk 90%-áig szabad megtölteni. |                      |      |
| <b>Különleges csomagolási előírás:</b>  |                      |      |
| <b>PP86</b> Az UN 3392 és 3394 anyagai esetében a gőztérből a levegőt nitrogénnel ki kell szorítani vagy más módon el kell távolítani.  |                      |      |

| P401   | CSOMAGOLÁSI UTASÍTÁS  |                                     | P401  |
|--|---|-------------------------------------|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják: |   |                                     |   |
| 1)   | Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják. Csak acélból készült tartályok használhatók, amelyeket üzembe helyezés előtt és azután 10 évente időszakosan legalább 0,6 MPa (6 bar) nyomással (túlnyomással) kell vizsgálni. Szállítás alatt a folyadéknak inert gázréteg alatt kell lennie, amelynek túlnyomása nem lehet 20 kPa-nál (0,2 bar-nál) kevesebb. |                                     |   |
| 2)   | Kombinált csomagolások üveg, fém vagy műanyag belső csomagolóeszközökkel, amelyek menetes zárószerezettel vannak ellátva és a teljes tartalom felszívására elegendő mennyiségű inert párnázó- és felszívóanyaggal vannak körülveve.   | <b>Belső csomagolóeszköz</b><br>1 l | <b>Külső csomagolóeszköz</b><br>30 kg<br>(legnagyobb nettó tömeg) |
| <b>Csak a RID és az ADR szerinti szállításnál érvényes különleges csomagolási előírás:</b>                           |   |                                     |   |
| <b>RR7</b> Az UN 1183, 1242, 1295 és 2988 tételekhez: a nyomástartó tartályokat öt évente kell vizsgálni..           |   |                                     |   |

| P402   | CSOMAGOLÁSI UTASÍTÁS  |  | P402             |
|--|---|--|------------------|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják: |   |  |                  |
| 1)   | Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják. Csak acélból készült tartályok használhatók, amelyeket üzembe helyezés előtt és azután 10 évente időszakosan legalább 0,6 MPa (6 bar) nyomással (túlnyomással) kell vizsgálni. Szállítás alatt a folyadéknak inert gázréteg alatt kell lennie, amelynek túlnyomása nem lehet 20 kPa-nál (0,2 bar-nál) kevesebb. |  |                  |
|  | Belső csomagolóeszköz   | Külső csomagolóeszköz                    |                  |
|  | legnagyobb nettó tömeg  |  |                  |
| 2)   | Kombinált csomagolások üveg, fém vagy műanyag belső csomagolóeszközökkel, amelyek menetes zárószerezettel vannak ellátva és a teljes tartalom felszívására elegendő mennyiségű inert párnázó- és felszívóanyaggal vannak körülveve.   | 10 kg (üveg)<br>15 kg (fém vagy műanyag) | 125 kg<br>125 kg |
| 3)   | Acélhordók (1A1) legfeljebb 250 liter ürtartalommal.  |  |                  |
| 4)   | Összetett csomagolások műanyag tartállyal és külső acél- vagy alumíniumhordóval (6HA1 vagy 6HB1), legfeljebb 250 liter ürtartalommal.   |  |                  |
| Csak a RID és az ADR szerinti szállításnál érvényes különleges csomagolási előírás:                                  |   |  |                  |
| RR4  | Az UN 3130-hoz: a tartályok nyílásait két, egymás mögött elhelyezett szerkezettel tömören le kell zárni, amelyek közül az egyiknek csavarmentesnek vagy azonos értékű módon rögzítettnek kell lennie.   |  |                  |
| RR7  | Az UN 3129 tételhez: a nyomástartó tartályokat öt évente kell vizsgálni.  |  |                  |
| RR8  | Az UN 1389, 1391, 1411, 1421, 1928, 3129, 3130 és 3148 tételekhez: a nyomástartó tartályok üzembe helyezés előtti és időszakos vizsgálatát legalább 1 MPa (10 bar) nyomással kell végezni.  |  |                  |

| P403 CSOMAGOLÁSI UTASÍTÁS P403   |  |
|--|--|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.   |  |
| Kombinált csomagolások:  |  |
| Belső csomagolóeszközök  | Külső csomagolóeszközök  |
| Üveg 2 kg<br>Műanyag 15 kg<br>Fém 20 kg<br>A belső csomagolóeszközöket légmentesen (pl. ragasztószalaggal vagy menetes zárószerezettel) kell zárni.  | <b>Hordók</b><br>acélhordók (1A2) 400 kg<br>alumíniumhordók (1B2) 400 kg<br>fémhordók (acélt és alumíniumot kivéve) (1N2) 400 kg<br>műanyag hordók (1H2) 400 kg<br>rétegelt falemez hordók (1D) 400 kg<br>papírlemez hordók (1G) 400 kg<br><b>Ládák</b><br>acélládák (4A) 400 kg<br>alumíniumládák (4B) 400 kg<br>közönséges faládák (4C1) 250 kg<br>portömör faládák (4C2) 250 kg<br>rétegelt falemez ládák (4D) 250 kg<br>farostlemez ládák (4F) 125 kg<br>papírlemez ládák (4G) 125 kg<br>habosított műanyag ládák (4H1) 60 kg<br>tömör műanyag ládák (4H2) 250 kg<br><b>Kannák</b><br>acélkannák (3A2) 120 kg<br>alumíniumkannák (3B2) 120 kg<br>műanyag kannák (3H2) 120 kg |
| Önálló csomagolóeszközök:  |  |
| Hordók   | Legnagyobb nettó tömeg   |
| acélhordók (1A1, 1A2)  | 250 kg   |
| alumíniumhordók (1B1, 1B2)   | 250 kg   |
| fémhordók (acélt és alumíniumot kivéve) (1N1, 1N2)   | 250 kg   |
| műanyag hordók (1H1, 1H2)  | 250 kg   |
| Kannák   |  |
| acélkannák (3A1, 3A2)  | 120 kg   |
| alumíniumkannák (3B1, 3B2)   | 120 kg   |
| műanyagkannák (3H1, 3H2)   | 120 kg   |
| Összetett csomagolóeszközök  |  |
| műanyagtartály külső acél- vagy alumíniumhordóval (6HA1 vagy 6HB1)   | 250 kg   |
| műanyagtartály külső papírlemez, műanyag- vagy rétegelt falemez hordóval (6HG1, 6HH1 vagy 6HD1)  | 75 kg  |
| műanyagtartály külső acél- vagy alumíniumládával vagy -rekesszel, vagy külső fa-, rétegelt falemez, papírlemez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2)  | 75 kg  |
| <b>Nyomástartó tartályok</b> , feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.  |  |
| <b>Kiegészítő követelmény:</b>   |  |
| A csomagolóeszközöket légmentesen kell lezárni.  |  |
| <b>Különleges csomagolási előírás:</b>   |  |
| <b>PP83</b> Az UN 2813 anyagai esetében a szállításhoz a vízálló tasakokba legfeljebb 20 g hőfejlesztésre szolgáló anyag csomagolható. Minden vízálló tasakot műanyag zsákba kell behegeszteni és köztes csomagolásba kell helyezni. A külső csomagolás legfeljebb 400 g anyagot tartalmazhat. A csomagolásban nem lehet víz vagy olyan folyékony anyag, amely a vízzel reaktív anyaggal reakcióba léphet. |  |



| P404  | CSOMAGOLÁSI UTASÍTÁS  | P404 |
|---|---|------|
| Ezt a csomagolási utasítást az UN 1383, 1854, 1855, 2008, 2441, 2545, 2546, 2846, 2881, 3200, 3391 és 3393 alá tartozó piroforos szilárd anyagokra kell alkalmazni. |   |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:  |   |      |
| 1)  | Kombinált csomagolások<br>külső csomagolóeszközök: (1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4F vagy 4H2)<br>belső csomagolóeszközök: Fém csomagolóeszközök legfeljebb 15 kg nettó tömeggel. A belső csomagolóeszközöknek légmentesen zártaknak és menetes zárószervezetűeknek kell lenniük. |      |
| 2)  | Fém csomagolások:<br>(1A1, 1A2, 1B1, 1N1, 1N2, 3A1, 3A2, 3B1 és 3B2)<br>legnagyobb nettó tömeg: 150 kg.   |      |
| 3)  | Összetett csomagolások:<br>műanyag tartály acél vagy alumínium hordóval (6HA1 vagy 6HB1)<br>legnagyobb nettó tömeg: 150 kg.   |      |
| Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.   |   |      |
| Különleges csomagolási előírás:   |   |      |
| PP86  | Az UN 3391 és 3393 anyagai esetében a gőztérből a levegőt nitrogénnel ki kell szorítani vagy más módon el kell távolítani.  |      |

| P405   | CSOMAGOLÁSI UTASÍTÁS  | P405 |
|--|---|------|
| Ezt a csomagolási utasítást az UN 1381 tételre kell alkalmazni.  |   |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják: |   |      |
| 1)   | Az UN 1381 nedves foszforhoz:<br>a) Kombinált csomagolások<br>külső csomagolóeszközök: (4A, 4B, 4C1, 4C2, 4D vagy 4F)<br>legnagyobb nettó tömeg: 75 kg<br>belső csomagolóeszközök:<br>i) légmentesen zárt fémdobozok, legfeljebb 15 kg nettó tömeggel; vagy<br>ii) üveg belső csomagolóeszközök, amelyeket minden oldalról száraz, nem éghető, nedvszívó anyaggal kell párnázni, amely párnázóanyagnak elegendőnek kell lennie a teljes tartalom felszívására, legfeljebb 2 kg nettó tömeggel; vagy<br>b) Hordók (1A1, 1A2, 1B1, 1B2, 1N1 vagy 1N2)<br>legnagyobb nettó tömeg: 400 kg<br>Kannák (3A1 vagy 3B1)<br>legnagyobb nettó tömeg: 120 kg.<br>A csomagolóeszközöknek képesnek kell lenniük a 6.1.5.4 bekezdésben meghatározott tömörségi próba elviselésére a II csomagolási csoport igénybevételi szintjén. |      |
| 2)   | Az UN 1381 száraz foszforhoz:<br>a) Ha a foszfor olvasztott, hordók (1A2, 1B2 vagy 1N2) legfeljebb 400 kg nettó tömeggel; vagy<br>b) Lövedékekben vagy kemény burkolatú tárgyakban, ha az 1 osztályba tartozó alkatrészek nélkül szállítják: az illetékes hatóság által előírt csomagolóeszköz.   |      |



| P406   | CSOMAGOLÁSI UTASÍTÁS   | P406 |
|--|--|------|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják. |  |      |
| 1)   | Kombinált csomagolások<br>Külső csomagolások: (4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2, 1G, 1D, 1H2 vagy 3H2)<br>Belső csomagolások: vízálló csomagolások.  |      |
| 2)   | Műanyag, rétegelt falemez vagy papírlemez hordók (1H2, 1D vagy 1G) vagy ládák (4A, 4B, 4C1, 4C2, 4D, 4F, 4G és 4H2) vízálló belső zsákkal, műanyag fólia béléssel vagy vízálló bevonattal.   |      |
| 3)   | Fémhordók (1A1, 1A2, 1B1, 1B2, 1N1 vagy 1N2), műanyaghordók (1H1 vagy 1H2), fémkannák (3A1, 3A2, 3B1 vagy 3B2), műanyagkannák (3H1 vagy 3H2), műanyagtartály külső acél- vagy alumíniumhordóval (6HA1 vagy 6HB1), műanyagtartály külső papírlemez, műanyag- vagy rétegelt falemez hordóval (6HG1, 6HH1 vagy 6HD1), műanyagtartály külső acél- vagy alumíniumládával vagy -rekeszel, vagy külső fa-, rétegelt falemez, papírlemez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2). |      |
| <b>Kiegészítő követelmények:</b>   |  |      |
| 1.   | A csomagolóeszközt úgy kell kialakítani, hogy a víz-, alkohol-, ill. flegmatizálószer-tartalom ne csökkenhessen.   |      |
| 2.   | A csomagolóeszközt úgy kell kialakítani és lezárni, hogy robbanásveszélyes túlnyomás vagy 300 kPa-t (3 bar-t) meghaladó nyomásnövekedés ne következzen be.   |      |
| <b>Különleges csomagolási előírások:</b>   |  |      |
| <b>PP24</b>  | Az UN 2852, 3364, 3365, 3366, 3367, 3368 és 3369 anyagainak mennyisége küldeménydarabonként legfeljebb 500 g lehet.  |      |
| <b>PP25</b>  | Az UN 1347-hez: küldeménydarabonként 15 kg-ot meghaladó mennyiségben nem szállítható.  |      |
| <b>PP26</b>  | Az UN 1310, 1320, 1321, 1322, 1344, 1347, 1348, 1349, 1517, 2907, 3317 és 3376-hoz: a csomagolóeszközöknek ólom-mentesnek kell lenniük.  |      |
| <b>PP48</b>  | Az UN 3474 anyaghoz fém csomagolóeszköz nem használható.   |      |
| <b>PP78</b>  | Az UN 3370 anyaga küldeménydarabonként legfeljebb 11,5 kg mennyiségben szállítható.  |      |
| <b>PP80</b>  | Az UN 2907 anyagához használt csomagolóeszközöknek a II csomagolási csoport igénybevételi szintjének kell megfelelniük. Az I csomagolási csoport kritériumait teljesítő csomagolóeszközök nem használhatók.  |      |

| P407  | CSOMAGOLÁSI UTASÍTÁS  | P407 |
|---|---|------|
| Ezt a csomagolási utasítást az UN 1331, 1944, 1945 és 2254 tételre kell alkalmazni.   |   |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:  |   |      |
| Kombinált csomagolás, amelynek belső csomagolásai olyan biztonságosan le vannak zárva, hogy normális szállítási feltételek mellett véletlenszerűen ne gyulladjon meg. A küldeménydarab legnagyobb bruttó tömege nem haladhatja meg a 45 kg-ot, kivéve a papírlemez ládát, ami nem lehet 30 kg-nál nehezebb. |   |      |
| <b>Kiegészítő követelmény:</b>  |   |      |
| A gyufákat szorosan kell becsomagolni.  |   |      |
| <b>Különleges csomagolási előírás:</b>  |   |      |
| <b>PP27</b>   | Az UN 1331-hez: A mindenütt gyulladó gyufát tilos egyéb veszélyes anyagokkal ugyanazon külső csomagolásba egybe csomagolni, kivéve a biztonsági gyufát és „Vesta”-viasz gyufát, amelyeket különálló belső csomagolásokba kell csomagolni. Egy belső csomagolás legfeljebb 700 mindenütt gyulladó gyufát tartalmazhat. |      |

| P408  | CSOMAGOLÁSI UTASÍTÁS | P408 |
|---|----------------------|------|
| Ezt a csomagolási utasítást az UN 3292 tételre kell alkalmazni.   |                      |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:  |                      |      |
| 1) Cellákhoz:<br>Külső csomagolóeszközök elegendő párnázóanyaggal, hogy a szállítás alatt ne következessen be a cellák egymással vagy a külső csomagolás belső felületével való érintkezése, sem pedig a celláknak a külső csomagoláson belüli veszélyes elmozdulása. A csomagolóeszközöknek a II csomagolási csoport igénybevételi szintjének kell megfelelniük. |                      |      |
| 2) Akkumulátorokhoz:<br>Az akkumulátorokat csomagolás nélkül vagy védőcsomagolásban (pl. teljesen zárt csomagolásban vagy farekeszben) is lehet szállítani. Az akkumulátorok sorkapcsait sem a többi akkumulátor, sem egyéb, az akkumulátorral egybecsomagolt anyag nem terhelheti a tömegével.   |                      |      |
| <b>Kiegészítő követelmény:</b><br>Az akkumulátorokat a rövidzárlattal szemben védeni kell, ill. oly módon kell elkülöníteni, hogy ne következessen be rövidzárlat.  |                      |      |

| P409  | CSOMAGOLÁSI UTASÍTÁS | P409 |
|---|----------------------|------|
| Ezt a csomagolási utasítást az UN 2956, 3242 és 3251 tételre kell alkalmazni.   |                      |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:                                      |                      |      |
| 1) Papírlemez hordó (1G), amely ellátható béléssel vagy bevonattal; legnagyobb nettó tömeg: 50 kg   |                      |      |
| 2) Kombinált csomagolások: Papírlemez láda (4G) egy belső műanyag fólia zsákkal; legnagyobb nettó tömeg: 50 kg  |                      |      |
| 3) Kombinált csomagolások: Papírlemez láda (4G) vagy papírlemez hordó (1G) legfeljebb 5 kg tartalmú belső műanyag zsákokkal; legnagyobb nettó tömeg: 25kg |                      |      |

| P410   |  | CSOMAGOLÁSI UTASÍTÁS  |   | P410  |
|--|--|---|---|---|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják: |  |   |   |   |
| Kombinált csomagolások:  |  | Legnagyobb nettó tömeg  |   |   |
| Belső csomagolóeszközök  |  | Külső csomagolóeszközök   | II csomagolási csoport  | III csomagolási csoport   |
| Üveg 10 kg   |  | <b>Hordók</b><br>acélhordók (1A2)<br>alumíniumhordók (1B2)<br>fémhordók (acélt és alumíniumot kivéve) (1N2)<br>műanyag hordók (1H2)<br>rétegelt falemez hordók (1D)<br>papírlemez hordók (1G) <sup>a)</sup>   | 400 kg  | 400 kg  |
| Műanyag <sup>a)</sup> 30 kg  |  |   | 400 kg  | 400 kg  |
| Fém 40 kg  |  |   | 400 kg  | 400 kg  |
| Papír <sup>a), b)</sup> 10 kg  |  |   | 400 kg  | 400 kg  |
| Papírlemez <sup>a), b)</sup> 10 kg   |  |   |   |   |
| a) A csomagolóeszközöknek portömörnek kell lenniük.  |  |   |   |   |
| b) Ezek a belső csomagolóeszközök nem használhatók, ha a szállított anyag a szállítás alatt folyékonnyá válhat.      |  | <b>Ládák</b><br>acélládák (4A)<br>alumíniumládák (4B)<br>közönséges faládák (4C1)<br>portömör faládák (4C2)<br>rétegelt falemez ládák (4D)<br>farostlemez ládák (4F)<br>papírlemez ládák (4G) <sup>a)</sup><br>habosított műanyag ládák (4H1)<br>tömör műanyag ládák (4H2)<br><b>Kannák</b><br>acélkannák (3A2)<br>alumíniumkannák (3B2)<br>műanyagkannák (3H2) | 400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br>60 kg<br>400 kg<br>120 kg<br>120 kg<br>120 kg | 400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br>400 kg<br>60 kg<br>400 kg<br>120 kg<br>120 kg<br>120 kg |
| <b>Önálló csomagolóeszközök:</b>   |  |   |   |   |
| <b>Hordók</b>  |  |   |   |   |
| acélhordók (1A1 vagy 1A2)  |  |   | 400 kg  | 400 kg  |
| alumíniumhordók (1B1 vagy 1B2)   |  |   | 400 kg  | 400 kg  |
| fémhordók (acélt és alumíniumot kivéve) (1N1 vagy 1N2)   |  |   | 400 kg  | 400 kg  |
| műanyaghordók (1H1 vagy 1H2)   |  |   | 400 kg  | 400 kg  |
| <b>Kannák</b>  |  |   |   |   |
| acélkannák (3A1 vagy 3A2)  |  |   | 120 kg  | 120 kg  |
| alumíniumkannák (3B1 vagy 3B2)   |  |   | 120 kg  | 120 kg  |
| műanyagkannák (3H1 vagy 3H2)   |  |   | 120 kg  | 120 kg  |
| <b>Ládák</b>   |  |   |   |   |
| acélládák (4A)c)   |  |   | 400 kg  | 400 kg  |
| alumíniumládák (4B)c)  |  |   | 400 kg  | 400 kg  |
| közönséges faládák (4C1)c)   |  |   | 400 kg  | 400 kg  |
| rétegelt falemez ládák (4D)c)  |  |   | 400 kg  | 400 kg  |
| farostlemez ládák (4F)c)   |  |   | 400 kg  | 400 kg  |
| portömör faládák (4C2)c)   |  |   | 400 kg  | 400 kg  |
| papírlemez ládák (4G)c)  |  |   | 400 kg  | 400 kg  |
| tömör műanyag ládák (4H2)c)  |  |   | 400 kg  | 400 kg  |
| <b>Zsákok</b>  |  |   |   |   |
| zsákok (5H3, 5H4, 5L3, 5M2)c), d)  |  |   | 50 kg   | 50 kg   |

| P500  | CSOMAGOLÁSI UTASÍTÁS   | P500 |
|---|--|------|
| Ezt a csomagolási utasítást az UN 3356 tételre kell alkalmazni.   |  |      |
| A 4.1.1 és a 4.1.3 szakasz általános előírásait be kell tartani.  |  |      |
| A csomagolóeszközöknek a II csomagolási csoport követelményeinek kell megfelelniük.   |  |      |
| Az oxigénfejlesztőket olyan küldeménydarabban kell szállítani, amely abban az esetben, ha a küldeménydarabban lévő valamelyik oxigénfejlesztő működésbe lép, megfelel a következő követelményeknek: |  |      |
| a)  | a küldeménydarabban lévő többi oxigénfejlesztő nem lép működésbe;              |      |
| b)  | a csomagolóeszköz anyaga nem gyullad meg; és                                   |      |
| c)  | a küldeménydarab külső felületének a hőmérséklete nem haladja meg a 100 °C-ot. |      |

| P501  |  | CSOMAGOLÁSI UTASÍTÁS                      |  | P501   |  |
|---|--|---|--|--|--|
| Ezt a csomagolási utasítást az UN 2015 tételre kell alkalmazni.   |  |   |  |  |  |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.  |  |   |  |  |  |
| Kombinált csomagolások:   |  | Belső csomagolóeszköz legnagyobb térfogat |  | Külső csomagolóeszköz legnagyobb nettó tömeg |  |
| 1) Ládák (4A, 4B, 4C1, 4C2, 4D, 4H2) vagy hordók (1A2, 1B2, 1N2, 1H2, 1D) vagy kannák (3A2, 3B2, 3H2) üveg, műanyag vagy fém belső csomagolásokkal  |  | 5 l                                       |  | 125 kg                                       |  |
| 2) Papírlemez láda (4G) vagy papírlemez hordó (1G), műanyag vagy fém belső csomagolóeszközökkel, mindegyik műanyag zsákba helyezve  |  | 2 l                                       |  | 50 kg  |  |
| Önálló csomagolóeszközök:   |  | Legnagyobb ürtartalom                     |  |  |  |
| Hordók  |  |   |  |  |  |
| acélhordók (1A1)  |  | 250 l                                     |  |  |  |
| alumíniumhordók (1B1)   |  | 250 l                                     |  |  |  |
| fémhordók (acélt és alumíniumot kivéve) (1N1)   |  | 250 l                                     |  |  |  |
| műanyag hordók (1H1)  |  | 250 l                                     |  |  |  |
| Kannák  |  |   |  |  |  |
| acélkannák (3A1)  |  | 60 l                                      |  |  |  |
| alumíniumkannák (3B1)   |  | 60 l                                      |  |  |  |
| műanyag kannák (3H1)  |  | 60 l                                      |  |  |  |
| Összetett csomagolóeszközök   |  |   |  |  |  |
| műanyag tartály külső acél- vagy alumínium-hordóval (6HA1, 6HB1)  |  | 250 l                                     |  |  |  |
| műanyag tartály külső papírlemez, műanyag- vagy rétegelt falemez hordóval (6HG1, 6HH1, 6HD1)  |  | 250 l                                     |  |  |  |
| műanyag tartály külső acél- vagy alumínium ládával vagy -rekesszel vagy külső fa-, rétegelt falemez, papírlemez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2)  |  | 60 l                                      |  |  |  |
| üvegtartály külső acél-, alumínium-, papírlemez, rétegelt falemez, tömör műanyag vagy habosított műanyag hordóval (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 vagy 6PH2) vagy üveg tartály külső acél- vagy alumíniumládával vagy -rekesszel vagy külső faládával, papírlemez ládával vagy vesszőkosárral (6PA2, 6PB2, 6PC, 6PG2 vagy 6PD2) |  | 60 l                                      |  |  |  |
| Kiegészítő követelmények:   |  |   |  |  |  |
| 1. A csomagolóeszközöket legfeljebb ürtartalmuk 90%-áig szabad megtölteni.  |  |   |  |  |  |
| 2. A csomagolóeszközöket szellőző-szerkezettel kell ellátni.  |  |   |  |  |  |

| P502  |   | CSOMAGOLÁSI UTASÍTÁS         | P502   |
|---|---|------------------------------|--------|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:  |   |                              |        |
| <b>Kombinált csomagolások:</b>  |   |                              |        |
| Belső csomagolóeszközök   | Külső csomagolóeszközök                       | Legnagyobb nettó tömeg       |        |
| Üveg 5 l  | <b>Hordók</b>                                 |                              |        |
| Fém 5 l   | acélhordók (1A2)                              |                              | 125 kg |
| Műanyag 5 l   | alumíniumhordók (1B2)                         |                              | 125 kg |
|   | fémhordók (acélt és alumíniumot kivéve) (1N2) |                              | 125 kg |
|   | műanyag hordók (1H2)                          |                              | 125 kg |
|   | rétegelt falemez hordók (1D)                  |                              | 125 kg |
|   | papírlemez hordók (1G)                        |                              | 125 kg |
|   | <b>Ládák</b>                                  |                              |        |
|   | acélládák (4A)                                |                              | 125 kg |
|   | alumíniumládák (4B)                           |                              | 125 kg |
|   | közönséges faládák (4C1)                      |                              | 125 kg |
|   | portömör faládák (4C2)                        |                              | 125 kg |
|   | rétegelt falemez ládák (4D)                   |                              | 125 kg |
|   | farostlemez ládák (4F)                        |                              | 125 kg |
|   | papírlemez ládák (4G)                         |                              | 125 kg |
|   | habosított műanyag ládák (4H1)                |                              | 60 kg  |
|   | tömör műanyag ládák (4H2)                     |                              | 125 kg |
| <b>Önálló csomagolóeszközök:</b>  |   | <b>Legnagyobb úrtartalom</b> |        |
| <b>Hordók</b>   |   |                              |        |
| acélhordók (1A1)  |   |                              | 250 l  |
| alumíniumhordók (1B1)   |   |                              | 250 l  |
| műanyag hordók (1H1)  |   |                              | 250 l  |
| <b>Kannák</b>   |   |                              |        |
| acélkannák (3A1)  |   |                              | 60 l   |
| alumíniumkannák (3B1)   |   |                              | 60 l   |
| műanyag kannák (3H1)  |   |                              | 60 l   |
| <b>Összetett csomagolóeszközök</b>  |   |                              |        |
| műanyag tartály külső acél- vagy alumíniumhordóval (6HA1, 6HB1)   |   |                              | 250 l  |
| műanyag tartály külső papírlemez, műanyag- vagy rétegelt falemez hordóval (6HG1, 6HH1, 6HD1)  |   |                              | 250 l  |
| műanyag tartály külső acél- vagy alumíniumládával vagy -rekesszel vagy műanyag tartály külső fa-, rétegelt falemez, papírlemez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2)   |   |                              | 60 l   |
| üvegtartály külső acél-, alumínium-, papírlemez, rétegelt falemez, tömör műanyag vagy habosított műanyag hordóval (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 vagy 6PH2) vagy külső acél- vagy alumíniumládával vagy -rekesszel vagy külső fa-, vagy papírlemez ládával vagy vesszőkosárral (6PA2, 6PB2, 6PC, 6PG2 vagy 6PD2) |   |                              | 60 l   |
| <b>Különleges csomagolási előírás</b>   |   |                              |        |
| <b>PP28</b> Az UN 1873-hoz kombinált csomagolásokban csak üveg belső csomagolóeszközök, ill. az összetett csomagolóeszközöknél csak üveg belső tartályok használhatók.  |   |                              |        |

| P503   |      | CSOMAGOLÁSI UTASÍTÁS                          |                        | P503   |
|--|------|---|------------------------|--------|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják. |      |   |                        |        |
| Kombinált csomagolások:  |      |   | Legnagyobb nettó tömeg |        |
| Belső csomagolóeszközök  |      | Külső csomagolóeszközök                       |                        |        |
| Üveg   | 5 kg | <b>Hordók</b>                                 |                        |        |
| Fém  | 5 kg | acélhordók (1A2)                              |                        | 125 kg |
| Műanyag  | 5 kg | alumíniumhordók (1B2)                         |                        | 125 kg |
|  |      | fémhordók (acélt és alumíniumot kivéve) (1N2) |                        | 125 kg |
|  |      | műanyag hordók (1H2)                          |                        | 125 kg |
|  |      | rétegelt falemez hordók (1D)                  |                        | 125 kg |
|  |      | papírlemez hordók (1G)                        |                        | 125 kg |
|  |      | <b>Ládák</b>                                  |                        |        |
|  |      | acélládák (4A)                                |                        | 125 kg |
|  |      | alumíniumládák (4B)                           |                        | 125 kg |
|  |      | közönséges faládák (4C1)                      |                        | 125 kg |
|  |      | portömör faládák (4C2)                        |                        | 125 kg |
|  |      | rétegelt falemez ládák (4D)                   |                        | 125 kg |
|  |      | farostlemez ládák (4F)                        |                        | 125 kg |
|  |      | papírlemez ládák (4G)                         |                        | 40 kg  |
|  |      | habosított műanyag ládák (4H1)                |                        | 60 kg  |
|  |      | tömör műanyag ládák (4H2)                     |                        | 125 kg |
| Önálló csomagolóeszközök:  |      |   |                        |        |
| Fémhordók (1A1, 1A2, 1B1, 1B2, 1N1 vagy 1N2) legfeljebb 250 kg nettó tömeggel.                                       |      |   |                        |        |
| Papírlemez hordók (1G) vagy rétegelt falemez hordók (1D) belső béléssel ellátva, legfeljebb 200 kg nettó tömeggel.   |      |   |                        |        |

| P504   | CSOMAGOLÁSI UTASÍTÁS | P504                   |
|--|----------------------|------------------------|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.   |                      |                        |
| Kombinált csomagolások:  |                      | Legnagyobb nettó tömeg |
| 1) Üvegtartályok legfeljebb 5 liter űrtartalommal 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2 külső csomagolóeszközben   |                      | 75 kg                  |
| 2) Legfeljebb 30 liter űrtartalmú műanyag tartályok 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2 külső csomagolóeszközben.  |                      | 75 kg                  |
| 3) Fémtartályok legfeljebb 40 liter űrtartalommal 1G, 4F vagy 4G külső csomagolóeszközben.   |                      | 125 kg                 |
| 4) Fémtartályok legfeljebb 40 liter űrtartalommal 1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4H2 külső csomagolóeszközben.  |                      | 225 kg                 |
| Önálló csomagolóeszközök:  |                      | Legnagyobb űrtartalom  |
| <b>Hordók</b>  |                      |                        |
| acélhordók nem levezető tetővel (1A1)  |                      | 250 l                  |
| acélhordók levezető tetővel (1A2)  |                      | 250 l                  |
| alumíniumhordók nem levezető tetővel (1B1)   |                      | 250 l                  |
| alumíniumhordók levezető tetővel (1B2)   |                      | 250 l                  |
| fémhordók (acélt és alumíniumot kivéve) nem levezető tetővel (1N1)   |                      | 250 l                  |
| fémhordók (acélt és alumíniumot kivéve) levezető tetővel (1N2)   |                      | 250 l                  |
| műanyag hordók nem levezető tetővel (1H1)  |                      | 250 l                  |
| műanyag hordók levezető tetővel (1H2)  |                      | 250 l                  |
| <b>Kannák</b>  |                      |                        |
| acélkannák nem levezető tetővel (3A1)  |                      | 60 l                   |
| acélkannák levezető tetővel (3A2)  |                      | 60 l                   |
| alumíniumkannák nem levezető tetővel (3B1)   |                      | 60 l                   |
| alumíniumkannák levezető tetővel (3B2)   |                      | 60 l                   |
| műanyag kannák nem levezető tetővel (3H1)  |                      | 60 l                   |
| műanyag kannák levezető tetővel (3H2)  |                      | 60 l                   |
| <b>Összetett csomagolóeszközök</b>   |                      |                        |
| műanyag tartály külső acél- vagy alumíniumhordóval (6HA1, 6HB1)  |                      | 250 l                  |
| műanyag tartály külső papírlemez, műanyag vagy rétegelt falemez hordóval (6HG1, 6HH1, 6HD1)  |                      | 120 l                  |
| műanyag tartály külső acél- vagy alumíniumládával vagy -rekesszel vagy külső fa-, rétegelt falemez, papírlemez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2)  |                      | 60 l                   |
| üvegtartály külső acél, alumínium, papírlemez, rétegelt falemez, tömör műanyag vagy habosított műanyag hordóval (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 vagy 6PH2), vagy külső acél- vagy alumíniumládával vagy -rekesszel, vagy külső fa- vagy papírlemez ládával vagy vesszőkosárral (6PA2, 6PB2, 6PC, 6PG2 vagy 6PD2) |                      | 60 l                   |
| <b>Különleges csomagolási előírás:</b>   |                      |                        |
| <b>PP10</b> Az UN 2014, 2984 és 3149 anyagaihoz szellőző-szerkezettel ellátott csomagolóeszközöket kell használni.   |                      |                        |



P520

Csomagolási utasítás

P501

Ezt a csomagolási utasítást az 5.2 osztály szerves peroxidjaira és a 4.1 osztály önreaktív anyagaira kell alkalmazni.

A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.7.1 bekezdés különleges előírásait betartják:

A csomagolási módszerek OP1-OP8 jelöléssel vannak ellátva. A jelenleg besorolt egyes szerves peroxidokhoz és önreaktív anyagokhoz alkalmas csomagolási módszereket a 4.1.7.1.3 és a 2.2.41.4 és 2.2.52.4 bekezdés sorolja fel. Az egyes csomagolási módszerekhez meghatározott mennyiségek a küldeménydarabonként engedélyezett legnagyobb mennyiségeket jelentik. A következő csomagolások használhatók:

1) Kombinált csomagolások külső ládával (4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H1 és 4H2), hordóval (1A2, 1B2, 1G, 1H2 és 1D) vagy kannával (3A2, 3B2 és 3H2);

2) Önálló csomagolóeszközök, amelyek hordók (1A1, 1A2, 1B1, 1B2, 1G, 1H1, 1H2 és 1D) vagy kannák (3A1, 3A2, 3B1, 3B2, 3H1 és 3H2);

3) Összetett csomagolóeszközök műanyag belső tartállyal (6HA1, 6HA2, 6HB1, 6HB2, 6HC, 6HD1, 6HD2, 6HG1, 6HG2, 6HH1 és 6HH2).

Engedélyezett legnagyobb mennyiség csomagolásonként/küldeménydarabonként<sup>a)</sup> az OP1 – OP8 csomagolási módszerhez

| <div>Csomagolási módszer</div> <div>Legnagyobb mennyiség</div>                                      | OP1 | OP2 <sup>a)</sup> | OP3 | OP4 <sup>a)</sup> | OP5 | OP6 | OP7 | OP8               |
|---|-----|-------------------|-----|-------------------|-----|-----|-----|-------------------|
| Legnagyobb tömeg (kg) szilárd anyagra és kombinált csomagolásra (szilárd és folyékony anyag esetén) | 0,5 | 0,5/10            | 5   | 5/25              | 25  | 50  | 50  | 400 <sup>b)</sup> |
| Legnagyobb tartalom literben folyadékra <sup>c)</sup>   | 0,5 | –                 | 5   | –                 | 30  | 60  | 60  | 225 <sup>d)</sup> |

a) Ha két adat van megadva, az első a belső csomagolásonkénti legnagyobb nettó tömegre, míg a második a teljes küldeménydarab legnagyobb nettó tömegére vonatkozik.

b) 60 kg kannákra; 200 kg ládákra és 400 kg szilárd anyagokra összetett csomagolásokban, ha a külső csomagolás láda (4C1, 4C2, 4D, 4F, 4G, 4H1 és 4H2) és a belső csomagolások legfeljebb 25 kg nettó tömegű műanyag vagy papírlemez csomagolóeszközök.

c) A viszkózus anyagokat úgy kell kezelni mint a szilárd anyagokat, ha az 1.2.1 szakaszban a folyékony anyagokra adott meghatározásnak nem felelnek meg.

d) 60 liter kannákra.

Kiegészítő követelmények:

1. Fém csomagolóeszközök, akár a kombinált csomagolások belső csomagolóeszközeként, akár az összetett vagy kombinált csomagolások külső csomagolóeszközeként csak az OP7 és OP8 módszernél használhatók.

2. A kombinált csomagolásokban üvegtartályok szilárd anyagok esetén csak legfeljebb 0,5 kg-os, folyékony anyagok esetén csak legfeljebb 0,5 l-es belső csomagolóeszközként használhatók.

3. A kombinált csomagolásoknál a párnázóanyag nem lehet könnyen gyulladó.

4. A „ROBBANÓ” járulékos veszély bárcával (5.2.2.2 pont, 1 sz. bárca) ellátandó szerves peroxidot vagy önreaktív anyagot tartalmazó küldeménydarabnak meg kell felelnie a 4.1.5.10 és a 4.1.5.11 bekezdésben található előírásoknak

Különleges csomagolási előírások:

PP21 Az UN 3221, 3222, 3223, 3224, 3231, 3232, 3233 és 3234 alá tartozó, egyes B vagy C típusú önreaktív anyagokra az OP5 vagy OP6 csomagolási módszernél engedélyezettnél kisebb csomagolásokat kell használni (lásd a 4.1.7 szakaszt és a 2.2.41.4 bekezdést).

PP22 Az UN 3241 2-bróm-2-nitro-1,3-propándiol-t az OP6 csomagolási módszer szerint kell csomagolni.

| P600  | CSOMAGOLÁSI UTASÍTÁS | P600 |
|---|----------------------|------|
| Ezt a csomagolási utasítást az UN 1700, 2016 és 2017 tételre kell alkalmazni.<br>A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:   |                      |      |
| Külső csomagolóeszközök: (1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2), amelyek a II csomagolási csoport igénybevételi szintjét elégítik ki. A tárgyakat egyedileg kell csomagolni és egymástól elválasztani válaszfalak, osztóbetétek, belső csomagolások vagy párnázóanyag segítségével, hogy normális szállítási feltételek között a tárgyak nem szándékos működésbe lépését megakadályozzák. Legnagyobb nettó tömeg: 75 kg. |                      |      |

| P601  | CSOMAGOLÁSI UTASÍTÁS | P601 |
|---|----------------------|------|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják és a csomagolóeszközöket légmentesen lezárják:  |                      |      |
| <p>1) Olyan, legfeljebb 15 kg bruttó tömegű kombinált csomagolás, amely a következőkből áll:</p> <ul style="list-style-type: none"> <li>– legfeljebb 1 liter űrtartalmú, üveg belső csomagolóeszköz(ök), amelyek legfeljebb űrtartalmuk 90%-áig vannak megtöltve, és amelyek zárását valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerszerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására, ezek a belső csomagolóeszközök egyenként</li> <li>– fémtartályba helyezve, az üveg belső csomagolóeszköz(ök) teljes tartalmának felszívására elegendő nedvszívó anyaggal és inert párnázóanyaggal körülvéve, a fémtartályok pedig</li> <li>– 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 jelű külső csomagolóeszközbe téve.</li> </ul> <p>2) Olyan, legfeljebb 75 kg bruttó tömegű kombinált csomagolás, amelyben a legfeljebb 5 liter űrtartalmú, fém belső csomagolóeszközök egyenként a teljes tartalmuk felszívására elegendő nedvszívó anyaggal és inert párnázóanyaggal körülvéve 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 jelű külső csomagolóeszközben vannak. A belső csomagolóeszközöket legfeljebb űrtartalmuk 90%-áig szabad megtölteni. A belső csomagolóeszközök zárását valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerszerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására.</p> <p>3) Olyan csomagolás, amelynek:</p> <ul style="list-style-type: none"> <li>– külső csomagolóeszköze<br/>olyan levehető tetejű (1A2, ill. 1H2 jelű) acél- vagy műanyag hordó, amelyet vagy mint szilárd, ill. folyékony anyag szállítására használt önálló csomagolóeszközt, vagy mint belső csomagolások befogadására szolgáló csomagolóeszközt vizsgáltak a 6.1.5 szakasz vizsgálati követelményei szerint a szállításra összeállított küldeménydarab tömegének megfelelő tömeggel, és ennek megfelelően van jelöléssel ellátva;</li> <li>– belső csomagolóeszköze<br/>olyan hordó vagy összetett csomagolás (1A1, 1B1, 1N1, 1H1 vagy 6HA1), amely kielégíti a 6.1 fejezet önálló csomagolóeszközökre vonatkozó előírásait, és megfelel a következő feltételeknek: <ul style="list-style-type: none"> <li>a) a folyadéknomás próbát legalább 0,3 MPa (3 bar) nyomással (túlnyomással) kell végrehajtani;</li> <li>b) a típusvizsgálat során és a minden egyes csomagolóeszközön elvégzendő tömörségi próbát 30 kPa (0,3 bar) próbanyomással kell végrehajtani;</li> <li>c) a külső hordótól lökésállapítóként inert párnázóanyaggal kell elválasztani, amelynek a belső csomagolóeszközt minden oldalról körül kell vennie;</li> <li>d) űrtartalma nem haladhatja meg a 125 litert; és</li> <li>e) a zárószerszerkezetnek csavarmentes kupaknak kell lennie, <ul style="list-style-type: none"> <li>i) amelyet valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerszerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására; és</li> <li>ii) amely légmentesen záró tömítőbetéttel van ellátva;</li> </ul> </li> </ul> </li> </ul> |                      |      |

| P601<br>(folyt.) | CSOMAGOLÁSI UTASÍTÁS   | P601<br>(folyt.) |
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|                  | <p>f) a külső és belső csomagolóeszközöket legalább 2,5 évenként a b) pont szerint tömörségi próbának kell alávetni;</p> <p>g) a teljes csomagolóeszközt legalább 3 évenként szemrevételezéssel meg kell vizsgálni az illetékes hatóság számára kielégítő módon.</p> <p>h) a belső és a külső csomagolóeszközökön jól olvashatóan és tartósan fel kell tüntetni:</p> <p>i) az első alkalommal végzett vizsgálat és az utolsó időszakos vizsgálat időpontját (hónap, év);</p> <p>ii) a vizsgálatot és szemrevételezést végző szakértő bélyegzőlenyomatát.</p> <p>4) Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják. A nyomástartó tartályokat üzembe helyezés előtt és azután 10 évente időszakosan legalább 1 MPa (10 bar) nyomással (túlnyomással) kell vizsgálni. A nyomástartó tartályon semmilyen nyomáscsökkentő szerkezet nem lehet. Minden nyomástartó tartályt, amely olyan folyadékot tartalmaz, amelynek <math>LC_{50}</math> értéke belélegzés esetén 200 ml/m<sup>3</sup> (ppm) vagy annál kisebb, olyan záródugóval vagy zárószeleppel kell lezárni, amely megfelel a következő előírásoknak:</p> <p>a) a záródugónak, ill. zárószelepnek kúpos csavarmenettel közvetlenül a nyomástartó tartályhoz kell csatlakoznia, és a nyomástartó tartály próbanyomását sérülés és szivárgás nélkül ki kell állnia;</p> <p>b) a zárószelepnek tömítés nélküli, nem-perforált membrános szelepnek kell lennie, kivéve a maró anyagoknál, ahol lehet tömítéssel ellátott szelep is, ha olyan elrendezéssel van gáztömörre téve, ahol a szeleptesthez vagy a nyomástartó tartályhoz rögzített tömítő sapka és a tömítőgyűrű megakadályozza, hogy a tömítésen keresztül vagy amellet szivároгjon az anyag;</p> <p>c) a zárószelep kimenetét menetes sapkával vagy menetes tömör dugóval és inert tömítőanyaggal kell lezárni;</p> <p>d) A nyomástartó tartály szerkezeti anyagának, a szelepek, a dugók, a kimeneti sapkák, a kitt és a tömítések anyagának egymással és a tartalommal összeférhetőnek kell lennie.</p> <p>Az olyan nyomástartó tartályt, amelynek bármely pontján kisebb a falvastagsága, mint 2,0 mm, illetve az olyat, amelynek a szelepe nincs megfelelő védelemmel ellátva, külső csomagolóeszközbe helyezve kell szállítani. A nyomástartó tartályokat nem szabad sem összekapcsolni, sem gyűjtőcsővel ellátni.</p> |                  |
|                  | <p><b>Különleges csomagolási előírás:</b></p> <p><b>PP82</b> (törölve)</p>   |                  |
|                  | <p><b>Csak a RID és az ADR szerinti szállításnál érvényes különleges csomagolási előírás:</b></p> <p><b>RR3</b> (törölve)</p> <p><b>RR7</b> Az UN 1251 tételhez: a nyomástartó tartályokat öt évente kell vizsgálni.</p> <p><b>RR10</b> Az UN 1614 anyagot, ha inert porózus anyagba teljesen abszorbeálva van, legfeljebb 7,5 liter űrtartalmú fém tartályokba kell csomagolni, amelyeket oly módon kell faládákba helyezni, hogy ne érintkezhessenek egymással. A tartályokat teljesen ki kell tölteni porózus anyaggal, amelynek olyannak kell lennie, hogy még hosszabb használat után vagy rázkódások esetén se tömörüljön össze és ne képződjene benne veszélyes üregek még 50 °C hőmérséklet esetén sem.</p>  |                  |

| P602   | CSOMAGOLÁSI UTASÍTÁS   | P602 |
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| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják és a csomagolóeszközöket légmentesen lezárják: |  |      |
| 1)   | <p>Olyan, legfeljebb 15 kg bruttó tömegű kombinált csomagolás, amely a következőkből áll:</p> <ul style="list-style-type: none"> <li>– legfeljebb 1 liter űrtartalmú, üveg belső csomagolóeszköz(ök), amelyek legfeljebb űrtartalmuk 90%-áig vannak megtöltve, és amelyek zárását valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására, ezek a belső csomagolóeszközök egyenként</li> <li>– fémtartályba helyezve, a teljes tartalmuk felszívására elegendő nedvszívó anyaggal és inert párnázóanyaggal körülvéve, a fémtartályok pedig</li> <li>– 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 jelű külső csomagolóeszközbe téve.</li> </ul>  |      |
| 2)   | <p>Olyan, legfeljebb 75 kg bruttó tömegű kombinált csomagolás, amelyben a fém belső csomagolóeszközök egyenként a teljes tartalmuk felszívására elegendő nedvszívó anyaggal és inert párnázóanyaggal körülvéve 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 jelű külső csomagolóeszközben van. A belső csomagolóeszközöket legfeljebb űrtartalmuk 90%-áig szabad megtölteni. A belső csomagolóeszközök zárását valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására. A belső csomagolóeszközök űrtartalma nem haladhatja meg az 5 litert.</p>  |      |
| 3)   | <p>Hordók és összetett csomagolóeszközök (1A1, 1B1, 1N1, 1H1, 6HA1 vagy 6HH1) feltéve, ha megfelelnek következő feltételeknek:</p> <ul style="list-style-type: none"> <li>a) a folyadéknomás próbát legalább 0,3 MPa (3 bar) nyomással (túlnyomás) kell végrehajtani;</li> <li>b) a típusvizsgálat során és a minden egyes csomagolóeszközön elvégzendő tömörségi próbát 30 kPa próbanyomással kell végrehajtani;</li> <li>c) a zárószerkezetnek csavarmenetes kupaknak kell lennie, <ul style="list-style-type: none"> <li>i) amelyet valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására; és</li> <li>ii) amely légmentesen záró tömítőbetéttel van ellátva.</li> </ul> </li> </ul>  |      |
| 4)   | <p>Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják. A nyomástartó tartályokat üzembe helyezés előtt és azután 10 évente időszakosan legalább 1 MPa (10 bar) nyomással (túlnyomással) kell vizsgálni. A nyomástartó tartályon semmilyen nyomáscsökkentő szerkezet nem lehet. Minden nyomástartó tartályt, amely olyan folyadékot tartalmaz, amelynek <math>LC_{50}</math> értéke belélegzés esetén 200 ml/m<sup>3</sup> (ppm) vagy annál kisebb, olyan záródugóval vagy zárószeleppel kell lezárni, amely megfelel a következő előírásoknak:</p> <ul style="list-style-type: none"> <li>a) a záródugónak, ill. zárószelepnek kúpos csavarmenettel közvetlenül a nyomástartó tartályhoz kell csatlakoznia, és a nyomástartó tartály próbanyomását sérülés és szivárgás nélkül ki kell állnia;</li> <li>b) a zárószelepnek tömítés nélküli, nem-perforált membrános szelepnek kell lennie, kivéve a maró anyagoknál, ahol lehet tömítéssel ellátott szelep is, ha olyan elrendezéssel van gáztömörre téve, ahol a szeleptesthez vagy a nyomástartó tartályhoz rögzített tömítő sapka és a tömítőgyűrű megakadályozza, hogy a tömítésen keresztül vagy amellel szivárogon az anyag;</li> <li>c) a zárószelep kimenetét menetes sapkával vagy menetes tömör dugóval és inert tömítőanyaggal kell lezárni;</li> <li>d) a nyomástartó tartály szerkezeti anyagának, a szelepek, a dugók, a kimeneti sapkák, a kitt és a tömítések anyagának egymással és a tartalommal összeférhetőnek kell lennie.</li> </ul> <p>Az olyan nyomástartó tartályt, amelynek bármely pontján kisebb a falvastagsága, mint 2,0 mm, illetve az olyat, amelynek a szelepe nincs megfelelő védelemmel ellátva, külső csomagolóeszközbe helyezve kell szállítani. A nyomástartó tartályokat nem szabad sem összekapcsolni, sem gyújtócsővel ellátni.</p> |      |

| P620   | CSOMAGOLÁSI UTASÍTÁS  | P620 |
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| Ezt a csomagolási utasítást az UN 2814 és 2900 tételre kell alkalmazni.  |   |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.8 szakasz különleges előírásait betartják:                 |   |      |
| A 6.3 fejezet követelményeit kielégítő és annak megfelelően jóváhagyott csomagolóeszközök, amelyek a következőkből állnak: |   |      |
| a)   | belső csomagolóeszköz, amely a következőket tartalmazza:  |      |
|  | i) folyadéktömör elsődleges tartály(oka)t;  |      |
|  | ii) folyadéktömör másodlagos csomagolást;   |      |
|  | iii) nem szilárd fertőző anyagok esetén az elsődleges tartály és a másodlagos csomagolás közé helyezett nedvszívó anyagot, amely elegendő mennyiségű az elsődleges tartályok teljes tartalmának felszívására; amennyiben több elsődleges tartály van elhelyezve egyetlen másodlagos csomagolásban, úgy ezeket egyenként be kell burkolni vagy úgy kell elválasztani egymástól, hogy ne érintkezhessenek egymással;  |      |
| b)   | merev falú külső csomagolóeszköz, amelynek legkisebb külső mérete legalább 100 mm.  |      |
| <b>Kiegészítő követelmények:</b>   |   |      |
| 1.   | A fertőző anyagokat tartalmazó belső csomagolóeszközöket tilos más típusú árukkal közös külső csomagolásba együvé csomagolni. A küldeménydarabokat az 1.2.1 és az 5.1.2 szakasz előírásai szerinti egyesítőcsomagolásba lehet tenni, amelyben szárazjég is elhelyezhető.  |      |
| 2.   | A kivételes küldemények kivételével, mint pl. egész szervek, amelyek különleges csomagolást igényelnek, a következő kiegészítő követelményeket kell betartani:  |      |
|  | a) Ha az anyagot szobahőmérsékleten vagy magasabb hőmérsékleten adják fel szállításra: Az elsődleges tartályokat fémből, üvegből vagy műanyagból kell készíteni. Ezeket szivárgásmentes tömítést eredményező, biztosított zársmóddal kell zárni, mint pl. hőzárás, szoknyával ellátott dugó vagy ráperemezhető fémmár. Amennyiben csavarmentes fedelet használnak, hatékony eszközzel, pl. ragasztószalaggal, parafinozott zárószalaggal vagy gyárilag kialakított zárószervezettel rögzíteni kell;   |      |
|  | b) Ha az anyagot hűtve vagy fagyasztva adják fel szállításra: Jeget, szárazjeget vagy egyéb hűtőközeget kell a másodlagos csomagolás(ok) köré helyezni vagy alternatívaként a 6.3.3 szakasz szerint jelölt, komplett küldeménydarab(ka)t tartalmazó egyesítőcsomagolásba helyezni. Belső távtartókat kell alkalmazni a másodlagos csomagolás(ok) vagy a küldeménydarabok rögzítésére, hogy azok a jég vagy a szárazjég eltűnése után eredeti helyzetükben maradjanak. Amennyiben jeget használnak, a külső csomagolásnak, ill. az egyesítőcsomagolásnak folyadéktömörnek kell lennie. Szárazjég használata esetén a külső csomagolásnak, ill. az egyesítőcsomagolásnak lehetővé kell tennie a szén-dioxid gáz eltávozását. Az elsődleges tartálynak és a másodlagos csomagolásnak meg kell őriznie integritását az alkalmazott hűtőközeg hőmérsékletén; |      |
|  | c) Ha az anyagot cseppfolyósított nitrogénben adják fel szállításra: Az elsődleges tartályokat olyan műanyagból kell készíteni, amely ellenáll a nagyon alacsony hőmérsékletnek. A másodlagos csomagolásnak is ellen kell állnia a nagyon alacsony hőmérsékletnek és a legtöbb esetben egyedileg kell illeszkednie a belső tartályhoz. A cseppfolyósított nitrogén szállítására vonatkozó követelményeket ugyancsak be kell tartani. Az elsődleges tartálynak és a másodlagos csomagolásnak meg kell őriznie integritását a cseppfolyósított nitrogén hőmérsékletén;  |      |
|  | d) A liofilizált anyagok elsődleges tartályokban is szállíthatók, amelyek lánggal leforrasztott üvegampullák vagy fémmárral ellátott, gumidugós üvegcsék.   |      |
| 3.   | Függetlenül a szállítás során előírt hőmérséklettől a fertőző anyagok csomagolására használt elsődleges vagy másodlagos csomagolásnak szivárgás nélkül ellen kell állnia legalább 95 kPa nyomáskülönbséget létrehozó belső nyomásnak és a -40 °C és +55 °C közötti hőmérsékletnek.  |      |
| 4.   | A származási ország <sup>a)</sup> illetékes hatósága az állati eredetű anyagok szállításához más csomagolóeszközt is engedélyezhet a 4.1.8.7 bekezdés szerint.  |      |
| a)   | Ha a származási ország nem valamely ADR Szerződő Fél, a küldemény által érintett első ADR Szerződő Fél illetékes hatósága   |      |



| P621   | CSOMAGOLÁSI UTASÍTÁS  | P621 |
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| Ezt a csomagolási utasítást az UN 3291 tételre kell alkalmazni.  |   |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják. |   |      |
| 1)   | A 6.1 fejezet előírásait szilárd anyagokra, a II csomagolási csoportra kielégítő merev falú, szivárgásmentes csomagolóeszközök, amennyiben elegendő nedvszívó anyagot tartalmaznak a teljes folyadék mennyiség felszívására és a csomagolóeszköz képes a folyadék megtartására. |      |
| 2)   | Nagyobb mennyiségű folyadékot tartalmazó küldeménydarabok esetén a 6.1 fejezet előírásait folyékony anyagokra, a II csomagolási csoportra kielégítő csomagolóeszközök.  |      |
| <b>Kiegészítő követelmények:</b>   |   |      |
| 1.   | Az éles tárgyakat, pl. törött üvegeket, tüket tartalmazó csomagolóeszközöknek dőfésállónak kell lenniük, és meg kell tartaniuk a folyékony anyagokat a 6.1 fejezet szerinti vizsgálati körülmények között.  |      |
| 2.   | A csomagolóeszközök zárószerkezetét úgy kell kialakítani, hogy azok megtöltés után légmentesen zárhatók legyenek és kialakításuk tegye azonnal felismerhetővé a későbbi esetleges felnyitást.   |      |

| P650  | CSOMAGOLÁSI UTASÍTÁS   | P650 |
|---|--|------|
| Ezt a csomagolási utasítást az UN 3373 tételre kell alkalmazni. |  |      |
| 1)  | A csomagolásnak jó minőségűnek és elég erősnek kell lennie ahhoz, hogy ellenálljon azoknak az igénybevételeknek, ütődéseknek, amelyeknek rendes körülmények között a szállítás során, a járművek, ill. konténerek közötti átrakás, a járművekből, ill. konténerekből a raktárba való berakodás során ki van téve, illetve amelyek akkor léphetnek fel, amikor további kézi vagy gépi árukezelés céljából a rakodólapról vagy az egyesítőcsomagolásból eltávolítják. A csomagolóeszközöket úgy kell gyártani és lezárni, hogy elkerülhető legyen a tartalom bármilyen szivárgása vagy kiszóródása. Ez a szokásos szállítási körülmények között különösen a rezgésekből, illetve a hőmérséklet, a páratartalom vagy a nyomás változásából adódhat. |      |
| 2)  | A csomagolásnak legalább három részből kell állnia:  |      |
|   | a) elsődleges tartály;   |      |
|   | b) másodlagos csomagolás; és   |      |
|   | c) külső csomagolás,   |      |
|   | a másodlagos és a külső csomagolás közül az egyiknek merev falúnak kell lennie.  |      |
| 3)  | Az elsődleges tartályokat úgy kell a másodlagos csomagolásba helyezni, hogy normális szállítási feltételek esetén ne törhessenek el, ne lyukad hassanak ki és tartalmuk ne szivárogjon a másodlagos csomagolóeszközbe. A másodlagos csomagolásokat megfelelő párnázóanyaggal kell a külső csomagolásban rögzíteni. A tartalom esetleges kiszabadulása nem csökkentheti lényegesen sem a párnázóanyag, sem a külső csomagolóeszköz védő tulajdonságait.   |      |
| 4)  | A szállításhoz a következő jelölést kell a külső csomagolás külső felületén elütő színű háttérre, jól látható és tartós módon felvinni. A jelölésnek egy legalább 50 x 50 mm nagyságú, csúcsára állított négyzet (rombusz) alakúnak kell lennie, a vonal vastagságának legalább 2 mm-nek, a betűk és számok magasságának legalább 6 mm-nek kell lennie. A külső csomagoláson közvetlenül a rombusz alakú jelölés mellett, legalább 6 mm magasságú betűkkel fel kell tüntetni a helyes szállítási megnevezést: „B” KATEGÓRIÁJÚ BIOLÓGIAI ANYAG.   |      |



| P650<br>(folyt.) | CSOMAGOLÁSI UTASÍTÁS   | P650<br>(folyt.) |
|------------------|--|------------------|
| 5)               | A külső csomagolás legalább egy oldalfelületének legalább 100 x 100 mm méretűnek kell lennie.  |                  |
| 6)               | A kész küldeménydarabnak képesnek kell lennie a 6.3.5.3 bekezdés szerinti, 1,2 m ejtési magassággal végrehajtott ejtőpróba elviselésére, amint azt a 6.3.5.2 bekezdés meghatározza. A megfelelő ejtési sorozat után semmi nem szabadulhat ki az elsődleges tartály(ok)ból a másodlagos csomagolásba, az elsődleges tartály(oka)t a nedvszívó anyagnak – ha az elő van írva – továbbra is védenie kell.   |                  |
| 7)               | <i>Folyékony anyagokhoz:</i><br>a) Az elsődleges tartály(ok)nak szivárgásmentesnek kell lennie (lenniük);<br>b) A másodlagos csomagolásnak szivárgásmentesnek kell lennie;<br>c) Ha több törékeny elsődleges tartályt helyeznek közös másodlagos csomagolásba, akkor azokat vagy egyedileg be kell burkolni vagy úgy kell elválasztani, hogy ne érintkezhessenek egymással.<br>d) Az elsődleges tartály(ok) és a másodlagos csomagolás közé nedvszívó anyagot kell helyezni. A nedvszívó anyagnak elegendőnek kell lennie az elsődleges tartály(ok) teljes tartalmának felszívására, és a folyékony anyag esetleges kiszabadulása nem eredményezheti sem a párnázóanyag, sem a külső csomagolás sérülését;<br>e) Az elsődleges tartálynak vagy a másodlagos csomagolásnak szivárgás nélkül el kell viselnie a legalább 95 kPa (0,95 bar) nyomáskülönbséget eredményező belső nyomást.  |                  |
| 8)               | <i>Szilárd anyagokhoz:</i><br>a) Az elsődleges tartály(ok)nak portömörnek kell lenniük;<br>b) A másodlagos csomagolásnak portömörnek kell lennie;<br>c) Ha több törékeny elsődleges tartályt helyeznek közös másodlagos csomagolásba, akkor azokat vagy egyedileg be kell burkolni vagy úgy kell elválasztani, hogy ne érintkezhessenek egymással.<br>d) Amennyiben nem zárható ki, hogy a szállítás alatt az elsődleges tartályban visszamaradt folyadék lehet jelen, akkor nedvszívó anyagot tartalmazó, folyékony anyaghoz alkalmas csomagolást kell használni.   |                  |
| 9)               | <i>Mélyhűtött vagy fagyasztott minták: Jég, szárazjég és cseppfolyósított nitrogén használata</i><br>a) Ha a minta hűtéséhez szárazjeget vagy cseppfolyósított nitrogént használnak, az ADR minden, erre vonatkozó előírását be kell tartani. A jeget vagy a szárazjeget a másodlagos csomagolás(ok) köré, a külső csomagolásba vagy az egyesítőcsomagolásba kell helyezni. Belső távtartókat kell alkalmazni a másodlagos csomagolás(ok) rögzítésére, hogy a jég vagy a szárazjég eltűnése után eredeti helyzetükben maradjanak. Amennyiben jeget használnak, a külső csomagolásnak, ill. az egyesítőcsomagolásnak folyadéktömörnek kell lennie. Szilárd szén-dioxid (szárazjég) használata esetén a csomagolás kialakításának és összeállításának lehetővé kell tennie a szén-dioxid gáz eltávolítását, hogy ne következessen be a nyomás növekedése, ami a csomagolás törését okozhatja, és a küldeménydarabot (a külső csomagolást, ill. az egyesítőcsomagolást) a „Szilárd szén-dioxid” vagy a „Szárazjég” felirattal kell ellátni.<br><i>Megjegyzés: Szárazjég használata esetén más követelmény nincs (lásd a2.2.9.1.14 pontot). Cseppfolyósított nitrogén használata esetén elegendő a 3.3 fejezet 593 különleges előírásának betartása.</i><br>b) Az elsődleges tartálynak és a másodlagos csomagolásnak meg kell őriznie integritását az alkalmazott hűtőközeg hőmérsékletén, valamint a hűtés megszűnése esetén előálló hőmérsékleteken és nyomásokon is; |                  |
| 10)              | Ha a küldeménydarabok egyesítőcsomagolásban vannak, az ezen csomagolási utasítás szerinti küldeménydarab-jelölésnek jól láthatónak kell lennie, vagy az egyesítőcsomagolás külső felületén meg kell ismételni.   |                  |
| 11)              | Amennyiben az UN 3373 alá besorolt, fertőző anyagokat ezen csomagolási utasítás szerint csomagolják, az ADR más előírásait nem kell betartani.   |                  |
| 12)              | A csomagolóeszköz gyártójának, ill. forgalomba hozójának egyértelmű utasítást kell adnia a küldeménydarabot előkészítő feladó, ill. személy (pl. beteg) számára arról, hogyan kell megtölteni és lezárni, annak érdekében, hogy a küldeménydarabot a szállításhoz megfelelően lehessen előkészíteni.   |                  |

| P650<br>(folyt.)  | CSOMAGOLÁSI UTASÍTÁS   | P650<br>(folyt.) |
|---|--|------------------|
| 13)   | A 6.2 osztályba tartozó fertőző anyaggal azonos csomagolóeszközbe nem csomagolható egyéb veszélyes áru, kivéve, ha a fertőző anyag életképességének fenntartásához, stabilizálásához, degenerálódásának megakadályozásához vagy az általa képviselt veszély hatástalanításához szükséges. Egy fertőző anyagot tartalmazó elsődleges tartályba legfeljebb 30 ml mennyiséget szabad a 3, a 8, ill. a 9 osztályba tartozó veszélyes áruból csomagolni. Ha ilyen kis mennyiségű veszélyes árut ezen csomagolási utasítás szerint csomagolnak egybe fertőző anyaggal, az ADR más előírásait nem kell betartani. |                  |
| 14)   | Ha az anyag kiszivárgott és a járműben vagy a konténerben kifolyt, ill. szétszóródott, az mindaddig nem használható tovább, amíg alaposan ki nem tisztították és szükség esetén nem fertőtlenítették. Az ugyanabban a járműben vagy konténerben szállított minden más árut is meg kell vizsgálni az esetleges szennyeződés szempontjából.  |                  |
| Kiegészítő követelmény:<br>A származási ország <sup>a)</sup> illetékes hatósága az állati eredetű anyagok szállításához más csomagolóeszközt is engedélyezhet a 4.1.8.7 bekezdés szerint. |  |                  |

a) *Ha a származási ország nem valamely ADR Szerződő Fél, a küldemény által érintett első ADR Szerződő Fél illetékes hatósága*

| P800   | CSOMAGOLÁSI UTASÍTÁS | P800                          |
|--|----------------------|-------------------------------|
| Ezt a csomagolási utasítást az UN 2803 és 2809 tételre kell alkalmazni.  |                      |                               |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:   |                      |                               |
| 1) Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják; vagy<br>2) Menetes zárású acél palackok vagy flakonok legfeljebb 3 liter űrtartalomig; vagy<br>3) Kombinált csomagolások, amelyek megfelelnek a következő követelményeknek: <ul style="list-style-type: none"> <li>a) a folyadékot tartalmazó belső csomagolóeszköz üveg, fém vagy merev műanyag lehet, egyenként legfeljebb 15 kg nettó tömeggel;</li> <li>b) a belső csomagolóeszközöket elegendő mennyiségű párnázóanyag közé kell csomagolni a törés megakadályozására;</li> <li>c) vagy a belső vagy a külső csomagolóeszközöket el kell látni a tartalmazott anyaggal szemben ellenálló, erős, szivárgásmentes és döfésálló anyagból készített béléssel vagy belső zsákkal, amely teljesen körül veszi, és megakadályozza az anyag kiszabadulását a csomagolóeszközből, függetlenül a küldeménydarab helyzetétől;</li> <li>d) a következő külső csomagolóeszközök és legnagyobb nettó tömegek alkalmazhatók:</li> </ul> |                      |                               |
| <b>Külső csomagolóeszközök:</b>  |                      | <b>Legnagyobb nettó tömeg</b> |
| <b>Hordók</b>  |                      |                               |
| acélhordók (1A2)   |                      | 400 kg                        |
| fémhordók (acélt és alumíniumot kivéve) (1N2)  |                      | 400 kg                        |
| műanyaghordók (1H2)  |                      | 400 kg                        |
| rétegelt falemez hordók (1D)   |                      | 400 kg                        |
| papírlemez hordók (1G)   |                      | 400 kg                        |
| <b>Ládák</b>   |                      |                               |
| acélládák (4A)   |                      | 400 kg                        |
| közönséges faládák (4C1)   |                      | 250 kg                        |
| portömör faládák (4C2)   |                      | 250 kg                        |
| rétegelt falemez ládák (4D)  |                      | 250 kg                        |
| farostlemez ládák (4F)   |                      | 125 kg                        |
| papírlemez ládák (4G)  |                      | 125 kg                        |
| habosított műanyag ládák (4H1)   |                      | 60 kg                         |
| tömör műanyag ládák (4H2)  |                      | 125 kg                        |



| P800                                   | CSOMAGOLÁSI UTASÍTÁS   | P800     |
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| (folyt.)                               |  | (folyt.) |
| <b>Különleges csomagolási előírás:</b> |  |          |
| <b>PP41</b>                            | Az UN 2803-hoz: ha a galliumot alacsony hőmérsékleten kell szállítani, hogy teljesen szilárd állapotban maradjon, a fenti csomagolásokat erős, vízálló külső csomagolásba lehet helyezni, amely szárazjeget vagy más hűtőszert tartalmaz. Ha hűtőközeget használnak, a gallium csomagolásához használt minden anyagnak kémiaiilag és fizikailag ellenállónak kell lennie a hűtőközeggel szemben, és ütésállónak kell lennie az alkalmazott hűtőközeg alacsony hőmérsékletén. Ha szárazjeget használnak, a külső csomagolásnak lehetővé kell tennie a széndioxid gáz távozását. |          |

| P801  | CSOMAGOLÁSI UTASÍTÁS | P801 |
|---|----------------------|------|
| Ezt a csomagolási utasítást az UN 2794, 2795 és 3028 tétel alá sorolt új vagy használt akkumulátor-telepekre kell alkalmazni.   |                      |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1.3 bekezdés kivételével a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:   |                      |      |
| <ol style="list-style-type: none"> <li>1) Merev falú külső csomagolások;</li> <li>2) Farekeszek;</li> <li>3) Rakodólapok.</li> </ol>  |                      |      |
| <b>Kiegészítő követelmények:</b>  |                      |      |
| <ol style="list-style-type: none"> <li>1. Az akkumulátorokat védeni kell a rövidzárlattal szemben.</li> <li>2. Az egymásra halmazolt akkumulátorokat megfelelő módon rögzíteni kell és az egyes sorokat nem vezető anyagból készült réteggel kell elválasztani.</li> <li>3. Az akkumulátorok sorkapcsait a felette levő tárgyak tömegükkel nem terhelhetik.</li> <li>4. Az akkumulátorokat úgy kell csomagolni vagy rögzíteni, hogy megakadályozzák nem szándékos elmozdulásukat. Amennyiben párnázóanyagot alkalmaznak, annak inertnek kell lennie.</li> </ol> |                      |      |

| P801a   | CSOMAGOLÁSI UTASÍTÁS | P801a |
|---|----------------------|-------|
| Ezt a csomagolási utasítást az UN 2794, 2795, 2800 és 3028 tétel alá sorolt használt akkumulátor-telepekre kell alkalmazni.   |                      |       |
| Legfeljebb 1 m <sup>3</sup> befogadóképességű, rozsdamentes acélból vagy tömör műanyagból készült akkumulátor ládák használhatók, ha a következő feltételeket betartják:  |                      |       |
| <ol style="list-style-type: none"> <li>1) az akkumulátor ládáknak a szállított akkumulátortelepekben levő maró anyaggal szemben ellenállónak kell lenniük;</li> <li>2) normális szállítási körülmények között az akkumulátor ládákból semmiféle maró anyag nem szivároghat ki, illetve a ládába más anyag (pl. víz) nem kerülhet be. A szállított akkumulátortelepek által tartalmazott maró anyagból semmilyen maradék nem tapadhat a ládák külsejére;</li> <li>3) az akkumulátortelepeket a ládába csak a ládák falmagasságáig szabad rakni;</li> <li>4) nem szabad a ládába sem olyan más veszélyes árut, sem olyan különböző anyagokat tartalmazó akkumulátortelepeket tenni, amelyek egymással veszélyes reakcióba léphetnek;</li> <li>5) az akkumulátor ládákat vagy <ol style="list-style-type: none"> <li>a) le kell fedni; vagy</li> <li>b) fedett vagy ponyvás járműben, ill. zárt vagy ponyvás konténerben kell szállítani.</li> </ol> </li> </ol> |                      |       |

| P802   | CSOMAGOLÁSI UTASÍTÁS   | P802   |
|--|--|--|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják: |  |  |
| 1)   | Kombinált csomagolások:<br>külső csomagolóeszköz:<br><br>legnagyobb nettó tömeg:<br>belső csomagolóeszközök:<br>legnagyobb úrtartalom: | 1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4F vagy 4H2<br>75 kg<br>üveg vagy műanyag<br>10 liter;   |
| 2)   | Kombinált csomagolások:<br>külső csomagolóeszköz:<br><br>legnagyobb nettó tömeg:<br>belső csomagolóeszközök:<br>legnagyobb úrtartalom: | 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2<br>125 kg<br>fém;<br>40 liter;   |
| 3)   | Összetett csomagolóeszközök:<br><br><br><br>legnagyobb úrtartalom:   | üveg tartályok külső acél-, alumínium-, rétegelt falemez vagy tömör műanyag hordóval (6PA1, 6PB1, 6PD1, vagy 6PH2), vagy külső acél- vagy alumíniumládával vagy -rekesszel vagy külső faládával vagy külső vesszőkosárral (6PA2, 6PB2, 6PC vagy 6PD2)<br>60 liter; |
| 4)   | Acélhordó (1A1) legfeljebb 250 liter úrtartalommal;  |  |
| 5)   | Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.  |  |

| P803  | CSOMAGOLÁSI UTASÍTÁS                       | P803 |
|---|--|------|
| Ezt a csomagolási utasítást az UN 2028 tételre kell alkalmazni.   |  |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:  |  |      |
| 1)  | Hordók (1A2, 1B2, 1N2, 1H2, 1D, 1G);       |      |
| 2)  | Ládák (4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2); |      |
|   | Legnagyobb nettó tömeg: 75 kg.             |      |
| A tárgyakat egyenként kell csomagolni és egymástól el kell választani megosztó válaszfalak, osztóbetétek, belső csomagolások vagy párnázóanyag használatával, hogy normális szállítási feltételek között a tárgyak nem szándékos működésbe lépését megakadályozzák. |  |      |

| P804   | CSOMAGOLÁSI UTASÍTÁS | P804 |
|--|----------------------|------|
| Ezt a csomagolási utasítást az UN 1744 tételre kell alkalmazni.  |                      |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják és a csomagolóeszközöket légmentesen lezárják:   |                      |      |
| <p>1) Olyan, legfeljebb 25 kg bruttó tömegű kombinált csomagolás, amely a következőkből áll:</p> <ul style="list-style-type: none"> <li>– legfeljebb 1,3 liter űrtartalmú, üveg belső csomagolóeszköz(ök), amelyek legfeljebb űrtartalmuk 90%-áig vannak megtöltve, és amelyek zárását valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására, ezek a belső csomagolóeszközök egyenként</li> <li>– fém vagy merev falú műanyag tartályba helyezve, az üveg belső csomagolóeszköz(ök) teljes tartalmának felszívására elegendő nedvszívó anyaggal és inert párnázóanyaggal körülvéve, a fém, ill. műanyag tartályok pedig</li> <li>– 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 jelű külső csomagolóeszközbe téve.</li> </ul> <p>2) Olyan, legfeljebb 75 kg bruttó tömegű kombinált csomagolás, amelyben a legfeljebb 5 liter űrtartalmú, fém vagy poli(vinilidén-fluorid) (PVDF) belső csomagolóeszközök egyenként a teljes tartalmuk felszívására elegendő nedvszívó anyaggal és inert párnázóanyaggal körülvéve 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 jelű külső csomagolóeszköz-ben vannak. A belső csomagolóeszközöket legfeljebb űrtartalmuk 90%-áig szabad megtölteni. A belső csomagolóeszközök zárását valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására.</p> <p>3) Olyan csomagolás, amelynek:</p> <ul style="list-style-type: none"> <li>– külső csomagolóeszköze               <p>olyan levehető tetejű (1A2, ill. 1H2 jelű) acél- vagy műanyagbordó, amelyet vagy mint szilárd, ill. folyékony anyag szállítására használt önálló csomagolóeszközt, vagy mint belső csomagolások befogadására szolgáló csomagolóeszközt vizsgáltak a 6.1.5 szakasz vizsgálati követelményei szerint a szállításra összeállított küldeménydarab tömegének megfelelő tömeggel, és ennek megfelelően van jelöléssel ellátva;</p> </li> <li>– belső csomagolóeszköze               <p>olyan hordó vagy összetett csomagolás (1A1, 1B1, 1N1, 1H1 vagy 6HA1), amely kielégíti a 6.1 fejezet önálló csomagolóeszközökre vonatkozó előírásait, és megfelel a következő feltételeknek:</p> <ul style="list-style-type: none"> <li>a) a folyadéknomás próbát legalább 300 kPa (3 bar) nyomással (túlnyomással) kell végrehajtani;</li> <li>b) a típusvizsgálat során és a minden egyes csomagolóeszközön elvégzendő tömörségi próbát 30 kPa (0,3 bar) próbanyomással kell végrehajtani;</li> <li>c) a külső hordótól lökéscsillapítóként inert párnázóanyaggal kell elválasztani, amelynek a belső csomagolóeszközt minden oldalról körül kell vennie;</li> <li>d) űrtartalma nem haladhatja meg a 125 litert;</li> <li>e) a zárószerkezetnek csavarmentes kupaknak kell lennie,                   <ul style="list-style-type: none"> <li>i) amelyet valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására;</li> <li>ii) amely légmentesen záró tömítőbetéttel van ellátva;</li> </ul> </li> <li>f) a külső és belső csomagolóeszközöket legalább 2,5 évenként belső vizsgálatnak és a b) pont szerint tömörségi próbának kell alávetni; és</li> <li>g) a belső és a külső csomagolóeszközökön jól olvashatóan és tartósan fel kell tüntetni:                   <ul style="list-style-type: none"> <li>i) az első alkalommal végzett vizsgálat és az utolsó időszakos vizsgálat és a belső csomagolóeszköz vizsgálatának időpontját (hónap, év) és;</li> </ul> </li> </ul> </li> </ul> |                      |      |

| P804<br>(folyt.) | CSOMAGOLÁSI UTASÍTÁS   | P804<br>(folyt.) |
|------------------|--|------------------|
|                  | ii) a vizsgálatot végző szakértő nevét vagy engedélyezett jelét.   |                  |
| 4)               | Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.  |                  |
|                  | a) A nyomástartó tartályokat üzembe helyezés előtt és azután 10 évente időszakosan legalább 1 MPa (10 bar) nyomással (túlnyomással) kell vizsgálni;                            |                  |
|                  | b) A nyomástartó tartályokat legalább 2,5 évenként belső vizsgálatnak és tömörségi próbának kell alávetni;   |                  |
|                  | c) A nyomástartó tartályokon semmilyen nyomáscsökkentő szerkezet nem lehet;  |                  |
|                  | d) Mindegyik nyomástartó tartályt egy másodlagos zárószerkezettel ellátott dugóval vagy szeleppel (szelepekkel) kell lezárni;  |                  |
|                  | e) A nyomástartó tartály szerkezeti anyagának, a szelepek, a dugók, a kimeneti sapkák, a kitt és a tömítések anyagának egymással és a tartalommal összeférhetőnek kell lennie. |                  |

| P900 | CSOMAGOLÁSI UTASÍTÁS | P900 |
|------|----------------------|------|
|      | (fenntartva)         |      |

| P901 | CSOMAGOLÁSI UTASÍTÁS  | P901 |
|------|---|------|
|      | Ezt a csomagolási utasítást az UN 3316 tételre kell alkalmazni.   |      |
|      | A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:  |      |
|      | A vizsgálókészlet, ill. elsősegély felszerelés egészéhez hozzárendelt csomagolási csoportnak megfelelő csomagolóeszközök (lásd a 3.3.1 szakasz 251 különleges előírását).   |      |
|      | A veszélyes áru legnagyobb mennyisége külső csomagolásonként: 10 kg.  |      |
|      | <b>Kiegészítő követelmény:</b>  |      |
|      | A készletben, ill. felszerelésben levő veszélyes anyagokat olyan belső csomagolóeszközökbe kell elhelyezni, amelyek tartalma nem haladja meg a 250 ml-t vagy 250 g-ot, és védeni kell a vizsgálókészletekben vagy elsősegély felszerelésekben található más anyagoktól. |      |

| P902   | CSOMAGOLÁSI UTASÍTÁS | P902 |
|--|----------------------|------|
| Ezt a csomagolási utasítást az UN 3268 tételre kell alkalmazni.  |                      |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:   |                      |      |
| <p>A III csomagolási csoport igénybevételi szintjének megfelelő csomagolóeszközök. A csomagolóeszközöket úgy kell tervezni és gyártani, hogy normális szállítási feltételek között a tárgyak elmozdulását és nem szándékos működésbe lépését megakadályozzák.</p> <p>Ezek a tárgyak a gyártási helyről a szerelési helyre e célra készült szállítóeszközben, járművön, ill. konténerben csomagolatlanul is szállíthatók.</p> |                      |      |
| <b>Kiegészítő követelmény:</b>   |                      |      |
| A nyomástartó tartályoknak meg kell felelniük az illetékes hatóság által a nyomástartó tartályban levő anyag(ok)ra előírt követelményeknek.  |                      |      |

| P903   | CSOMAGOLÁSI UTASÍTÁS | P903 |
|--|----------------------|------|
| Ezt a csomagolási utasítást az UN 3090, 3091, 3480 és 3481 tételre kell alkalmazni.  |                      |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:   |                      |      |
| <p>A II csomagolási csoport igénybevételi szintjének megfelelő csomagolóeszközök.</p> <p>Ha a cellák, ill. akkumulátorok készülékekkel egybe vannak csomagolva, akkor a II csomagolási csoportnak megfelelő papírlemez belső csomagolásokba kell azokat helyezni. Ha a 9 osztályba tartozó cellák, ill. akkumulátorok készülékekben vannak, az ilyen készülékeket erős külső csomagolásba kell helyezni, megakadályozva a szállítás alatt a véletlen működésbe lépést.</p> <p>Ezen kívül az erős, ütésálló házzal rendelkező, 12 kg vagy annál nagyobb bruttó tömegű akkumulátorok és az ilyen akkumulátorokból álló szerelvények erős külső csomagolásba helyezve, védőburkolatba (pl. teljesen zárt csomagolásba vagy farekeszbe) helyezve, egyéb csomagolás nélkül, vagy rakodólapon is szállíthatók. Az akkumulátorok rögzítésének meg kell akadályoznia nem szándékos elmozdulásukat, és a sorkapcsokat a felettük levő tárgyak tömegükkel nem terhelhetik.</p> |                      |      |
| <b>Kiegészítő követelmény:</b>   |                      |      |
| Az akkumulátorokat védeni kell a rövidzárlattal szemben.   |                      |      |

| P903a  | CSOMAGOLÁSI UTASÍTÁS | P903a |
|--|----------------------|-------|
| Ezt a csomagolási utasítást az UN 3090, 3091, 3480 és 3481 tétel alá tartozó használt cellákra és akkumulátorokra kell alkalmazni.   |                      |       |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1.3 bekezdés kivételével a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:  |                      |       |
| <p>A II csomagolási csoport igénybevételi szintjének megfelelő csomagolóeszközök.</p> <p>Nem jóváhagyott csomagolóeszközök is használhatók, de csak akkor, ha</p> <ul style="list-style-type: none"> <li>– kielégítik a 4.1.1 és a 4.1.3 szakasz általános előírásait;</li> <li>– a cellák és az akkumulátorok elhelyezése és halmazolása kizárja a rövidzárlat veszélyét;</li> <li>– a küldeménydarab tömege nem haladja meg a 30 kg-ot.</li> </ul> |                      |       |
| <b>Kiegészítő követelmény:</b>   |                      |       |
| Az akkumulátorokat védeni kell a rövidzárlattal szemben.   |                      |       |

| P903b   | CSOMAGOLÁSI UTASÍTÁS | P903b |
|---|----------------------|-------|
| Ezt a csomagolási utasítást az UN 3090, 3091, 3480 és 3481 tétel alá tartozó használt cellákra és akkumulátorokra kell alkalmazni.  |                      |       |
| Az ártalmatlanítás céljából összegyűjtött, egyenként legfeljebb 500 g bruttó tömegű, használt lítium-cellák és -akkumulátorok akár másféle (nemlítium-) cellákkal és akkumulátorokkal együtt, akár magukban szállíthatók egyedi védelem nélkül a következő feltételekkel:   |                      |       |
| <ol style="list-style-type: none"> <li>1) olyan 1H2 jelű hordókban vagy 4H2 jelű ládákban, amelyek szilárd anyagokra a II csomagolási csoport igénybevételi szintjének felelnek meg;</li> <li>2) olyan 1A2 jelű hordókban vagy 4A jelű ládákban, amelyek szilárd anyagokra a II csomagolási csoport igénybevételi szintjének felelnek meg, és olyan polietilén zsákkal vannak ellátva, amelyek: <ul style="list-style-type: none"> <li>– tépőszilárdsága legalább 480 g a zsák hossz- és keresztirányában (gyártásirányban és arra merőlegesen);</li> <li>– vastagsága legalább 500 µ, fajlagos elektromos ellenállása nagyobb 10 MOhm-nál és a vízfelvevő képessége 24 óra alatt, 25 °C-on kisebb 0,01%-nál;</li> <li>– zártnak kell lennie és amely</li> <li>– csak egyszer használható;</li> </ul> </li> <li>3) 30 kg-nál kisebb bruttó tömegű gyűjtő tálcákon, amelyek nemvezető anyagból vannak és a 4.1.1.1, a 4.1.1.2 és a 4.1.1.5 – 4.1.1.8 bekezdések előírásainak megfelelnek.</li> </ol> |                      |       |
| <b>Kiegészítő követelmények:</b>  |                      |       |
| A csomagolásban fennmaradó üres teret megfelelő párnázóanyaggal kell kitölteni. A párnázóanyag elhagyható, ha a polietilén zsák a csomagolóeszközt teljesen kitölti és a zsák zárva van.  |                      |       |
| A légmentesen zárt csomagolásokat a 4.1.1.8 bekezdés szerint szellőző-szerkezetekkel kell ellátni. A szellőzőszerkezetet úgy kell kialakítani, hogy a gázok által kifejtett túlnyomás ne haladja meg a 10 kPa-t.  |                      |       |

| P904   | CSOMAGOLÁSI UTASÍTÁS | P904 |
|--|----------------------|------|
| Ezt a csomagolási utasítást az UN 3245 tételre kell alkalmazni.  |                      |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:   |                      |      |
| <ol style="list-style-type: none"> <li>1) A III csomagolási csoport igénybevételi szintjének megfelelő, P001 vagy a P002 utasítás szerinti csomagolóeszközök.</li> <li>2) Olyan csomagolóeszközök, amelyeknek nem kell megfelelniük a 6. rész csomagolás vizsgálati előírásainak, de meg kell felelniük a következőknek: <ol style="list-style-type: none"> <li>a) belső csomagolás, amely a következőkből áll: <ol style="list-style-type: none"> <li>i) folyadéktömör elsődleges tartály(ok)ból;</li> <li>ii) folyadéktömör másodlagos csomagolásból, amely szivárgásmentes;</li> <li>iii) az elsődleges tartály(ok) és a másodlagos csomagolás közé helyezett nedvszívó anyagból, amely elegendő mennyiségű az elsődleges tartály(ok) teljes tartalmának felszívására, és a folyékony anyag esetleges kiszabadulása nem eredményezheti sem a párnázóanyag, sem a külső csomagolás sérülését;</li> <li>iv) ha több törekeny elsődleges tartályt helyeznek közös másodlagos csomagolásba, akkor azokat vagy egyedileg be kell burkolni vagy úgy kell elválasztani, hogy ne érintkezzenek egymással;</li> </ol> </li> <li>b) az anyag térfogatának, tömegének és tervezett használatának megfelelő szilárdságú külső csomagolás, amelynek legkisebb külső mérete legalább 100 mm.</li> </ol> </li> </ol> |                      |      |
| <b>Kiegészítő követelmény:</b>   |                      |      |
| Szárzajég és cseppfolyósított nitrogén   |                      |      |
| Szilárd szén-dioxid (szárzajég) használata esetén a csomagolás kialakításának és összeállításának lehetővé kell tennie a szén-dioxid gáz eltávozását, hogy ne következessen be a nyomás növekedése, ami a csomagolóeszköz törését okozhatja.   |                      |      |
| A cseppfolyósított nitrogénben vagy szárzajégben szállított anyagokat olyan elsődleges tartályokba kell csomagolni, amelyek ellenállnak a nagyon alacsony hőmérsékleteknek. A másodlagos csomagolásoknak is ellen kell állniuk a nagyon alacsony hőmérsékleteknek és a legtöbb esetben az szükséges, hogy egyedileg illesszék az elsődleges tartályra.   |                      |      |

| P905   | CSOMAGOLÁSI UTASÍTÁS | P905 |
|--|----------------------|------|
| Ezt a csomagolási utasítást UN 3072 és 2990 tételre kell alkalmazni.   |                      |      |
| Bármilyen alkalmas csomagolás engedélyezett, amennyiben a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják, azzal az eltéréssel, hogy a csomagolóeszközöknek nem kell megfelelniük a 6. rész csomagolás vizsgálati előírásainak.  |                      |      |
| Ha a mentőeszköz kialakítása olyan, hogy egy merev, időjárásálló, külső burkolatban van, vagy az a részét képezi (mint pl. a mentőcsónakoknál), akkor csomagolás nélkül is szállítható.  |                      |      |
| <b>Kiegészítő követelmények:</b>   |                      |      |
| <ol style="list-style-type: none"> <li>1. A eszközökön belül levő, veszélyes anyagot vagy tárgyat tartalmazó tartozékokat úgy kell rögzíteni, hogy nem szándékos elmozdulás ne következhesen be, és ezen kívül: <ol style="list-style-type: none"> <li>a) az 1 osztályba tartozó jelzőtesteket műanyag vagy papírlemez belső csomagolóeszközökbe kell tenni;</li> <li>b) a nem gyúlékony, nem mérgező gázokat az illetékes hatóság előírásai szerinti palackba kell tölteni;</li> <li>c) az elektromos akkumulátort (8 osztály) és a lítium akkumulátort (9 osztály) le kell kapcsolni vagy elektromosan szigetelni kell és rögzíteni kell a folyadék kifolyásának megakadályozására; és</li> <li>d) a kis mennyiségű egyéb veszélyes anyagot (például a 3, a 4.1 és az 5.2 osztályba tartozókat) erős belső csomagolóeszközbe kell csomagolni.</li> </ol> </li> <li>2. A szállításra való előkészítés és a csomagolás során intézkedéseket kell fogatósítani az eszköz nem szándékos felfűvódásának megakadályozására.</li> </ol> |                      |      |

| P906  | CSOMAGOLÁSI UTASÍTÁS | P906 |
|---|----------------------|------|
| Ezt a csomagolási utasítást az UN 2315, 3151, 3152 és 3432 tételre kell alkalmazni.   |                      |      |
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:  |                      |      |
| <ol style="list-style-type: none"> <li>1) PCB-t, polihalogénezett bifenileket vagy terfenileket tartalmazó vagy azzal szennyezett folyékony és szilárd anyagokhoz a P001, ill. a P002 szerinti csomagolóeszközök.</li> <li>2) Transzformátorokhoz, kondenzátorokhoz és egyéb berendezésekhez szivárgásmentes csomagolóeszközök, amelyek képesek a berendezésben levő folyékony PCB-k, polihalogénezett bifenilek vagy terfenilek legalább 1,25-szorosának befogadására. A csomagolóeszközben megfelelő mennyiségű inert anyagnak kell lennie, amely a berendezésben levő folyékony anyag legalább 1,1-szeresét képes felszívni. Általában a transzformátorokat és kondenzátorokat olyan szivárgásmentes fém csomagolóeszközökben kell szállítani, amelyek képesek a transzformátorokon és kondenzátorokon túl a bennük levő folyékony anyag legalább 1,25-szorosának befogadására.</li> </ol> |                      |      |
| Az előzőeken kívül azok a folyékony és szilárd anyagok, amelyek nem a P001 és a P002 utasítás szerint vannak csomagolva, ill. a csomagolatlan transzformátorok és kondenzátorok olyan szállítóegységben is szállíthatók, amely legalább 800 mm magas, szivárgásmentes fémtálcával van ellátva, amely kielégítő mennyiségű nedvszívó anyagot tartalmaz az esetleges folyadék legalább 1,1-szeresének felszívására.   |                      |      |
| <b>Kiegészítő követelmény:</b>  |                      |      |
| Megfelelő intézkedéseket kell tenni a transzformátorok és kondenzátorok lezárására, hogy megakadályozzák a szivárgást normális szállítási körülmények között.   |                      |      |



| R001   | CSOMAGOLÁSI UTASÍTÁS  |  |                         | R001 |
|--|-----------------------|--|-------------------------|------|
| A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják. |                       |  |                         |      |
| Finomlemez csomagolóeszközök   |                       | Legnagyobb úrtartalom/legnagyobb nettó tömeg |                         |      |
|  | I csomagolási csoport | II csomagolási csoport                       | III csomagolási csoport |      |
| acél, nem levehető tetővel (0A1)   | Nem használható       | 40 l / 50kg                                  | 40 l / 50kg             |      |
| acél, levehető tetővel (0A2) <sup>a)</sup>   | Nem használható       | 40 l / 50kg                                  | 40 l / 50kg             |      |
| a) Az UN 1261 nitro-metánhoz nem használható.  |                       |  |                         |      |

**Megjegyzés:** 1. Ez az utasítás folyékony és szilárd anyagokhoz is használható, feltéve, hogy a csomagolóeszköz gyártási típusát ennek megfelelően vizsgálták, ill. látták el jelöléssel.  
 2. A 3 osztály, II csomagolási csoportjába tartozó anyagok közül ezek a csomagolóeszközök csak olyan anyagokhoz használhatók, amelyek nem rendelkeznek járulékos veszéllyel és gőznyomásuk nem haladja meg 50 °C-on a 110 kPa-t, valamint az enyhén mérgező peszticidekhez.

#### 4.1.4.2 Az IBC-k használatára vonatkozó csomagolási utasítások

| IBC01   | CSOMAGOLÁSI UTASÍTÁS | IBC01 |
|---|----------------------|-------|
| A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják:   |                      |       |
| Fém IBC-k (31A, 31B és 31N).  |                      |       |
| <b>Csak a RID és az ADR szerinti szállításnál érvényes különleges csomagolási előírás:</b>  |                      |       |
| <b>BB1</b> Az UN 3130-hoz: a tartályok nyílásait két, egymás mögött elhelyezett szerkezettel tömören le kell zárni, melyek közül az egyiknek csavarmentesnek vagy azonos értékű módon rögzítettnek kell lennie. |                      |       |

| IBC02   | CSOMAGOLÁSI UTASÍTÁS   | IBC02 |
|---|--|-------|
| A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják: |  |       |
| 1) Fém IBC-k (31A, 31B és 31N);   |  |       |
| 2) Merev falú műanyag IBC-k (31H1 és 31H2);   |  |       |
| 3) Összetett IBC-k (31HZ1).   |  |       |
| <b>Különleges csomagolási előírások:</b>  |  |       |
| <b>B5</b>   | Az UN 1791, 2014, 2984 és 3149-hez: az IBC-eket olyan szerkezettel kell ellátni, amely lehetővé teszi a szállítás alatti szellőzést. A szellőző-szerkezet bemenetének a legnagyobb töltési fok mellett is az IBC gőzterében kell maradnia a szállítás alatt. |       |
| <b>B7</b>   | Az UN 1222 és 1865-höz: 450 liternél nagyobb úrtartalmú IBC-k nem használhatók, mivel az anyag nagy mennyiségben szállítva robbanásveszélyes lehet.  |       |
| <b>B8</b>   | Ez az anyag tiszta formában nem szállítható IBC-ben, mivel ismeretes, hogy gőznyomása 50 °C-on nagyobb 110 kPa-nál, ill. 55 °C-on nagyobb 130 kPa-nál.   |       |
| <b>B15</b>  | Az 55%-nál több tiszta savat tartalmazó UN 2031 salétomsav oldat szállítására használt merev falú műanyag IBC-k és merev falú műanyag belső tartállyal rendelkező összetett IBC-k megengedett használati időtartama a gyártásuk időpontjától számított 2 év. |       |
| <b>Csak a RID és az ADR szerinti szállításnál érvényes különleges csomagolási előírás:</b>                    |  |       |
| <b>BB2</b>  | Az UN 1203-hoz: az 534 különleges előírástól (lásd a 3.3.1 szakaszt) eltérően IBC csak akkor használható, ha a tényleges gőznyomás 50 °C-on legfeljebb 110 kPa, ill. 55 °C-on legfeljebb 130 kPa.  |       |



| IBC03  | CSOMAGOLÁSI UTASÍTÁS | IBC03 |
|--|----------------------|-------|
| A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják:  |                      |       |
| 1) Fém IBC-k (31A, 31B és 31N);  |                      |       |
| 2) Merev falú műanyag IBC-k (31H1 és 31H2);  |                      |       |
| 3) Összetett IBC-k (31HZ1, 31HA2, 31HB2, 31HN2, 31HD2 és 31HH2).   |                      |       |
| <b>Különleges csomagolási előírás:</b>   |                      |       |
| <b>B8</b> Ez az anyag tiszta formában nem szállítható IBC-ben, mivel ismeretes, hogy gőznyomása 50 °C-on nagyobb 110 kPa-nál, ill. 55 °C-on nagyobb 130 kPa-nál. |                      |       |

| IBC04   | CSOMAGOLÁSI UTASÍTÁS | IBC04 |
|---|----------------------|-------|
| A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják: |                      |       |
| Fém IBC-k (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B és 31N).  |                      |       |

| IBC05   | CSOMAGOLÁSI UTASÍTÁS | IBC05 |
|---|----------------------|-------|
| A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják: |                      |       |
| 1) Fém IBC-k (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B és 31N);   |                      |       |
| 2) Merev falú műanyag IBC-k (11H1, 11H2, 21H1, 21H2, 31H1 és 31H2);   |                      |       |
| 3) Összetett IBC-k (11HZ1, 21HZ1 és 31HZ1).   |                      |       |

| IBC06   | CSOMAGOLÁSI UTASÍTÁS | IBC06 |
|---|----------------------|-------|
| A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják:   |                      |       |
| 1) Fém IBC-k (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B és 31N);   |                      |       |
| 2) Merev falú műanyag IBC-k (11H1, 11H2, 21H1, 21H2, 31H1 és 31H2);   |                      |       |
| 3) Összetett IBC-k (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 és 31HZ2).  |                      |       |
| <b>Kiegészítő követelmény:</b>  |                      |       |
| 11HZ2 és 21HZ2 jelű összetett IBC-k nem használhatók, ha a szállítandó anyag a szállítás alatt folyékonnyá válhat.  |                      |       |
| <b>Különleges csomagolási előírás:</b>  |                      |       |
| <b>B12</b> Az UN 2907-hez: az IBC-knek a II csomagolási csoport igénybevételi szintjének kell megfelelniük. Az I csomagolási csoport igénybevételi szintjének megfelelő IBC-k nem használhatók. |                      |       |

| IBC07   | CSOMAGOLÁSI UTASÍTÁS | IBC07 |
|---|----------------------|-------|
| A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják: |                      |       |
| 1) Fém IBC-k (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B és 31N);   |                      |       |
| 2) Merev falú műanyag IBC-k (11H1, 11H2, 21H1, 21H2, 31H1 és 31H2);   |                      |       |
| 3) Összetett IBC-k (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 és 31HZ2);  |                      |       |
| 4) Fa IBC-k (11C, 11D és 11F).  |                      |       |
| <b>Kiegészítő követelmény:</b>  |                      |       |
| A fa IBC-k bélésének portömörnek kell lennie.   |                      |       |

| IBC08   | CSOMAGOLÁSI UTASÍTÁS   | IBC08 |
|---|--|-------|
| A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják: |  |       |
| 1)  | Fém IBC-k (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B és 31N);   |       |
| 2)  | Merev falú műanyag IBC-k (11H1, 11H2, 21H1, 21H2, 31H1 és 31H2);   |       |
| 3)  | Összetett IBC-k (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 és 31HZ2);  |       |
| 4)  | Papírlemez IBC-k (11G);  |       |
| 5)  | Fa IBC-k (11C, 11D és 11F);  |       |
| 6)  | Hajlékony falú IBC-k (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 és 13M2).   |       |
| <b>Különleges csomagolási előírások:</b>  |  |       |
| <b>B3</b>   | A hajlékony falú IBC-knek portömörnek és vízállónak kell lenniük, vagy el kell látni portömör és vízálló béléssel.   |       |
| <b>B4</b>   | A hajlékony falú, a papírlemez és a fa IBC-knek portömörnek és vízállónak kell lenniük, vagy el kell látni portömör és vízálló béléssel.   |       |
| <b>B6</b>   | Az UN 1363, 1364, 1365, 1386, 1408, 1841, 2211, 2217, 2793 és 3314 tételekhez: az IBC-knek nem kell kielégíteniük a 6.5 fejezetnek az IBC-k vizsgálatára vonatkozó követelményeit. |       |
| <b>B13</b>  | <i>Megjegyzés: Az UN 1748, 2208 és 2880 anyagai az IMDG Kódex szerint IBC-ben tengeren nem szállíthatók.</i>   |       |

| IBC99  | CSOMAGOLÁSI UTASÍTÁS | IBC99 |
|--|----------------------|-------|
| Csak az illetékes hatóság által, ezen árukhoz jóváhagyott IBC-k használhatók. Az illetékes hatóság jóváhagyásának másolatát a küldeményhez mellékelni kell, vagy a fuvarokmányban utalni kell arra, hogy a csomagolóeszközt az illetékes hatóság jóváhagyta. |                      |       |

| IBC100  | CSOMAGOLÁSI UTASÍTÁS  | IBC100 |
|---|---|--------|
| Ezt a csomagolási utasítást az UN 0082, 0241, 0331 és 0332 tételre kell alkalmazni.   |   |        |
| A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait, valamint a 4.1.5 szakasz különleges előírásait betartják: |   |        |
| 1)  | Fém IBC-k (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B és 31N);  |        |
| 2)  | Hajlékony falú IBC-k (13H2, 13H3, 13H4, 13L2, 13L3, 13L4 és 13M2);  |        |
| 3)  | Merev falú műanyag IBC-k (11H1, 11H2, 21H1, 21H2, 31H1 és 31H2);  |        |
| 4)  | Összetett IBC-k (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 és 31HZ2).   |        |
| Kiegészítő követelmények:   |   |        |
| 1.  | IBC-k csak a szabadon folyó anyagokhoz használhatók.  |        |
| 2.  | Hajlékony falú IBC-k csak szilárd anyagokhoz használhatók.  |        |
| Különleges csomagolási előírások:   |   |        |
| B9  | Az UN 0082-höz: ez a csomagolási utasítás csak akkor alkalmazható, ha az anyag ammónium-nitrát vagy más szerves nitrátok egyéb éghető anyagokkal alkotott keveréke, amelyek nem robbanó alkotórészek. Az ilyen robbanóanyagok nem tartalmazhatnak nitroglicerint, hasonló folyékony szerves nitrátokat vagy klorátokat. Fém IBC-k nem használhatók.   |        |
| B10   | Az UN 0241-hez: ez a csomagolási utasítás csak olyan anyaghoz használható, amely fő alkotórészként vizet és nagy mennyiségben ammónium-nitrátot vagy más oxidálószeret tartalmaz, amely részben vagy teljes egészében oldott állapotban van. A további alkotórészek lehetnek szénhidrogének vagy alumíniumpor, de nem tartalmazhat nitrovegyületeket, pl. trinitro-toluolt. Fém IBC-k nem használhatók. |        |

| IBC520   |  | CSOMAGOLÁSI UTASÍTÁS |                             | IBC520                   |                  |
|--|--|----------------------|-----------------------------|--------------------------|------------------|
| Ezt a csomagolási utasítást az F típusú szerves peroxidokra és önreaktív anyagokra kell alkalmazni.  |  |                      |                             |                          |                  |
| A következőkben felsorolt IBC-kben a felsorolt készítmények szállíthatók, amennyiben a 4.1.1, a 4.1.2 és a 4.1.3 szakasz általános előírásait és a 4.1.7.2 bekezdés különleges előírásait betartják: |  |                      |                             |                          |                  |
| Az alábbi felsorolásban nem szereplő készítményekhez csak az illetékes hatóság által engedélyezett IBC-k használhatók (lásd a 4.1.7.2.2 pontot).   |  |                      |                             |                          |                  |
| UN szám  | Szerves peroxid  | Az IBC típusa        | Legnagyobb mennyiség (l/kg) | Szabályozási hőmérséklet | Vész-hőmérséklet |
| 3109   | <b>F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID</b>                                       |                      |                             |                          |                  |
|  | terc-Butil-hidroperoxid, legfeljebb 72%-os, vízzel                               | 31A                  | 1250                        |                          |                  |
|  | terc-Butil-peroxi-acetát, legfeljebb 32%-os, A típusú hígítóval                  | 31A<br>31HA1         | 1250<br>1000                |                          |                  |
|  | terc-Butil-peroxi-benzoát, legfeljebb 32%-os, A típusú hígítóval                 | 31A                  | 1250                        |                          |                  |
|  | terc-Butil-peroxi-3,5,5-trimetil-hexanoát, legfeljebb 37%-os, A típusú hígítóval | 31A<br>31HA1         | 1250<br>1000                |                          |                  |
|  | Dibenzoil-peroxid, legfeljebb 42%-os, stabil vizes diszperzió                    | 31H1                 | 1000                        |                          |                  |
|  | Di-terc-butil-peroxid, legfeljebb 52%-os, A típusú hígítóval                     | 31A<br>31HA1         | 1250<br>1000                |                          |                  |
|  | 1,1-Di-(terc-butil-peroxi)-ciklohexán, legfeljebb 37%-os, A típusú hígítóval     | 31A                  | 1250                        |                          |                  |
|  | 1,1-Di-(terc-butil-peroxi)-ciklohexán, legfeljebb 42%-os, A típusú hígítóval     | 31H1                 | 1000                        |                          |                  |
|  | Dilauroil-peroxid, legfeljebb 42%-os, stabil vizes diszperzió                    | 31HA1                | 1000                        |                          |                  |
|  | Izopropil-kumil-hidroperoxid, legfeljebb 72%-os, A típusú hígítóval              | 31HA1                | 1250                        |                          |                  |
|  | Kumil-hidroperoxid, legfeljebb 90%-os, A típusú hígítóval                        | 31HA1                | 1250                        |                          |                  |
|  | p-Mentil-hidroperoxid, legfeljebb 72%-os, A típusú hígítóval                     | 31HA1                | 1250                        |                          |                  |
|  | Peroxi-ecetsav, stabilizált, legfeljebb 17%-os                                   | 31H1<br>31HA1<br>31A | 1500<br>1500<br>1500        |                          |                  |
| 3110   | <b>F TÍPUSÚ, SZILÁRD SZERVES PEROXID</b>   |                      |                             |                          |                  |
|  | Dikumil-peroxid  | 31A<br>31H1<br>31HA1 | 2000<br>2000<br>2000        |                          |                  |
|  |  |                      |                             |                          |                  |
| 3119   | <b>F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSEKLET-SZABÁLYOZÁSSAL</b>            |                      |                             |                          |                  |
|  | terc-Amil-peroxi-pivalát, legfeljebb 32%-os, A típusú hígítóval                  | 31A                  | 1250                        | +10 °C                   | +15 °C           |
|  | terc-Butil-peroxi-2-etil-hexanoát, legfeljebb 32%-os, B típusú hígítóval         | 31HA1<br>31A         | 1000<br>1250                | +30 °C<br>+30 °C         | +35 °C<br>+35 °C |
|  |  |                      |                             |                          |                  |

| IBC520<br>(folyt.)   |   | CSOMAGOLÁSI UTASÍTÁS |                                   |                             | IBC520<br>(folyt.)   |
|--|---|----------------------|-----------------------------------|-----------------------------|----------------------|
| UN<br>szám   | Szerves peroxid   | Az IBC<br>típusa     | Legnagyobb<br>mennyiség<br>(l/kg) | Szabályozási<br>hőmérséklet | Vész-<br>hőmérséklet |
| <b>3119</b><br>(folyt.)  | tert-Butil-peroxi-neodekanoát, legfeljebb 32%-os, A típusú hígítóval                              | 31A                  | 1250                              | 0 °C                        | 10 °C                |
|  | tert-Butil-peroxi-neodekanoát, legfeljebb 42%-os stabil vizes diszperzió                          | 31A                  | 1250                              | -5 °C                       | +5 °C                |
|  | tert-Butil-peroxi-neodekanoát, legfeljebb 52%-os stabil vizes diszperzió                          | 31A                  | 1250                              | -5 °C                       | +5 °C                |
|  | terc-Butil-peroxi-pivalát, legfeljebb 27%-os, B típusú hígítóval                                  | 31HA1                | 1000                              | +10 °C                      | +15 °C               |
|  | Kumil-peroxi-neodekanoát, legfeljebb 52%-os stabil vizes diszperzió                               | 31A                  | 1250                              | +10 °C                      | +15 °C               |
|  |   | 31A                  | 1250                              | -15 °C                      | -5 °C                |
|  | Di(4-terc-butil-ciklohexil)-peroxi-dikarbonát, legfeljebb 42%-os, stabil vizes diszperzió         | 31HA1                | 1000                              | +30 °C                      | +35 °C               |
|  | Dicetil-peroxi-dikarbonát, legfeljebb 42%-os stabil vizes diszperzió                              | 31HA1                | 1000                              | +30 °C                      | +35 °C               |
|  | Diciklohexil-peroxi-dikarbonát, legfeljebb 42%-os, stabil vizes diszperzió                        | 31A                  | 1250                              | +10 °C                      | +15 °C               |
|  | Di(2-etil-hexil)-peroxi-dikarbonát, legfeljebb 62%-os stabil vizes diszperzió                     | 31A                  | 1250                              | -20 °C                      | -10 °C               |
|  | Dimirisztil-peroxi-dikarbonát, legfeljebb 42%-os stabil vizes diszperzió                          | 31HA1                | 1000                              | +15 °C                      | +20 °C               |
|  | Di-(2-neodekanoil-peroxi-izopropil)-benzol, legfeljebb 42%-os stabil vizes diszperzió             | 31A                  | 1250                              | -15 °C                      | -5 °C                |
|  | Di(3,5,5-trimetil-hexanoil)-peroxid, legfeljebb 38%-os, A típusú hígítóval                        | 31HA1                | 1000                              | +10 °C                      | +15 °C               |
|  |   | 31A                  | 1250                              | +10 °C                      | +15 °C               |
|  | Di(3,5,5-trimetil-hexanoil)-peroxid, legfeljebb 52%-os stabil vizes diszperzió                    | 31A                  | 1250                              | +10 °C                      | +15 °C               |
|  | 1,1,3,3-Tetrametil-butil-peroxi-neodekanoát, legfeljebb 52%-os, stabil vizes diszperzió           | 31A                  | 1250                              | -5 °C                       | +5 °C                |
|  | 3-hidroxi-1,1-dimetil-butil-peroxi-neodekanoát, legfeljebb 52%-os stabil vizes diszperzió         | 31A                  | 1250                              | -15 °C                      | -5 °C                |
| <b>3120</b>  | <b>F TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSEKET-SZABÁLYOZÁSSAL</b><br>Nincs készítmény felsorolva |                      |                                   |                             |                      |
| <b>Kiegészítő követelmények:</b>   |   |                      |                                   |                             |                      |
| 1. Az IBC-ket olyan szerkezettel kell ellátni, amely lehetővé teszi a szállítás alatti szellőzést. A szellőző-szerkezet bemenetének a legnagyobb töltési fok mellett is az IBC gözterében kell maradnia a szállítás alatt. |   |                      |                                   |                             |                      |

| IBC520<br>(folyt.) | CSOMAGOLÁSI UTASÍTÁS  | IBC520<br>(folyt.) |
|--------------------|---|--------------------|
| 2.                 | <p>A fém IBC-k vagy teljes falú fémburkolattal rendelkező összetett IBC-k robbanásszerű felhasadásának elkerülésére a vészlefúvó-szerkezetnek olyannak kell lennie, hogy az összes bomlástermék és gőz eltávozhasson, ami az öngyorsuló bomlás során fejlődik, vagy akkor, ha legalább egy óráig olyan láng veszi körül, amely a 4.2.1.13.8 pont szerinti képlettel jellemezhető. Az ebben a csomagolási utasításban megadott szabályozási és vészhőmérsékleteket szigetelés nélküli IBC-re állapították meg. Szerves peroxidok e csomagolási utasítás szerinti IBC-ben való feladásakor a feladónak biztosítania kell, hogy az IBC megfelel a következő előírásoknak:</p> <ul style="list-style-type: none"><li>a) az IBC-n alkalmazott nyomáscsökkentő- és vészlefúvó szerkezetek kialakításánál megfelelően figyelembe vették a szerves peroxid öngyorsuló bomlását és a tűz hatását; és</li><li>b) a megadott szabályozási és vészhőmérséklet – a használandó IBC kialakítását (pl. szigetelését is) figyelembe véve – megfelelő.</li></ul> |                    |

| IBC620   | CSOMAGOLÁSI UTASÍTÁS | IBC620 |
|--|----------------------|--------|
| Ezt az utasítást az UN 3291 tételre kell alkalmazni.   |                      |        |
| A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják:<br>A II csomagolási csoport teljesítőképességi szintjének megfelelő merev falú, szivárgásmentes IBC-k. |                      |        |
| <b>Kiegészítő követelmények:</b>   |                      |        |
| 1. Elegendő mennyiségű nedvszívó anyagnak kell lenni az IBC-ben levő folyadék teljes mennyiségének felszívásához.  |                      |        |
| 2. Az IBC-nek alkalmasnak kell lennie a folyékony anyag megtartására.  |                      |        |
| 3. Az éles tárgyakat, pl. törött üvegeket, tüket tartalmazó IBC-nek dőfésállónak kell lennie.  |                      |        |

#### 4.1.4.3 A nagycsomagolások használatára vonatkozó csomagolási utasítások

| LP01  |      | CSOMAGOLÁSI UTASÍTÁS (folyékony anyaghoz) |                       |                        | LP01                                   |
|---|------|---|-----------------------|------------------------|--|
| A következő nagycsomagolások használhatók, feltéve, hogy a 4.1.1 és 4.1.3 szakasz általános előírásait betartják. |      |   |                       |                        |  |
| Belső csomagolóeszközök   |      | Külső nagycsomagolások                    | I csomagolási csoport | II csomagolási csoport | III csomagolási csoport                |
| Üveg  | 10 l | Acél (50A)                                | Nem használható       | Nem használható        | Legnagyobb űrtartalom 3 m <sup>3</sup> |
| Műanyag   | 30 l | Alumínium (50B)                           |                       |                        |  |
| Fém   | 40 l | Fém (acélt és alumíniumot kivéve) (50N)   |                       |                        |  |
|   |      | Merev falú műanyag (50H)                  |                       |                        |  |
|   |      | Közönséges fa (50C)                       |                       |                        |  |
|   |      | Rétegelt falemez (50D)                    |                       |                        |  |
|   |      | Farostlemez (50F)                         |                       |                        |  |
|   |      | Merev falú papírlemez (50G)               |                       |                        |  |

| LP02  | CSOMAGOLÁSI UTASÍTÁS   |  |                       |                        | LP02                                   |
|---|--|--|-----------------------|------------------------|--|
| (szilárd anyaghoz)  |  |  |                       |                        |  |
| A következő nagycsomagolások használhatók, feltéve, hogy a 4.1.1 és 4.1.3 szakasz általános előírásait betartják: |  |  |                       |                        |  |
| Belső csomagolóeszközök   |  | Külső nagycsomagolások                     | I csomagolási csoport | II csomagolási csoport | III csomagolási csoport                |
| Üveg  | 10 kg  | Acél (50A)                                 | Nem használható       | Nem használható        | Legnagyobb űrtartalom 3 m <sup>3</sup> |
| Műanyag <sup>b)</sup>   | 50 kg  | Alumínium (50B)                            |                       |                        |  |
| Fém   | 50 kg  | Fém (acélt és alumíniumot kivéve) (50N)    |                       |                        |  |
| Papír <sup>a), b)</sup>   | 50 kg  | Merev falú műanyag (50H)                   |                       |                        |  |
| Papírlemez <sup>a), b)</sup>  | 50 kg  | Közönséges fa (50C)                        |                       |                        |  |
|   |  | Rétegelt falemez (50D)                     |                       |                        |  |
|   |  | Farostlemez (50F)                          |                       |                        |  |
|   |  | Merev falú papírlemez (50G)                |                       |                        |  |
|   |  | Hajlékony falú műanyag (51H) <sup>c)</sup> |                       |                        |  |
| Különleges csomagolási előírás:   |  |  |                       |                        |  |
| L2  | Az UN 1950 aeroszollokhoz használt nagycsomagolásoknak a III csomagolási csoport követelményeinek kell megfelelniük. A 327 különleges előírás szerint szállított, hulladékká vált aeroszollokhoz használt nagycsomagolásokat ezen kívül olyan eszközzel (pl. nedvszívó anyaggal) kell ellátni, ami a szállítás alatt esetleg szabaddá váló folyadékot képes visszatartani. |  |                       |                        |  |

a) Ez a csomagolóeszköz nem használható, ha a szállított anyag a szállítás alatt folyékonyvá válhat.

b) A csomagolóeszköznek portömörnek kell lennie.

c) Csak hajlékony falú belső csomagolásokhoz használható.

| LP99  | CSOMAGOLÁSI UTASÍTÁS | LP99 |
|---|----------------------|------|
| Csak az illetékes hatóság által, ezen árukhoz jóváhagyott csomagolóeszközök használhatók (lásd a 4.1.3.7 bekezdést). Az illetékes hatóság jóváhagyásának másolatát a küldeményhez mellékelni kell, vagy a fuvarokmányban utalni kell arra, hogy a csomagolóeszközt az illetékes hatóság jóváhagyta. |                      |      |

| LP101  | CSOMAGOLÁSI UTASÍTÁS     | LP101   |
|--|--------------------------|---|
| A következő nagycsomagolások használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.   |                          |   |
| Belső csomagolóeszközök  | Köztes csomagolóeszközök | Külső nagycsomagolások  |
| Nem szükséges  | Nem szükséges            | Acél (50A)<br>Alumínium (50B)<br>Fém (acélt és alumínium kivéve) (50N)<br>Merev falú műanyag (50H)<br>Közönséges fa (50C)<br>Rétegelt falemez (50D)<br>Farostlemez (50F)<br>Merev falú papírlemez (50G) |
| <b>Különleges csomagolási előírás:</b><br><b>L1</b> Az UN 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0243, 0244, 0245, 0246, 0254, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0328, 0329, 0344, 0345, 0346, 0347, 0362, 0363, 0370, 0412, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0488 és 0502 számhoz:<br>A rendszerint katonai célú, nagyméretű, robusztus robbanótárgyak gyújtószerkezeteik nélkül vagy gyújtószerkezettel, de legalább két hatékony védőszerkezettel csomagolatlanul szállíthatók. Ha az ilyen tárgyak hajtótöltetet tartalmaznak vagy önhajtók, akkor gyújtó-rendszereiket védeni kell a normális szállítási feltételek melletti működésbe lépéssel szemben. Ha a csomagolatlan tárgy a 4 vizsgálati sorozatban negatív eredményt ad, ez jelzi, hogy az csomagolás nélküli szállításra figyelembe vehető. Az ilyen csomagolatlan tárgyak csúszótalpakra erősíthetők vagy keretekbe vagy más alkalmas anyagmozgató eszközbe helyezhetők. |                          |   |

| LP102  | CSOMAGOLÁSI UTASÍTÁS     | LP102   |
|--|--------------------------|---|
| A következő nagycsomagolások használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.                   |                          |   |
| Belső csomagolóeszközök  | Köztes csomagolóeszközök | Külső nagycsomagolások  |
| <b>Zsákok</b><br>vízálló<br><b>Tartályok</b><br>papírlemezből<br>fémből<br>műanyagból<br>fából<br><b>Burkolatok</b><br>hullámpapírlemezből<br><b>Hüvelyek</b><br>papírlemezből | Nem szükséges            | Acél (50A)<br>Alumínium (50B)<br>Fém (acélt és alumínium kivéve) (50N)<br>Merev falú műanyag (50H)<br>Közönséges fa (50C)<br>Rétegelt falemez (50D)<br>Farostlemez (50F)<br>Merev falú papírlemez (50G) |

| LP621   | CSOMAGOLÁSI UTASÍTÁS | LP621 |
|---|----------------------|-------|
| Ezt a csomagolási utasítást az UN 3291 tételre kell alkalmazni.   |                      |       |
| A következő nagycsomagolások használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános csomagolási előírásait betartják:   |                      |       |
| 1) Belső csomagolóeszközökbe helyezett kórházi hulladékhoz: a 6.6 fejezet előírásait szilárd anyagokra, a II csomagolási csoportra kielégítő merev falú, szivárgásmentes nagycsomagolások, amennyiben elegendő nedvszívó anyagot tartalmaznak a teljes folyadékmennyiség felszívására és folyadék megtartására alkalmas nagycsomagolások.<br>2) Nagyobb mennyiségű folyadékot tartalmazó küldeménydarabokhoz: a 6.6 fejezet előírásait folyékony anyagokra a II csomagolási csoportra kielégítő nagycsomagolások. |                      |       |
| <b>Kiegészítő követelmény:</b>  |                      |       |
| Az éles tárgyat, pl. törött üvegeket, tüket tartalmazó nagycsomagolásoknak dőfésállónak kell lenniük, és meg kell tartaniuk a folyékony anyagokat a 6.6 fejezet szerinti vizsgálati körülmények között.   |                      |       |

| LP902   | CSOMAGOLÁSI UTASÍTÁS | LP902 |
|---|----------------------|-------|
| Ezt a csomagolási utasítást az UN 3268 tételre kell alkalmazni.   |                      |       |
| A következő nagycsomagolások használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:   |                      |       |
| A III csomagolási csoport igénybevételi szintjének megfelelő csomagolóeszközök. A csomagolóeszközöket úgy kell tervezni és gyártani, hogy normális szállítási feltételek között a tárgyak elmozdulását és nem szándékos működésbe lépését megakadályozzák.<br>Ezek a tárgyak a gyártási helyről a szerelési helyre e célra készült szállítóeszközben, járművön, ill. konténerben csomagolatlanul is szállíthatók. |                      |       |
| <b>Kiegészítő követelmény:</b>  |                      |       |
| Az esetleges nyomástartó tartályoknak meg kell felelniük az illetékes hatóságnak a nyomástartó tartályban levő anyag(ok)ra vonatkozó követelményeinek.  |                      |       |

#### 4.1.4.4 (törölve)

#### 4.1.5 Különleges csomagolási előírások az 1 osztály áruhoz

##### 4.1.5.1 A 4.1.1 szakasz általános előírásait be kell tartani.

##### 4.1.5.2 Az 1 osztály áruhoz használt minden csomagolóeszközt úgy kell tervezni és kivitelezni, hogy

- a robbanóanyagok és robbanótárgyak védve legyenek, ne szabadulhassanak ki, és normális szállítási feltételek között, beleértve a várható hőmérséklet-, páratartalom- vagy nyomásváltozásokat, a nem szándékos begyújtás vagy beindulás veszélye ne növekedjen;
- a teljes küldeménydarab normális szállítási feltételek mellett biztonságosan kezelhető legyen; és
- a küldeménydarabok ellenálljanak azon halmazolási terhelésnek, aminek a szállítás során várhatóan ki lehetnek téve, úgy, hogy ne növekedjen a robbanóanyag által képviselt veszély, a csomagolások árumegtartó funkciója ne szenvedjen kárt és ne deformálódjanak olyan mértékben vagy módon, ami azután csökkenti szilárdságukat vagy a halmaz instabilitását okozná.

##### 4.1.5.3 Minden robbanóanyagot és robbanótárgyat feladásra kész állapotban a 2.2.1 szakaszban leírt eljárás szerint be kell sorolni.

##### 4.1.5.4 Az 1 osztály áruit a 3.2 fejezet „A” táblázat 8 oszlopában található csomagolási utasítások szerint kell csomagolni, amelyek a 4.1.4 szakaszban vannak részletezve.

##### 4.1.5.5 A csomagolóeszközöknek, IBC-knek és nagycsomagolásoknak ki kell elégíteniük a 6.1, a



6.5, ill. a 6.6 fejezet követelményeit és a 6.1.5, a 6.5.6, ill. a 6.6.5 szakaszban II csomagolási csoportra előírt vizsgálati követelményeket, figyelembe véve a 4.1.1.13, a 6.1.2.4 bekezdés és a 6.5.1.4.4 pont előírásait is. Az I csomagolási csoport előírásait kielégítő, nem fém csomagolóeszközök ugyancsak használhatók. A szükségtelen fojtás elkerülésére az I csomagolási csoport fém csomagolóeszközei nem használhatók.

- 4.1.5.6** A folyékony robbanóanyagokat tartalmazó csomagolóeszközök zárószerkezeteinek a szivárgás elkerülésére kettős tömítésűnek kell lenniük.
- 4.1.5.7** A fémhordók zárószerkezetét megfelelő tömítéssel kell ellátni; ha a zárószerkezet csavarmenetes kialakítású, a robbanóanyagok nem szabad a csavarmenethez bejutni.
- 4.1.5.8** A vízzeloldható robbanóanyagokhoz használt csomagolóeszközöknek vízállónak kell lenniük. Az érzéketlenített vagy flegmatizált anyagokhoz használt csomagolóeszközöknek a koncentráció változásának megakadályozására a szállítás alatt zárva kell lenniük.
- 4.1.5.9** Amennyiben a küldeménydarab vízzel töltött kettős burkolatot tartalmaz, és a víz a szállítás alatt megfagyhat, a vízhez a fagyás megakadályozására elegendő mennyiségű fagyásgátló szert kell adni. Olyan fagyásgátló nem használható, amely eredendő gyúlékonysága révén tűzveszélyt okozhat.
- 4.1.5.10** Szegek, kapcsok és más fém zárószerkezetek, amelyek nincsenek védőbevonattal ellátva, nem hatolhatnak be a külső csomagolás belsejébe, hacsak a belső csomagolás nem védi kellőképpen a robbanóanyagokat és robbanótárgyakat a fémmel való érintkezéstől.
- 4.1.5.11** A belső csomagolásoknak, távtartóknak, párnázó- (tömítő-) anyagoknak, valamint a robbanóanyagok vagy robbanótárgyak elrendezésének a küldeménydarabokban olyannak kell lennie, ami megakadályozza, hogy a robbanóanyag szabaddá váljon a külső csomagolás belsejében normális szállítási feltételek mellett. Meg kell akadályozni, hogy a tárgyak fém alkatrészei a fém csomagolóeszközökkel érintkezésbe kerülhessenek. A robbanóanyagot tartalmazó olyan tárgyakat, amelyek nincsenek külső burkolatba helyezve, el kell választani egymástól, hogy megakadályozzuk a súrlódást és a felütkezést. Erre a célra a belső vagy a külső csomagolást megosztó párnázó válaszfalak, fészkek vagy tartályok használhatók.
- 4.1.5.12** A csomagolóeszközöket a küldeménydarabban levő robbanóanyagokkal összeférhető és azokkal szemben áthatolhatatlan anyagból kell készíteni, úgy, hogy sem a robbanóanyagok és a csomagolóanyagok közötti kölcsönhatás, sem szivárgás ne következhesen be, aminek eredményeként a robbanóanyag szállítása a továbbiakban nem lenne biztonságos vagy a veszélyességi osztálya vagy összeférhetőségi csoportja megváltozna.
- 4.1.5.13** Meg kell akadályozni a robbanóanyagok behatolását a korcolt fém csomagolóeszközök illesztéseibe.
- 4.1.5.14** A műanyag csomagolóeszközök nem lehetnek hajlamosak olyan mértékű statikus elektromosság gerjesztésére vagy felhalmozására, aminek a kisülése a becsomagolt robbanóanyag begyújtását vagy a robbanótárgy működésbe lépését okozhatja.
- 4.1.5.15** A rendszerint katonai célú, nagyméretű, robusztus robbanótárgyak, gyújtószerkezeteik nélkül, vagy gyújtószerkezettel, de legalább két hatékony védőszerkezettel, csomagolatlanul szállíthatók. Ha az ilyen tárgyak hajtótöltetet tartalmaznak vagy önhajtók, akkor gyújtórendszereiket védeni kell a normális szállítási feltételek melletti működésbelépéssel szemben. Ha a csomagolatlan tárgy a 4. vizsgálati sorozatban negatív eredményt ad, ez jelzi, hogy az csomagolás nélküli szállításra figyelembe vehető. Az ilyen csomagolatlan tárgyak csúszótálpakra erősíthetők vagy keretekbe vagy más alkalmas kezelő-, tárolóeszközbe vagy indítóállványba helyezhetők oly módon, hogy normális szállítási körülmények között ne lazulhassanak ki. Amennyiben ezeket a nagyméretű robbanótárgyakat az üzembiztonsági és alkalmassági vizsgálataik keretében olyan vizsgálatoknak is alávetik, amelyek megfelelnek az ADR céljainak, és e vizsgálatokat sikerrel kiállják, az illetékes hatóság engedélyezheti ezen tárgyak ADR szerinti szállítását.
- 4.1.5.16** A robbanóanyagokat nem szabad olyan belső vagy külső csomagolóeszközökbe csomagolni, amelyeknél a külső és belső nyomás között termikus vagy más hatások eredményeként létrejövő különbségek a küldeménydarab robbanását vagy törését okozhatják.

- 4.1.5.17** Amennyiben a szabadon levő robbanóanyag vagy a zárt ház nélküli vagy csak részben tokozott tárgy robbanóanyaga fém csomagolóeszközök (1A2, 1B2, 4A, 4B és fémtartályok) belső felületével érintkezhet, a fém csomagolóeszközt el kell látni belső bevonattal vagy béléssel (lásd a 4.1.1.2 bekezdést).
- 4.1.5.18** A P101 csomagolási utasítás bármely robbanóanyaghoz használható, amennyiben a csomagolóeszközt az illetékes hatóság engedélyezte, függetlenül attól, hogy a csomagolóeszköz megfelel-e a 3.2 fejezet „A” táblázat 8 oszlopában feltüntetett csomagolási utasításnak.
- 4.1.6** **Különleges csomagolási előírások a 2 osztály, ill. a többi osztály olyan áruira, amelyekre a P200 csomagolási utasítás vonatkozik**
- 4.1.6.1** Ez a szakasz a 2 osztály gázainak, ill. más osztályok P200 csomagolási utasítás alá tartozó anyagainak (pl. UN 1051 hidrogén-cianid, stabilizált) a szállításához használt nyomástartó tartályok és nyitott mélyhűtő tartályok használatára vonatkozó általános követelményeket tartalmazza. A nyomástartó tartályokat úgy kell gyártani és lezárni, hogy elkerülhető legyen a tartalom bármilyen szivárgása. Ez a szokásos szállítási körülmények között különösen a rezgésekből, illetve a hőmérséklet, a páratartalom vagy a nyomás változásából adódhat (pl. a tengerszint feletti magasság változásának eredményeként).
- 4.1.6.2** A nyomástartó tartályok és a nyitott mélyhűtő tartályok veszélyes áruval közvetlenül érintkező részeit a veszélyes áru nem támadhatja meg, sem lényegesen nem gyengítheti, és ezek a részek nem okozhatnak veszélyes hatást (pl. reakció katalizálását vagy a veszélyes áruval való reakciót) (lásd a szakasz végén a szabványok táblázatát is).
- 4.1.6.3** Egy adott gázhoz vagy gázkeverékhez a nyomástartó tartályt, annak zárószerkezetét, ill. a nyitott mélyhűtő tartályt úgy kell megválasztani, hogy megfeleljen a 6.2.1.2 bekezdés és a 4.1.4.1 bekezdés vonatkozó csomagolási utasítása követelményeinek. Ezt a bekezdést azokra a nyomástartó tartályokra is alkalmazni kell, amelyek MEG-konténerek, ill. battériás járművek elemeit képezik.
- 4.1.6.4** Az újratölthető nyomástartó tartályokat a használat megváltoztatása esetén a biztonságos üzemeltetéshez szükséges mértékben ki kell üríteni, ki kell tisztítani, ill. gáztalanítani kell (lásd a szakasz végén a szabványok táblázatát is). Ezenkívül azok a nyomástartó tartályok, amelyek előzőleg 8 osztályba tartozó maró anyagot, vagy más osztályokba tartozó, maró járulékos veszéllyel rendelkező anyagot tartalmaztak, a 2 osztály anyagaihoz csak akkor használhatók, ha elvégezték a 6.2.1.6, ill. 6.2.3.5 bekezdésben meghatározott, szükséges vizsgálatokat.
- 4.1.6.5** Töltés előtt a csomagolónak meg kell vizsgálnia a nyomástartó tartályt, ill. a nyitott mélyhűtő tartályt és meg kell győződnie arról, hogy a nyomástartó tartály, ill. a nyitott mélyhűtő tartály a szállítandó anyaghoz engedélyezett és megfelel a követelményeknek. Töltés után a zárószelepeket el kell zárni és a szállítás alatt zárva kell tartani. A feladónak ellenőriznie kell, hogy a zárószerkezet és a szerelvények nem szivárognak-e.
- Megjegyzés:** *A palackkötegben levő egyedi palackok zárószelepei a szállítás alatt nyitva lehetnek, kivéve ha a szállított anyagra a P200 csomagolási utasításban a „k” vagy „q” különleges csomagolási előírás vonatkozik.*
- 4.1.6.6** A nyomástartó tartályokat, ill. a nyitott mélyhűtő tartályokat a betöltendő anyagra vonatkozó csomagolási utasításban meghatározott üzemi nyomás, töltési fok és töltési előírások betartásával kell megtölteni. A bomlásra hajlamos gázokat és gázkeverékeket olyan nyomásig kell tölteni, hogy a nyomástartó tartályban a nyomás a gáz teljes mennyiségének elbomlása esetén se haladja meg az üzemi nyomást. A palackkötegek palackjait nem szabad a kötegben levő legkisebb üzemi nyomású palack üzemi nyomása fölé tölteni.
- 4.1.6.7** A nyomástartó tartályoknak és zárószerkezeteiknek meg kell felelniük a 6.2 fejezetben részletezett tervezési, gyártási, ellenőrzési és vizsgálati követelményeknek. Ha külső csomagolás van előírva, abban a nyomástartó tartályokat, ill. a nyitott mélyhűtő tartályokat szilárdan rögzíteni kell. Ha a vonatkozó csomagolási utasításban nincs más előírva, a belső

csomagolásokat egyesével vagy csoportosan lehet a külső csomagolásba helyezni.

**4.1.6.8**

A szelepeket úgy kell tervezni és gyártani, hogy azok eredendően képesek legyenek a sérülések elviselésére anélkül, hogy a tartalom kiszabadulna, vagy a következő módszerek valamelyikének alkalmazásával védeni kell az olyan sérülésekkel szemben, amelyek a nyomástartó tartály tartalmának véletlen kiszabadulásához vezetnének (lásd a szakasz végén a szabványok táblázatát is):

- a) a zárószelepek a tartálynyak belsejében vannak elhelyezve és menetes dugóval vagy sapkával vannak védve;
- b) a zárószelepek védőkupakkal vannak ellátva. A védőkupakot megfelelő keresztmetszetű szellőzőlyukakkal kell ellátni, hogy a zárószelep szivárgása esetén a gáz eltávozhasson;
- c) a zárószelepek védőkarimával vagy más védőszerkezettel vannak ellátva;
- d) a nyomástartó tartályokat védőkeretekben szállítják (pl. palackkötegben vannak); vagy
- e) a nyomástartó tartályokat védőládákban szállítják. Az UN nyomástartó tartályok esetén a szállításra kész csomagolásnak olyannak kell lennie, hogy a 6.1.5.3 bekezdés szerinti ejtési próba során az I csomagolási csoport szintjén megfeleljen.

**4.1.6.9**

A nem újrátölthető, nyomástartó tartályok esetén:

- a) a tartályokat külső csomagolásban, például ládában, rekeszben vagy zsugorfóliával, ill. nyújtható fóliával burkolt alátétláncs csomagolásban kell szállítani;
- b) a gyúlékony vagy mérgező gázzal töltött tartályok víztérfogata legfeljebb 1,25 liter lehet;
- c) ezek a tartályok nem használhatók olyan mérgező gázokhoz, amelyek  $LC_{50}$  értéke 200 ml/m<sup>3</sup> vagy annál kisebb; és
- d) a tartályok használatba vétel után nem javíthatók.

**4.1.6.10**

Az újrátölthető tartályokat a 6.2.1.6, ill. 6.2.3.5 bekezdés, ill. a P200 vagy a P203 csomagolási utasítás előírásai szerint időszakos vizsgálatnak kell alávetni. A nyomástartó tartályok az időszakos vizsgálat határidejének letelte után nem tölthetők meg, de a vizsgálat végrehajtása vagy ártalmatlanítás céljából az időszakos vizsgálat végrehajtására meghatározott határidő letelte után is szállíthatók, beleértve az átmeneti szállítási műveleteket.

**4.1.6.11**

A javításokat a vonatkozó tervezési és gyártási szabványok gyártási és vizsgálati követelményei szerint kell végezni, és csak akkor végezhetők, ha a 6.2 fejezetben felsorolt, az időszakos vizsgálatra vonatkozó szabványok erre utalnak. A nyomástartó tartályok, kivéve a zárt mélyhűtő tartályok burkolatát, nem javíthatók a következő hibák esetén:

- a) hegesztési repedések és egyéb hegesztési hibák;
- b) repedések a tartályfalban;
- c) szivárgások vagy a tartályfal, tető vagy fenék anyagának hibái.

**4.1.6.12**

A nyomástartó tartály nem tölthető meg:

- a) ha olyan mértékben sérült, hogy ez befolyásolhatja a nyomástartó tartály vagy üzemi szerelvényei épségét; és
- b) amíg a nyomástartó tartályt és üzemi szerelvényeit meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak; és
- c) ha a tanúsításra, az időszakos vizsgálatra, ill. a töltésre vonatkozó jelölés olvashatatlan.

**4.1.6.13**

A megtöltött nyomástartó tartály nem adható fel szállításra:

- a) ha szivárog;
- b) ha olyan mértékben sérült, hogy ez befolyásolhatja a nyomástartó tartály vagy üzemi szerelvényei épségét; és

- c) amíg a nyomástartó tartályt és üzemi szerelvényeit meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak; és
- d) ha a tanúsításra, az időszakos vizsgálatra, ill. a töltésre vonatkozó jelölés olvashatatlan.

**4.1.6.14**

Az UN nyomástartó tartályokra a következőkben felsorolt ISO szabványokat kell alkalmazni. Egyéb nyomástartó tartályok esetén a 4.1.6 szakasz előírásai a következő szabványok értelemszerű alkalmazása esetén teljesítettnek tekinthetők:

| A vonatkozó bekezdés                  | Hivatkozás                       | A dokumentum címe   |
|---------------------------------------|----------------------------------|---|
| 4.1.6.2                               | EN ISO 11114-1:1997              | Szállítható gázpalackok. Gázpalack és palackszelep szerkezeti anyagainak megfeleltetése a gáztöltetnek. 1. Rész: Fémek          |
|                                       | EN ISO 11114-2:2000              | Szállítható gázpalackok. Gázpalack és palackszelep szerkezeti anyagainak megfeleltetése a gáztöltetnek. 2. Rész: Nemfémek       |
| 4.1.6.4                               | ISO 11621:2005                   | Gázpalackok. Eljárás a gáztöltet megváltoztatására  |
| 4.1.6.8<br>Eredendően védett szelepek | EN ISO 10297:2006<br>A Melléklet | Gázpalackok – Újratölthető gázpalack szelepek – Meghatározások és típusvizsgálat  |
|                                       | EN 13152:2001+ A1:2003           | Cseppfolyósított szénhidrogéngáz palackja szelepeinek előírásai és vizsgálata. Önelzáró szelepek                                |
|                                       | EN 13153:2001+ A1:2003           | Cseppfolyósított szénhidrogéngáz palackja szelepeinek előírásai és vizsgálata. Kézi működtetésű szelepek                        |
| 4.1.6.8 b) és c)                      | ISO 11117:1998                   | Gázpalackok – Szelep védőkupakok és védőszerkezetek ipari és orvosi gázok palackjaihoz – Méretezés, gyártás és vizsgálatok      |
|                                       | EN 962:1996 + A2:2000            | Szállítható gázpalackok. Ipari és egészségügyi gázpalackok szelepvédő sapkái és kosarai. Kialakítás, kivitelezés és vizsgálatok |

**4.1.7**

**Különleges csomagolási előírások a szerves peroxidokhoz (5.2 osztály) és az önreaktív anyagokhoz (4.1 osztály)**

**4.1.7.0.1**

A szerves peroxidok esetén a tartályokat „hatékonyan le kell zárni”. Ha a küldeménydarabban gázfejlődés miatt jelentős belső nyomás alakulhat ki, szellőző-szerkezet használható, ha a fejlődő gáz nem okoz veszélyt, egyébként a töltési fokot kell korlátozni. A szellőző-szerkezetet úgy kell kialakítani, hogy a küldeménydarab függőleges helyzetében folyadék ne szabadulhasson ki, ill. szennyeződés ne juthasson be. A külső csomagolást, ha van, úgy kell kialakítani, hogy ne zavarja a szellőző-szerkezet működését.

**4.1.7.1**

**A csomagolóeszközök használata**

**4.1.7.1.1**

A szerves peroxidokhoz és az önreaktív anyagokhoz használt csomagolóeszközöknek a 6.1 fejezet, ill. a 6.6 fejezet követelményeinek a II csomagolási csoport szintjén kell megfelelniük. A felesleges fojtást (bezárást) elkerülendő az I csomagolási csoport vizsgálati kritériumait kielégítő fém csomagolóeszközök nem használhatók.

**4.1.7.1.2**

A szerves peroxidok és az önreaktív anyagok csomagolási módszereit, amelyek OP1 – OP8 jelöléssel vannak ellátva, a P520 csomagolási utasítás sorolja fel. Az egyes csomagolási módszereknél meghatározott mennyiségek a küldeménydarabonként engedélyezett legnagyobb mennyiséget jelentik.

**4.1.7.1.3** A jelenleg besorolt szerves peroxidokhoz és önreaktív anyagokhoz alkalmas csomagolási módszereket a 2.2.41.4 és a 2.2.52.4 bekezdés sorolja fel.

**4.1.7.1.4** Az új szerves peroxidoknál, az új önreaktív anyagoknál, ill. a jelenleg besorolt szerves peroxidok vagy önreaktív anyagok új készítményeinél a megfelelő csomagolási módszer hozzárendelése céljából a következő eljárást kell alkalmazni:

a) A B típusú szerves peroxidhoz, ill. B típusú önreaktív anyaghoz:

az OP5 csomagolási módszert kell hozzárendelni, amennyiben a szerves peroxid (ill. az önreaktív anyag) a csomagolási módszer által engedélyezett valamelyik csomagolásban a Vizsgálatok és Kritériumok kézikönyv 20.4.3 b) bekezdés (ill. a 20.4.2 b) bekezdés) szerinti feltételeket kielégíti. Ha a szerves peroxid (ill. az önreaktív anyag) ezeket a feltételeket csak kisebb csomagolásban elégíti ki, mint ami az OP5 csomagolási módszernél meg van határozva (azaz az OP1 – OP4 módszernél felsorolt valamelyik csomagolásban), akkor az alacsonyabb OP számú, megfelelő csomagolási módszert kell hozzárendelni;

b) A C típusú szerves peroxidhoz, ill. C típusú önreaktív anyaghoz:

az OP6 csomagolási módszert kell hozzárendelni, amennyiben a szerves peroxid (ill. az önreaktív anyag) a csomagolási módszer által engedélyezett valamelyik csomagolásban a „Vizsgálatok és Kritériumok kézikönyv” 20.4.3 c) bekezdés (ill. a 20.4.2 c) bekezdés) szerinti feltételeket kielégíti. Ha a szerves peroxid (ill. az önreaktív anyag) ezeket a feltételeket csak kisebb csomagolásban elégíti ki, mint ami az OP6 csomagolási módszernél meg van határozva, akkor az alacsonyabb OP számú, megfelelő csomagolási módszert kell hozzárendelni;

c) A D típusú szerves peroxidhoz, ill. D típusú önreaktív anyaghoz:

az OP7 csomagolási módszert kell hozzárendelni;

d) Az E típusú szerves peroxidhoz, ill. E típusú önreaktív anyaghoz:

az OP8 csomagolási módszert kell hozzárendelni;

e) Az F típusú szerves peroxidhoz, ill. F típusú önreaktív anyaghoz:

az OP8 csomagolási módszert kell hozzárendelni.

#### **4.1.7.2** *Az IBC-k használata*

**4.1.7.2.1** A már besorolt szerves peroxidok közül az IBC520 csomagolási utasításban felsoroltak szállíthatók IBC-ben, az ott feltüntetettek szerint.

**4.1.7.2.2** Egyéb, F típusú szerves peroxidok és önreaktív anyagok a származási ország illetékes hatósága által meghatározott feltételek mellett szállíthatók IBC-kben, ha a megfelelő vizsgálatok alapján az illetékes hatóság meggyőződött arról, hogy az ilyen szállítás biztonságosan végrehajtható. A vizsgálatoknak a következőkre szükséges kiterjedniük:

a) annak bizonyítására, hogy a szerves peroxid (ill. az önreaktív anyag) megfelel a Vizsgálatok és Kritériumok kézikönyv 20.4.3 f) bekezdésben, illetve a 20.4.2 f) bekezdésben megadott besorolási elveknek, lásd a kézikönyv 20.1 b) ábrájának az F kimeneti kockáját;

b) minden olyan anyaggal az összeférhetőség bizonyítására, amely az anyaggal a szállítás alatt normál esetben érintkezésbe kerülhet;

c) az anyagnak a szóban forgó IBC-ben való szállításával kapcsolatos szabályozási és vészhőmérséklete, ha ilyenek alkalmazandók, meghatározására az ÖBH-ből való levezetéssel;

d) szükség esetén a nyomáscsökkentő és a vészlefúvó szerkezetek konstrukciójára; és

e) az esetlegesen szükséges különleges előírások meghatározására.

Ha a származási ország nem valamely ADR Szerződő Fél, akkor a besorolást és szállítási feltételeket a küldemény által érintett első ADR Szerződő Fél illetékes hatóságának kell



elismernie.

- 4.1.7.2.3** A figyelembe veendő vészhelyzetek az anyag öngyorsuló bomlása és amikor a láng a tartályt teljesen körülveszi. A fém vagy külső fémburkolatú, összetett IBC robbanásszerű felrepedésének elkerülésére a vészlefüvő szerkezetnek lehetővé kell tennie minden bomlástermék és gőz eltávolítását, amely az öngyorsuló bomlás során, ill. akkor fejlődik, ha legalább egy óráig olyan láng veszi körül, amely a 4.2.1.13.8 pontban megadott képlettel jellemezhető.
- 4.1.8 Különleges csomagolási előírások a fertőző anyagokhoz (6.2 osztály)**
- 4.1.8.1** A fertőző anyagok feladójának biztosítania kell, hogy a küldeménydarabok oly módon legyenek előkészítve, hogy rendeltetési helyükre jó állapotban érkezzenek meg, és a szállítás alatt se személyekre, se állatokra ne jelentsenek veszélyt.
- 4.1.8.2** A fertőző anyagokat tartalmazó küldeménydarabokra az 1.2.1 szakasz meghatározásai és a 4.1.1.1 – 4.1.1.16 bekezdés általános előírásai vonatkoznak, a 4.1.1.3, a 4.1.1.9 – 4.1.1.12 és a 4.1.1.15 bekezdés kivételével. A folyékony anyagokat azonban csak olyan csomagoló-eszközbe szabad tölteni, amely megfelelő mértékben ellenáll a normális szállítási körülmények között kialakuló belső nyomásnak.
- 4.1.8.3** A másodlagos csomagolás és a külső csomagolás közé el kell helyezni a tartalom tételes jegyzékét. Ha a szállítandó fertőző anyag ismeretlen, de feltehetően megfelel az „A” kategóriába történő besorolás feltételeinek, akkor a külső csomagolásba helyezett jegyzéken a helyes szállítási megnevezést követően, zárójelbe téve a **„feltehetően „A” kategóriájú fertőző anyag”** szöveget kell feltüntetni.
- 4.1.8.4** Mielőtt egy üres csomagolóeszközt a feladóhoz visszaküldenek vagy máshová szállítanak, azt ki kell tisztítani, ill. fertőtleníteni, hogy minden veszélyt kiküszöböljenek, és a rajta levő bárcákat, ill. jelöléseket, amelyek arra utalnak, hogy fertőző anyagot tartalmazott, el kell távolítani, vagy felismerhetetlenné kell tenni.
- 4.1.8.5** Azonos minőség esetén a másodlagos csomagoláson belül az elsődleges tartályoknál a következő változatok engedélyezettek a teljes csomagolás további vizsgálata nélkül:
- a) A vizsgált elsődleges tartállyal azonos méretű vagy kisebb elsődleges tartályok használhatók, amennyiben:
    - i) az elsődleges tartályok hasonló kialakításúak, mint a bevizsgált elsődleges tartályok (pl. hengeres, szögletes);
    - ii) az elsődleges tartályok szerkezeti anyaga (pl. üveg, műanyag, fém) az eredetileg bevizsgált elsődleges tartályokkal azonos vagy nagyobb mértékben ellenáll az ütődéseknél és a halmazolásnál fellépő erőkkel szemben;
    - iii) az elsődleges tartály nyílásai azonos vagy kisebb átmérőjűek és zárásuk hasonló kialakítású (pl. csavarmenetes kupak, bepattanó fedél stb.);
    - iv) elegendő mennyiségű párnázóanyagot használnak a hézagok kitöltésére és az elsődleges tartályok jelentősebb elmozdulásának megakadályozására; és
    - v) az elsődleges tartályok ugyanolyan helyzetben vannak a másodlagos csomagolásban elhelyezve, mint a bevizsgált küldeménydarabban.
  - b) Azokból az elsődleges tartályokból, amelyekkel bevizsgálták, vagy az előző a) pontban leírt elsődleges tartályokból kevesebb is használható, amennyiben elegendő mennyiségű párnázóanyagot használnak a hézagok kitöltésére és az elsődleges tartályok jelentősebb elmozdulásának megakadályozására.
- 4.1.8.6** A 4.1.8.1 – 4.1.8.5 bekezdések csak az „A” kategóriájú fertőző anyagokra (UN 2814 és UN 2900) vonatkoznak, nem kell alkalmazni sem az UN 3373 „B” kategóriájú biológiai anyagra (lásd a 4.1.4.1 bekezdés P650 csomagolási utasítását), sem az UN 3291 nem specifikált kórházi hulladék, m.n.n. vagy (bio)gyógyászati hulladék, m.n.n. vagy

szabályozott gyógyászati hulladék, m.n.n. tétel esetén.

#### 4.1.8.7

Az állati eredetű anyagok szállítása esetén a vonatkozó csomagolási utasítás által az anyagra, ill. tárgyra kifejezetten engedélyezett csomagolóeszközön (IBC-n) kívül csak olyan csomagolóeszköz (IBC) használható, amelyet a származási ország<sup>3)</sup> illetékes hatósága külön erre jóváhagyott, feltéve, ha:

- a) ez az alternatív csomagolóeszköz megfelel e Rész általános követelményeinek;
- b) ez az alternatív csomagolóeszköz megfelel a 6. Rész követelményeinek is, ha a 3.2 fejezet „A” táblázat 8 oszlopában feltüntetett csomagolási utasítás ezt előírja;
- c) származási ország<sup>3)</sup> illetékes hatósága megállapítja, hogy ez az alternatív csomagolóeszköz legalább olyan szintű biztonságot nyújt, mintha az anyag a 3.2 fejezet „A” táblázat 8 oszlopában feltüntetett csomagolási utasítás által előírt módszer szerint lenne csomagolva;
- d) az illetékes hatóság jóváhagyásának másolata a küldeményhez mellékelve van, vagy a fuvarokmányban utalás van arra, hogy az alternatív csomagolóeszközt az illetékes hatóság jóváhagyta.

#### 4.1.9

##### Különleges csomagolási előírások a 7 osztályhoz

#### 4.1.9.1

##### Általános előírások

##### 4.1.9.1.1

A radioaktív anyagnak, a csomagolóeszközöknek és a küldeménydaraboknak a 6.4 fejezet követelményeinek kell megfelelniük. Az egy küldeménydarabban levő radioaktív anyag mennyisége nem haladhatja meg a 2.2.7.2.2, a 2.2.7.2.4.1, a 2.2.7.2.4.4, a 2.2.7.2.4.5, a 2.2.7.2.4.6 pontban, a 3.3 fejezet 336 különleges előírásában és a 4.1.9.3 bekezdésben meghatározott határokat. Az ADR-ben szereplő, radioaktív anyagot tartalmazó küldeménydarabok fajtái a következők:

- a) engedélyezett küldeménydarab (lásd az 1.7.1.5 bekezdést);
- b) 1 típusú ipari küldeménydarab (*IP-1* típusú küldeménydarab);
- c) 2 típusú ipari küldeménydarab (*IP-2* típusú küldeménydarab);
- d) 3 típusú ipari küldeménydarab (*IP-3* típusú küldeménydarab);
- e) *A* típusú küldeménydarab;
- f) *B(U)* típusú küldeménydarab;
- g) *B(M)* típusú küldeménydarab;
- h) *C* típusú küldeménydarab.

A hasadóanyagot vagy urán-hexafluoridot tartalmazó küldeménydarabok további követelmények tárgyát képezik.

##### 4.1.9.1.2

A küldeménydarabok külső felületén a nem tapadó radioaktív szennyezettséget a lehető legalacsonyabb értéken kell tartani, és normális szállítási körülmények között nem haladhatja meg a következő értékeket:

- a) 4 Bq/cm<sup>2</sup> béta-, gamma -, valamint csekély toxicitású alfa-sugárzók esetén; és
- b) 0,4 Bq/cm<sup>2</sup> minden más alfa-sugárzó esetén.

Ezeket a határokat a felület bármely 300 cm<sup>2</sup>-nyi részén képzett átlagra alkalmazni kell.

##### 4.1.9.1.3

Egy küldeménydarab – az engedélyezett küldeménydarab kivételével – a radioaktív anyag alkalmazásához szükséges tárgyakon kívül mást nem tartalmazhat. E tárgyak és a küldeménydarab közötti kölcsönhatás a gyártási típusra vonatkozó szállítási feltételek között

3) Ha a származási ország nem valamely ADR Szerződő Fél, a küldemény által érintett első ADR Szerződő Fél illetékes hatósága

nem csökkentheti a küldeménydarab biztonságát.

- 4.1.9.1.4** A 7.5.11 szakasz CV33 különleges előírásában meghatározottak kivételével az egyesítő csomagolások, a konténerek, a tartányok, az IBC-k és a járművek belső és külső felületén a nem tapadó szennyezettség szintje nem haladhatja meg a 4.1.9.1.2 pontban meghatározott határértékeket.
- 4.1.9.1.5** A járulékos veszéllyel bíró radioaktív anyagokat a 6. rész megfelelő fejezetének követelményeit mindenben kielégítő és az adott járulékos veszélyre a 4.1, a 4.2, ill. a 4.3 fejezet vonatkozó követelményeinek megfelelő csomagolóeszközökben, IBC-kben vagy tartányokban kell szállítani.
- 4.1.9.1.6** Minden küldeménydarab első szállítása előtt a következő követelményeknek kell eleget tenni:
- a) Amennyiben a biztonsági tartály tervezési nyomása meghaladja a 35 kPa (túlnyomás) értéket, akkor biztosítani kell, hogy minden küldeménydarab a biztonsági tartály ezen nyomás alatti sértetlenségére vonatkozóan a jóváhagyott minta követelményeinek megfeleljen.
  - b) Minden  $B(U)$ ,  $B(M)$  és  $C$  típusú küldeménydarab és minden hasadóanyagot tartalmazó küldeménydarab esetén biztosítani kell, hogy az árnyékolás és a biztonsági tartály hatékonysága, valamint – szükség esetén – a hőátadási tulajdonságok és a megtartó rendszer hatékonysága azon határok között legyen, amely a jóváhagyott mintára alkalmazandó vagy meg van határozva.
  - c) Minden hasadóanyagot tartalmazó küldeménydarab esetében, amelynél a 6.4.11.1 bekezdés előírásainak betartása érdekében a neutronmérgek a küldeménydarabok kifejezett alkotórészét képezik, ellenőrizni kell ezen neutronmérgek jelenlétét és eloszlását.
- 4.1.9.1.7** Minden küldeménydarab minden egyes szállítása előtt a következő követelményeket kell teljesíteni:
- a) Minden küldeménydarabnál biztosítani kell, hogy az összes vonatkozó ADR előírást és követelményt betartsák.
  - b) Biztosítani kell, hogy a teheremelő berendezések, amelyek a 6.4.2.2 bekezdés feltételeinek nem felelnek meg, el legyenek távolítva vagy a küldeménydarabok emelésére más módon alkalmatlanná legyenek téve a 6.4.2.3 bekezdés szerint.
  - c) Minden olyan küldeménydarab esetében, amelyhez az illetékes hatóság engedélye szükséges, biztosítani kell az engedélyben megállapított minden feltétel betartását.
  - d) Minden  $B(U)$ ,  $B(M)$  és  $C$  típusú küldeménydarabot mindaddig vissza kell tartani, amíg az egyensúlyi állapot megközelítőleg be nem következett, úgy, hogy a hőmérsékletre és a nyomásra vonatkozó előírt szállítási feltételeknek való megfelelés bizonyítható legyen, kivéve, ha e feltételek alól az egyoldalú engedély felmentést adott.
  - e) Minden  $B(U)$ ,  $B(M)$  és  $C$  típusú küldeménydarabnál vizsgálattal vagy alkalmas próbával kell biztosítani, hogy a biztonsági tartály minden zárószervezete, szelepe vagy más nyílása, amelyen keresztül a radioaktív anyag a szabadba juthat, szabályosan zárt, és adott esetben oly módon tömített, mint az a 6.4.8.8 és 6.4.10.3 bekezdésnek való megfelelés bizonyításánál elő van írva.
  - f) Minden különleges formájú radioaktív anyagnál biztosítani kell, hogy az engedélyben meghatározott követelményeket és az ADR vonatkozó követelményeit betartsák.
  - g) A hasadóanyagot tartalmazó küldeménydaraboknál a 6.4.11.4 b) pontban meghatározott mérést, valamint a 6.4.11.7 bekezdésben előírt, a küldeménydarab zártágának bizonyítására szolgáló vizsgálatokat el kell végezni, amennyiben vonatkozik rájuk.
  - h) Minden kis mértékben diszpergálódó radioaktív anyagnál biztosítani kell, hogy a küldeménydarab-minta engedélyében meghatározott követelményeket és az ADR vonatkozó követelményeit betartsák.



- 4.1.9.1.8** A feladónak a küldeménydarab helyes zárására és a szállításhoz való egyéb előkészítésére vonatkozó utasítások egy példányával is rendelkeznie kell, mielőtt a szállítás az engedélyokiratok előírásai alapján megtörténne.
- 4.1.9.1.9** A kizárólagos használat mellett szállított küldemények kivételével egyetlen küldeménydarab vagy egyesítőcsomagolás szállítási mutatószáma (*TI*) sem haladhatja meg a 10-et, és egyetlen küldeménydarab vagy egyesítőcsomagolás kritikussági biztonsági mutatószáma (*CSI*) sem haladhatja meg az 50-et.
- 4.1.9.1.10** A kizárólagos használat mellett és az 7.5.11 szakasz, CV33 előírás 3.5) a) pontjában meghatározott feltételek szerint szállított küldeménydarabok és egyesítőcsomagolások kivételével a maximális sugárzási szint egy küldeménydarab vagy egyesítőcsomagolás külső felületének egyetlen pontján sem haladhatja meg a 2 mSv/h értéket.
- 4.1.9.1.11** A maximális sugárzási szint egy kizárólagos használat mellett szállított küldeménydarab vagy egyesítőcsomagolás külső felületének egyetlen pontján sem haladhatja meg a 10 mSv/h értéket.
- 4.1.9.2** *Az LSA anyagok és SCO tárgyak szállítására és a szállítás ellenőrzésére vonatkozó követelmények*
- 4.1.9.2.1** Az LSA anyagok vagy SCO tárgyak mennyiségét egyetlen IP-1 típusú, IP-2 típusú vagy IP-3 típusú küldeménydarabban, vagy az adott esettől függően tárgyban vagy tárgyak összességében oly módon kell korlátozni, hogy a külső sugárzási szint a nem árnyékolat anyagtól vagy tárgytól vagy tárgyak összességétől 3 m távolságban ne haladja meg a 10 mSv/h értéket.
- 4.1.9.2.2** Azoknak az LSA anyagoknak és SCO tárgyaknak, amelyek hasadóanyagok vagy azt tartalmaznak, a 6.4.11.1 bekezdés és a 7.5.11 szakasz CV33 különleges előírás 4.1) és 4.2) pontja vonatkozó előírásainak kell megfelelniük.
- 4.1.9.2.3** Az LSA anyagok és SCO tárgyak az LSA-I és SCO-I csoportokban a következő feltételek mellett csomagolatlanul szállíthatók:
- minden csomagolatlan anyagot, az olyan érceket kivéve, amelyek kizárólag a természetben előforduló radionuklidokat tartalmaznak, úgy kell szállítani, hogy a normális szállítási körülmények között sem a tartalom elvesztése a járműből, sem az árnyékolás csökkenése ne következzen be;
  - minden járműnek kizárólagos használat alatt kell állni, hacsak azzal nem kizárólagosan olyan SCO-I tárgyakat szállítanak, amelyeken a szennyezettség a hozzáférhető és a nem hozzáférhető felületeken nem nagyobb mint a 2.2.7.1.2 pontban a „szennyezettség” meghatározásánál megadott, alkalmazandó érték tízszerese; és
  - amennyiben az SCO-I tárgyaknál feltételezhető, hogy a nem hozzáférhető felületeken a 2.2.7.2.3.2 a) i) pontban meghatározott értéknél nagyobb mértékű nem tapadó szennyezettség van jelen, akkor intézkedni kell, hogy a radioaktív anyag a járműbe ne szabadulhasson ki.
- 4.1.9.2.4** Az LSA anyagokat és SCO tárgyakat, hacsak a 4.1.9.2.3 pontban nincs más előírva, a következő táblázat szerint kell csomagolni.

**Követelmények az ipari küldeménydarabokra LSA anyagokhoz és SCO tárgyakhoz**

| Radioaktív tartalom    | Ipari küldeménydarab típus   |                                  |
|------------------------|------------------------------|----------------------------------|
|                        | Kizárólagos használat esetén | Nem kizárólagos használat esetén |
| <i>LSA-I</i>           |                              |                                  |
| Szilárd <sup>a)</sup>  | IP-1 típus                   | IP-1 típus                       |
| Folyékony              | IP-1 típus                   | IP-2 típus                       |
| <i>LSA-II</i>          |                              |                                  |
| Szilárd                | IP-2 típus                   | IP-2 típus                       |
| Folyékony és gáz alakú | IP-2 típus                   | IP-3 típus                       |

| Radioaktív tartalom | Ipari küldeménydarab típus |            |
|---------------------|----------------------------|------------|
| LSA-III             | IP-2 típus                 | IP-3 típus |
| SCO-I <sup>a)</sup> | IP-1 típus                 | IP-1 típus |
| SCO-II              | IP-2 típus                 | IP-2 típus |

a) A 4.1.9.2.3 pontban meghatározott körülmények között az LSA-I anyagok és SCO-I tárgyak csomagolatlanul szállíthatók.

#### 4.1.9.3 Hasadóanyagot tartalmazó küldeménydarabok

A 2.2.7.2.3.5 pont alapján nem valamely hasadóanyag tételhez sorolt küldeménydarabok kivételével a hasadóanyagot tartalmazó küldeménydarabok nem tartalmazhatnak:

- a) a küldeménydarab-mintára engedélyezettnél nagyobb tömegű hasadóanyagot;
- b) olyan radionuklidokat vagy hasadóanyagokat, amelyek a küldeménydarab-mintára nincsenek engedélyezve; ill.
- c) olyan anyagokat, amelyek alakjukban, fizikai vagy kémiai állapotukban vagy térbeli elrendeződésükben a küldeménydarab-minta engedélyezett tartalmától eltérnek,

amint az a küldeménydarab-minta engedélyben meg van határozva.

#### 4.1.10 Különleges előírások az egybecsomagolásra

**4.1.10.1** Amennyiben e fejezet előírásai szerint az egybecsomagolás engedélyezett, a különféle veszélyes áruk vagy veszélyes áruk és más áruk a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolhatók, amennyiben nem reagálnak egymással veszélyesen és e fejezet minden más vonatkozó előírását kielégítik.

**Megjegyzés: 1.** Lásd még a 4.1.1.5 és a 4.1.1.6 bekezdést is.

**2.** A 7 osztály anyagaira lásd a 4.1.9 szakaszt.

**4.1.10.2** A csak az 1 osztály anyagait vagy csak a 7 osztály anyagait tartalmazó küldeménydarabok kivételével, ha külső csomagolásként papírlemez ládát vagy faládát használnak, a különböző árukat egybecsomagolva tartalmazó küldeménydarabok tömege nem haladhatja meg a 100 kg-ot.

**4.1.10.3** Az azonos osztályba és azonos osztályozási kód alá tartozó anyagok egybecsomagolhatók, kivéve, ha a 4.1.10.4 bekezdés vonatkozó különleges előírásában másként szerepel.

**4.1.10.4** Amennyiben a 3.2 fejezet „A” táblázat 9b oszlopában egy adott tételnél fel van tüntetve, az adott tétel alá tartozó áruk más árukkal ugyanazon küldeménydarabba történő egybecsomagolására a következő különleges előírásokat kell alkalmazni.

**MP1** Csak ugyanolyan típusú és összeférhetőségi csoportú áruval csomagolható egybe.

**MP2** Más árukkal nem csomagolható egybe.

**MP3** Az UN 1873 és az UN 1802 anyagainak egybecsomagolása engedélyezett.

**MP4** Nem csomagolható egybe sem más osztályok áruival, sem pedig olyan árukkal, melyek nem esnek az ADR hatálya alá. Azonban, ha ez a szerves peroxid valamely 3 osztály anyagához térhálósító vagy keményítő rendszerként szolgál, az egybecsomagolás a 3 osztály ezen anyagával engedélyezett.

**MP5** Az UN 2814 és az UN 2900 anyaga a P620 csomagolási utasításnak megfelelő kombinált csomagolásba egybecsomagolható. Nem csomagolhatók viszont egybe más árukkal, kivéve a P650 csomagolási utasításnak megfelelően csomagolt UN 3373 „B” kategóriájú biológiai anyagot és a hűtőközegként hozzáadott anyagokat, pl. jeget, szárazjeget vagy cseppfolyósított nitrogént.

**MP6** Nem csomagolható egybe más árukkal. Ez nem vonatkozik a hűtőközegként hozzáadott anyagokra, pl. jégre, szárazjégre vagy cseppfolyósított nitrogénre.

**MP7** Belső csomagolásonként legfeljebb 5 liter mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP8** Belső csomagolásonként legfeljebb 3 liter mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal

amennyiben nem reagálnak egymással veszélyesen.

**MP9** A 6.1.4.21 bekezdés szerinti kombinált csomagolás külső csomagolásába egybecsomagolható

- a 2 osztály más áruival;
- más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP10** Belső csomagolásonként legfeljebb 5 kg mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP11** Belső csomagolásonként legfeljebb 5 kg mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival (az 5.1 osztály I vagy II csomagolási csoportjának anyagainak kivételével), ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP12** Belső csomagolásonként legfeljebb 5 kg mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival (az 5.1 osztály I vagy II csomagolási csoportjának anyagainak kivételével), ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

A küldeménydarabok nem lehetnek 45 kg-nál nehezebbek. Azonban, ha a külső csomagolásként papírlemez ládát használnak, egy küldeménydarab nem lehet 27

kg-nál nehezebb.

**MP13** Belső csomagolásonként és küldeménydarabonként legfeljebb 3 kg mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP14** Belső csomagolásonként legfeljebb 6 kg mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP15** Belső csomagolásonként legfeljebb 3 liter mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP16** Belső csomagolásonként és küldeménydarabonként legfeljebb 3 liter mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP17** Belső csomagolásonként legfeljebb 0,5 liter és küldeménydarabonként legfeljebb 1 liter mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- a 7 osztály kivételével más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP18** Belső csomagolásonként legfeljebb 0,5 kg és küldeménydarabonként legfeljebb 1 kg mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- a 7 osztály kivételével más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP19** Belső csomagolásonként legfeljebb 5 liter mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- az ADR hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP20** Egybecsomagolható az azonos UN szám alá tartozó anyagokkal.

Nem csomagolható egybe az 1 osztály más UN szám alá tartozó anyagaival és tárgyaival, kivéve, ha az MP24 különleges előírás megengedi.

Nem csomagolható egybe más osztályok áruival és az ADR hatálya alá nem tartozó árukkal.

**MP21** Egybecsomagolható az azonos UN szám alá tartozó tárgyakkal.

Nem csomagolható egybe az 1 osztály más UN szám alá tartozó áruival, kivéve

- a) saját gyújtószerkezetüket, amennyiben
  - i) a gyújtószerkezet normális szállítási feltételek mellett nem lép működésbe; vagy
  - ii) a gyújtószerkezet legalább két olyan hatékony biztonsági szerkezettel van ellátva, amely a gyújtószerkezet nem szándékos működésbe lépése esetén a tárgy robbanását megakadályozza; vagy
  - iii) gyújtószerkezet, amely nincs felszerelve legalább két hatékony biztonsági szerkezettel (pl. a B összeférhetőségi csoportba sorolt gyújtószerkezet), de a származási ország<sup>4)</sup> illetékes hatóságának véleménye szerint a gyújtószerkezet nem szándékos működésbe lépése normális szállítási körülmények között nem vonja maga után a tárgy felrobbanását;
- b) a C, a D és az E összeférhetőségi csoport tárgyait.

Nem szabad egybecsomagolni más osztályok áruival és olyan árukkal, amelyek nem tartoznak az ADR előírásainak hatálya alá.

Ha az árukat e különleges előírás szerint egybecsomagolják, tekintetbe kell venni a küldeménydarabok besorolásának esetleges módosítását a 2.2.1.1 bekezdés alapján. Az áru bejegyzésére a fuvarokmányba lásd az 5.4.1.2.1 b) pontot.

**MP22** Egybecsomagolható az azonos UN szám alá tartozó tárgyakkal.

Nem csomagolható egybe az 1 osztály más UN szám alá tartozó tárgyaival, kivéve

- a) a saját gyújtószerkezetüket, feltéve, hogy a gyújtószerkezet normális szállítási feltételek mellett nem lép működésbe;
- b) a C, a D és az E összeférhetőségi csoport tárgyait;
- c) ha az MP24 különleges előírás megengedi.

Nem csomagolható egybe más osztályok áruival és olyan árukkal, amelyek nem

4) Ha a származási ország nem valamely ADR Szerződő Fél, akkor a jóváhagyást a küldeménnyel érintett első ADR Szerződő Fél illetékes hatóságának kell elismernie.

tartoznak az ADR előírásainak hatálya alá.

Ha az árukat e különleges előírás szerint egybecsomagolják, tekintetbe kell venni a küldeménydarabok besorolásának esetleges módosítását a 2.2.1.1 bekezdés alapján. Az áru bejegyzésére a fuvarokmányba lásd az 5.4.1.2.1 b) pontot.

**MP23** Egybecsomagolható az azonos UN szám alá tartozó tárgyakkal.

Nem csomagolható egybe az 1 osztály más UN szám alá tartozó tárgyaival, kivéve

- a) a saját gyújtószerkezetüket, feltéve, hogy a gyújtószerkezet normális szállítási feltételek mellett nem lép működésbe;
- b) ha az MP24 különleges előírás megengedi.

Nem csomagolható egybe más osztályok áruival és olyan árukkal, amelyek nem tartoznak az ADR előírásainak hatálya alá.

Ha az árukat e különleges előírás szerint egybecsomagolják, tekintetbe kell venni a küldeménydarabok besorolásának esetleges módosítását a 2.2.1.1 bekezdés alapján. Az áru bejegyzésére a fuvarokmányba lásd az 5.4.1.2.1 b) pontot.

**MP24** Egybecsomagolható a következő táblázatban található UN számok alá tartozó árukkal a következő feltételekkel:

- amennyiben a táblázatban A betű van feltüntetve, az árukat az ezen UN számok alá tartozó árukkal mindenféle tömegkorlátozás nélkül egy küldeménydarabbá szabad egyesíteni;
- amennyiben a táblázatban B betű van feltüntetve, az árukat az ezen UN számok alá tartozó árukkal legfeljebb 50 kg robbanóanyag össztömegig szabad egyesíteni.

Ha az árukat e különleges előírás szerint egybecsomagolják, tekintetbe kell venni a küldeménydarabok besorolásának esetleges módosítását a 2.2.1.1 bekezdés alapján. Az áru bejegyzésére a fuvarokmányba lásd az 5.4.1.2.1 b) pontot.



**4.2 FEJEZET****A MOBIL TARTÁNYOK ÉS AZ UN TÖBBELEMES  
GÁZKONTÉNEREK (UN MEG-KONTÉNEREK) HASZNÁLATA**

**Megjegyzés: 1.** A fémből gyártott, rögzített tartányok (tartányjárművek), leszerelhető tartányok, tankkonténerek és tartányos cserefelépítmények, továbbá battériás járművek és többelemes gázkonténerek (MEG-konténerek) használatára lásd a 4.3 fejezetet; a szálvázaz műanyag tartányok használatára lásd a 4.4 fejezetet; a hulladékok szállítására szolgáló, vákuummal üzemelő tartányok használatára lásd a 4.5 fejezetet.

**2.** Az ADR szerinti szállításra felhasználhatók azok a 6.7 fejezet szerinti jelöléssel ellátott mobil tartányok és UN MEG-konténerek is, amelyeket olyan országban hagytak jóvá, amely nem Szerződő Fél.

**4.2.1**      **Általános előírások a mobil tartányok használatára az 1 és a 3 – 9 osztály anyagainak szállításához**

**4.2.1.1**      Ez a szakasz az 1, 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 7, 8 és 9 osztályba tartozó veszélyes áruk szállítására szolgáló mobil tartányok használatára vonatkozó általános előírásokat tartalmazza. Ezen általános előírásokon kívül a mobil tartányoknak a tervezés, gyártás és vizsgálat tekintetében meg kell felelniük a 6.7.2 szakaszban részletezett előírásoknak. Az anyagokat olyan mobil tartányban kell szállítani, amely megfelel a 3.2 fejezet „A” táblázat 10 oszlopában hivatkozott és a 4.2.5.2.6 pontban meghatározott (T1 – T23) mobil tartány utasításnak, és a 3.2 fejezet „A” táblázat 11 oszlopában az egyes anyagokhoz hozzárendelt és a 4.2.5.3 bekezdésben meghatározott mobil tartány különleges előírásoknak.

**4.2.1.2**      A mobil tartányokat alkalmas módon védeni kell a szállítás során a hosszirányú és keresztirányú lökésekből vagy felborulásból adódóan a tartányt, ill. üzemi szerelvényeit érő sérülésekkel szemben. Amennyiben a tartány és az üzemi szerelvények úgy vannak kialakítva, hogy a lökéseknek és a felborulásnak ellenállnak, akkor nem szükséges ily módon védeni. A tartányok védelmének példái a 6.7.2.17.5 pontban találhatók.

**4.2.1.3**      Bizonyos anyagok vegyileg nem állandóak. Ezek csak akkor fogadhatók el szállításra, ha megtették a szükséges intézkedéseket a szállítás alatti veszélyes bomlásuk, átalakulásuk vagy polimerizálódásuk megakadályozására. E célból különösen arról kell gondoskodni, hogy a mobil tartányok ne tartalmazzanak olyan anyagokat, amelyek az ilyen reakciókat elősegíthetik.

**4.2.1.4**      A tartány külső falának (kivéve a nyílásokat és zárószerveket) vagy a hőszigetelésének hőmérséklete a szállítás során nem emelkedhet 70 °C fölé. Szükség esetén a tartánynak hőszigeteltnek kell lennie.

**4.2.1.5**      Az üres, tisztítatlan és nem gáztalanított mobil tartányoknak ugyanolyan előírásoknak kell megfelelniük, mint az előzőleg szállított anyaggal megtöltött mobil tartányoknak.

**4.2.1.6**      Különböző anyagok nem szállíthatók szomszédos tartánykamrákban, ha azok veszélyesen reagálhatnak egymással (lásd a „veszélyes reakció” fogalmát az 1.2.1 szakaszban).

**4.2.1.7**      Az illetékes hatóság vagy az általa felhatalmazott szerv által a mobil tartányra kiadott gyártási típus jóváhagyási bizonyítványt, vizsgálati jegyzőkönyvet és az üzembe helyezés előtti és időszakos vizsgálatok eredményeit tartalmazó bizonyítványokat mind ennek a hatóságnak vagy szervnek, mind a tulajdonosnak meg kell őriznie. A tulajdonosnak ezeket az okmányokat bármely illetékes hatóság kérésére be kell tudni mutatnia.

**4.2.1.8**      Ha a szállított anyag(ok) neve nincs feltüntetve a 6.7.2.20.2 pontban meghatározott fémtáblán, a 6.7.2.18.1 pontban előírt bizonyítvány másolatát az illetékes hatóság vagy általa felhatalmazott szerv kérésére a feladó, a címzett vagy az ügynöke útján késelem nélkül be kell mutatni.



**4.2.1.9 Töltési fok**

**4.2.1.9.1** Töltés előtt a feladónak biztosítania kell, hogy megfelelő mobil tartányt használjanak, és hogy a mobil tartányba ne töltsenek olyan anyagot, amely a tartány, a tömítések, az üzemi szerelvények vagy a védőbevonatok anyagával érintkezve veszélyesen reagálhat, veszélyes anyagokat képezhet vagy anyagukat jelentősen gyengítheti. A feladónak szükség esetén konzultálnia kell az anyag gyártójával és az illetékes hatósággal, hogy tájékozódjon az anyagnak a mobil tartány anyagával való összeférhetőségéről.

**4.2.1.9.1.1** A mobil tartányokat nem szabad a 4.2.1.9.2 – 4.2.1.9.6 pontban meghatározott mértéket meghaladóan megtölteni. A 4.2.1.9.2, a 4.2.1.9.3 vagy a 4.2.1.9.5.1 pont érvényességét az egyes anyagokra a 4.2.5.2.6 pontban, ill. a 4.2.5.3 bekezdésben és a 3.2 fejezet „A” táblázat 10, ill. 11 oszlopában található mobil tartány utasítások és különleges előírások határozzák meg.

**4.2.1.9.2** A legnagyobb töltési fok (%-ban) általános esetre a következő képlettel határozható meg:

$$\text{a töltési fok} = \frac{97}{1 + \alpha(t_r - t_f)}.$$

**4.2.1.9.3** A 6.1 és a 8 osztály I vagy II csomagolási csoportba tartozó folyékony anyagai esetén, és az olyan folyékony anyagok esetén, amelyek telített gőznyomása 65 °C-on meghaladja a 175 kPa-t (1,75 bar-t), a legnagyobb töltési fokot (%-ban) a következő képlettel kell meghatározni:

$$\text{a töltési fok} = \frac{95}{1 + \alpha(t_r - t_f)}.$$

**4.2.1.9.4** Ezekben a képletekben  $\alpha$  a folyékony anyag átlagos köbös hőtágulási együtthatóját jelenti a folyékony anyag töltés alatti átlagos hőmérséklete ( $t_f$ ) és az anyag szállítás alatti legnagyobb átlagos hőmérséklete ( $t_r$ ) között (mindkettő °C-ban). Azoknál a folyékony anyagoknál, amelyeket környezeti hőmérsékleten szállítanak,  $\alpha$  a következő képlettel számítható ki:

$$\alpha = \frac{d_{15} - d_{50}}{35d_{50}},$$

ahol  $d_{15}$  és  $d_{50}$  a folyékony anyag sűrűsége 15 °C-on, ill. 50 °C-on.

**4.2.1.9.4.1** A folyékony anyag legnagyobb átlagos hőmérsékletét ( $t_r$ ) 50 °C-nak kell venni, kivéve az olyan mérsékelt vagy szélsőséges éghajlati körülmények közötti szállításokat, amelyekre az érintett illetékes hatóságok az adott esetnek megfelelően alacsonyabb hőmérsékletet is elfogadhatnak, vagy magasabb hőmérsékletet írhatnak elő.

**4.2.1.9.5** A 4.2.1.9.2 – 4.2.1.9.4.1 pont előírásait nem kell alkalmazni az olyan mobil tartányokra, amelyek tartalmát a szállítás alatt 50 °C felett tartják (pl. fűtőberendezéssel). A fűtőberendezéssel ellátott mobil tartányokat el kell látni hőmérséklet-szabályozóval annak biztosítására, hogy a tartány a szállítás időtartama alatt végig legfeljebb 95%-ig legyen megtöltve.

**4.2.1.9.5.1** Az olvadáspontjuk feletti hőmérsékleten szállított szilárd anyagok és a magas hőmérsékletű folyékony anyagok esetén a legnagyobb töltési fokot (%-ban) a következő képlettel kell meghatározni:

$$\text{a töltési fok} = 95 \frac{d_r}{d_f},$$

ahol  $d_f$  és  $d_r$  a folyékony anyag sűrűsége a folyékony anyag töltés alatti átlagos hőmérsékletén, illetve szállítás alatti legnagyobb átlagos hőmérsékletén.

**4.2.1.9.6** A mobil tartány nem adható át szállításra:

a) ha a töltési fok a 2680 mm<sup>2</sup>/s-nál kisebb viszkozitású folyékony anyagok esetén 20 °C-

on, ill. melegített anyagoknál a legmagasabb szállítási hőmérsékleten nagyobb, mint 20%, de legfeljebb 80%, kivéve, ha a mobil tartány válaszfalakkal vagy hullámtörő lemezekkel legfeljebb 7500 liter befogadóképességű rekeszekre van osztva;

- b) ha az előzőleg szállított áru maradéka a tartány külsejére vagy az üzemi szerelvényekre tapadt;
- c) ha szivárog vagy olyan mértékben sérült, hogy ez befolyásolhatja a mobil tartány vagy emelő- vagy rögzítőszerkezetének épségét; és
- d) amíg az üzemi szerelvényeket meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak.

**4.2.1.9.7** A mobil tartány emelővilla zsebeinek megtöltött tartánynál zárva kell lenniük. Ez az előírás nem vonatkozik azokra a mobil tartányokra, amelyeknek emelővilla zsebeit a 6.7.2.17.4 pont szerint nem kell zárószerkezettel ellátni.

**4.2.1.10** *Kiegészítő előírások a 3 osztály anyagainak mobil tartányban történő szállítására*

**4.2.1.10.1** A gyúlékony folyékony anyagok szállítására szánt minden mobil tartánynak zártnak kell lennie és a 6.7.2.8 – 6.7.2.15 bekezdés szerinti nyomáscsökkentő szerkezetekkel kell rendelkeznie.

**4.2.1.10.1.1** A csak szárazföldi használatra szánt mobil tartányoknál nyitott szellőző-berendezések is használhatók, ha a 4.3 fejezet megengedi.

**4.2.1.11** *Kiegészítő előírások a 4.1 osztály anyagainak (az önreaktív anyagok kivételével), a 4.2 és a 4.3 osztály anyagainak mobil tartányban történő szállítására*

(fenntartva)

*Megjegyzés:* A 4.1 osztály önreaktív anyagaira lásd a 4.2.1.13.1 pontot.

**4.2.1.12** *Kiegészítő előírások az 5.1 osztály anyagainak mobil tartányban történő szállítására*

(fenntartva)

**4.2.1.13** *Kiegészítő előírások az 5.2 osztály anyagainak és a 4.1 osztály önreaktív anyagainak mobil tartányban történő szállítására*

**4.2.1.13.1** Minden anyagnak bevizsgálnak kell lenni és a vizsgálati jegyzőkönyvet jóváhagyásra be kell nyújtani a származási ország illetékes hatóságához. Erről értesítést kell küldeni a rendeltetési ország illetékes hatóságához. Az értesítésnek tartalmaznia kell a vonatkozó szállítási feltételeket és a jegyzőkönyvet a vizsgálati eredményekkel. A végrehajtott vizsgálatoknak a következőket kell lehetővé tenniük:

- a) annak bizonyítását, hogy a szállított anyag összeférhető minden olyan anyaggal, amellyel normál esetben a szállítás során érintkezésbe kerül;
- b) hogy megfelelő adatok álljanak rendelkezésre ahhoz, hogy a mobil tartány szerkezeti jellemzőit figyelembe véve a nyomáscsökkentő szelepek és vészlefúvó szerkezetek tervezhetők legyenek.

Az anyag biztonságos szállításához szükséges mindenféle különleges előírást egyértelműen be kell írni a jegyzőkönyvbe.

**4.2.1.13.2** Az 55 °C vagy annál magasabb öngyorsuló bomlási hőmérséklettel (ÖBH) rendelkező F típusú szerves peroxidok és F típusú önreaktív anyagok szállítására használt mobil tartányokra a következő követelményeket kell alkalmazni. Ellentmondás esetén ezeket az előírásokat kell érvényesíteni a 6.7.2 szakaszban előírtakkal szemben. A figyelembe veendő vészhelyzetek az anyag öngyorsuló bomlása és a 4.2.1.13.8 pontban leírt eset, amikor a láng a tartányt teljesen körülveszi.

- 4.2.1.13.3** A kiegészítő előírásokat az 55 °C-nál alacsonyabb ÖBH-val rendelkező szerves peroxidok és önreaktív anyagok mobil tartányban történő szállításához a származási ország illetékes hatóságának kell meghatározni. Erről értesítést kell küldeni a rendeltetési ország illetékes hatóságához.
- 4.2.1.13.4** A mobil tartányt legalább 0,4 MPa (4 bar) próbanyomásra kell méretezni.
- 4.2.1.13.5** A mobil tartányt hőmérséklet-érzékelő szerkezetekkel kell ellátni.
- 4.2.1.13.6** A mobil tartányt nyomáscsökkentő szelepekkel és vészlefüvő szerkezetekkel kell ellátni. Vákuumszelepek is használhatók. A nyomáscsökkentő szelepeknek az anyag tulajdonságai és a mobil tartány szerkezeti jellemzői alapján meghatározott nyomáson kell működésbe lépniük. A tartányon olvadóbetétek nem engedélyezettek.
- 4.2.1.13.7** A nyomáscsökkentő szerkezeteknek rugóterhelésű szelepekből kell állniuk, amelyeket úgy kell beállítani, hogy megakadályozzák a tartányban az 50 °C hőmérsékleten felszabaduló bomlástermékek és gőzök jelentős felhalmozódását. A nyomáscsökkentő szelepek áteresztési keresztmetszetét és nyitónyomását a 4.2.1.13.1 pontban előírt vizsgálatok eredményei alapján kell meghatározni. A nyitónyomás azonban semmilyen esetben sem lehet olyan, hogy a mobil tartány felborulása esetén a szelepe(ke)n keresztül folyadék távozhasson.
- 4.2.1.13.8** A vészlefüvő szerkezetek rugóterhelésűek vagy hasadótárcsás típusúak vagy a kettő kombinációi egyaránt lehetnek, és lehetővé kell tenniük minden bomlástermék és gőz eltávolítását, amely az öngyorsuló bomlás alatt fejlődik, vagy akkor, ha legalább egy óráig olyan láng veszi körül, amely a következő képlettel jellemezhető:

$$q = 70961 \cdot F \cdot A^{0,82},$$

ahol:

$q$  = hőfelvétel [W]

$A$  = nedvesített felület [m<sup>2</sup>]

$F$  = szigetelési együttható [-]

$F = 1$  nem szigetelt tartány esetén, vagy

$$F = \frac{U(923 - T)}{47032} \text{ szigetelt tartány esetén}$$

ahol:

$U$  =  $K/L$  = a szigetelő réteg hőátadási együtthatója [W·m<sup>-2</sup>·K<sup>-1</sup>]

$K$  = a szigetelő réteg hővezetési együtthatója [W·m<sup>-1</sup>·K<sup>-1</sup>]

$L$  = a szigetelőréteg vastagsága [m]

$T$  = az anyag hőmérséklete lefűvaskor [K]

A vészlefüvő szerkezet(ek) nyitónyomásának nagyobbnak kell lennie, mint a 4.2.1.13.7 pontban meghatározott nyomás, és azt a 4.2.1.13.1 pontban meghatározott vizsgálatok eredményei alapján kell meghatározni. A vészlefüvő szerkezeteket úgy kell méretezni, hogy a tartányban a legnagyobb nyomás soha ne haladja meg a tartány próbanyomását.

**Megjegyzés:** A vészlefüvő szerkezet méretezésére a „Vizsgálatok és kritériumok kézikönyv” 5. Függelékében található példa.

- 4.2.1.13.9** Szigeteléssel ellátott mobil tartányoknál a vészlefüvő szerkezet(ek) teljesítményét és beállítását a felület 1%-át kitevő szigetelés veszteséget feltételezve kell meghatározni.
- 4.2.1.13.10** A vákuumszelepeket és a rugóterhelésű szelepeket lángzárral kell ellátni. A lefűvási teljesítmény lángzár által okozott csökkenését figyelembe kell venni.

- 4.2.1.13.11** Az üzemi szerelvényeket, pl. szelepeket és külső csövezetéseket úgy kell kialakítani, hogy a mobil tartány megtöltése után ne maradjon bennük anyag.
- 4.2.1.13.12** A mobil tartányokat szigeteléssel vagy a napsugárzás elleni védőlemezzel lehet ellátni. Ha a mobil tartányban levő anyag ÖBH értéke 55 °C vagy annál alacsonyabb, vagy ha a mobil tartány alumíniumból készült, akkor a mobil tartányt teljes szigeteléssel kell ellátni. A külső felületet fehérre kell festeni vagy világos színű, metál fényezésűnek kell lennie.
- 4.2.1.13.13** A töltési fok 15 °C-on nem haladhatja meg a 90%-ot.
- 4.2.1.13.14** A 6.7.2.20.2 pontban előírt jelölésnek tartalmaznia kell az UN számot és a műszaki megnevezést az anyag engedélyezett koncentrációjával együtt.
- 4.2.1.13.15** Csak a 4.2.5.2.6 pontban a T23 mobil tartány utasításban külön felsorolt szerves peroxidok és önreaktív anyagok szállíthatók mobil tartányban.
- 4.2.1.14** *Kiegészítő előírások a 6.1 osztály anyagainak mobil tartányban történő szállítására*  
(fenntartva)
- 4.2.1.15** *Kiegészítő előírások a 6.2 osztály anyagainak mobil tartányban történő szállítására*  
(fenntartva)
- 4.2.1.16** *Kiegészítő előírások a 7 osztály anyagainak mobil tartányban történő szállítására*
- 4.2.1.16.1** A radioaktív anyagok szállítására használt mobil tartányokat tilos más áruk szállítására használni.
- 4.2.1.16.2** A mobil tartányok töltési foka nem haladhatja meg a 90%-ot, illetve az illetékes hatóság által engedélyezett más értéket.
- 4.2.1.17** *Kiegészítő előírások a 8 osztály anyagainak mobil tartányban történő szállítására*
- 4.2.1.17.1** A 8 osztály anyagainak szállításához használt mobil tartányok nyomáscsökkentő szerkezeteit legalább évente felül kell vizsgálni.
- 4.2.1.18** *Kiegészítő előírások a 9 osztály anyagainak mobil tartányokban történő szállítására*  
(fenntartva)
- 4.2.1.19** *Kiegészítő előírások a szilárd anyagok olvadáspontjuk feletti hőmérsékleten történő szállítására*
- 4.2.1.19.1** Azok az olvadáspontjuk feletti hőmérsékleten szállított (vagy szállításra feladott) szilárd anyagok, amelyekhez a 3.2 fejezet „A” táblázat 10 oszlopában nincs mobil tartány utasítás hozzárendelve, ill. a hozzárendelt mobil tartány utasítás nem vonatkozik az olvadáspont feletti hőmérsékleten történő szállításra, csak akkor szállíthatók mobil tartányban, ha a szilárd anyag a 4.1, 4.2, 4.3, 5.1, 6.1, 8 vagy 9 osztályba tartozik, a II vagy III csomagolási csoporthoz van hozzárendelve és a 6.1, ill. a 8 osztály veszélyén kívül más járulékos veszélye nincs.
- 4.2.1.19.2** Hacsak a 3.2 fejezet „A” táblázatában nincs másként előírva, a szilárd anyagok olvadáspontjuk feletti hőmérsékleten történő szállítására használt mobil tartányoknak a III csomagolási csoportba tartozó szilárd anyagok esetén a T4 mobil tartány utasítás előírásainak, ill. a II csomagolási csoportba tartozó szilárd anyagok esetén a T7 mobil tartány utasítás előírásainak kell megfelelniük. A 4.2.5.2.5 pont értelmében azonos vagy nagyobb biztonsági szintet kielégítő, más mobil tartány is választható. A legnagyobb töltési fokot (%-ban) a 4.2.1.9.5 pont szerint kell meghatározni (TP3 különleges előírás).

- 4.2.2** **Általános előírások a mobil tartányok használatára a nem mélyhűtött, cseppfolyósított gázok szállításához**
- 4.2.2.1** Ez a szakasz azokat az általános előírásokat tartalmazza, amelyeket a mobil tartányok nem mélyhűtött, cseppfolyósított gázok szállításához történő használatánál kell alkalmazni.
- 4.2.2.2** A mobil tartányoknak a 6.7.3 szakaszban részletezett tervezési, gyártási és vizsgálati követelményeknek kell megfelelniük. A nem mélyhűtött, cseppfolyósított gázokat a 4.2.5.2.6 pontban található T50 mobil tartány utasításnak és a 3.2 fejezet „A” táblázat 11 oszlopában az adott gázra vonatkozó, a 4.2.5.3 bekezdésben található mobil tartány különleges előírásoknak megfelelő mobil tartányokban kell szállítani.
- 4.2.2.3** A mobil tartányokat alkalmas módon védeni kell a szállítás során a hosszirányú és keresztirányú lökésekkel vagy felborulásból adódóan a tartányt, ill. üzemi szerelvényeit érő sérülésekkel szemben. Amennyiben a tartány és az üzemi szerelvények úgy vannak kialakítva, hogy a lökéseknek és a felborulásnak ellenállnak, akkor nem szükséges ily módon védeni. A tartányok védelmének példái a 6.7.3.13.5 pontban találhatók.
- 4.2.2.4** Bizonyos nem mélyhűtött, cseppfolyósított gázok vegyileg nem állandóak. Ezek csak akkor fogadhatók el szállításra, ha megtették a szükséges intézkedéseket a szállítás alatti veszélyes bomlásuk, átalakulásuk vagy polimerizálódásuk megakadályozására. E célból különösen arról kell gondoskodni, hogy a mobil tartányok ne tartalmazzanak olyan nem mélyhűtött, cseppfolyósított gázokat, amelyek az ilyen reakciókat elősegíthetik.
- 4.2.2.5** Ha a szállított gáz(ok) neve nincs feltüntetve a 6.7.3.16.2 pontban meghatározott fémtáblán, a 6.7.3.14.1 pontban előírt bizonyítvány másolatát az illetékes hatóság vagy általa felhatalmazott szerv kérésére a feladó, a címzett vagy az ügynöke útján késedelem nélkül be kell mutatni.
- 4.2.2.6** Az üres, tisztítatlan és nem gáztalanított mobil tartányoknak ugyanolyan előírásoknak kell megfelelniük, mint az előzőleg szállított nem mélyhűtött, cseppfolyósított gázzal megtöltött mobil tartányoknak.
- 4.2.2.7** *Töltés*
- 4.2.2.7.1** Töltés előtt a mobil tartányt ellenőrizni kell annak biztosítására, hogy a szállítandó nem mélyhűtött, cseppfolyósított gázra engedélyezett legyen és nem töltenek bele olyan nem mélyhűtött, cseppfolyósított gázt, amely a tartány, a tömítések, az üzemi szerelvények vagy a védőbevonatok anyagával érintkezve veszélyesen reagálhat, veszélyes anyagokat képezhet vagy anyagukat jelentősen gyengítheti. Töltés alatt a nem mélyhűtött, cseppfolyósított gáz hőmérsékletének a méretezési hőmérséklet tartomány határain belül kell lennie.
- 4.2.2.7.2** A nem mélyhűtött, cseppfolyósított gáz úrtartalom literenkénti legnagyobb mennyisége (kg/l) a tartányban nem lehet nagyobb, mint a nem mélyhűtött, cseppfolyósított gáz 50 °C-on fennálló sűrűségének 0,95-szorososa. Ezen kívül a tartány 60 °C-on nem lehet a folyadékkal teljesen tele.
- 4.2.2.7.3** A mobil tartányok nem tölthetők meg az engedélyezett legnagyobb bruttó tömeget és az egyes szállítandó gázokra engedélyezett legnagyobb töltőtömeget meghaladó mértékben.
- 4.2.2.8** A mobil tartány nem adható át szállításra:
- a) ha a belsejében levő folyadékmentes tér akkora, hogy a mobil tartányon belül a folyadék hullámozása megengedhetetlen hidraulikus erőket keltene;
  - b) ha szivárogoz;
  - c) ha olyan mértékben sérült, hogy ez befolyásolhatja a mobil tartány vagy emelő- vagy rögzítőszerkezeteinek épségét; és
  - d) amíg az üzemi szerelvényeket meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak.
- 4.2.2.9** A mobil tartány emelővilla zsebeinek megtöltött tartánynál zárva kell lenniük. Ez az előírás nem vonatkozik azokra a mobil tartányokra, amelyeknek emelővilla zsebeit a 6.7.3.13.4 pont

szerint nem kell zárószerkezettel ellátni.

**4.2.3      Általános előírások a mobil tartányok használatára a mélyhűtött, cseppfolyósított gázok szállításához**

**4.2.3.1**      Ez a szakasz azokat az általános előírásokat tartalmazza, amelyeket a mobil tartányok mélyhűtött, cseppfolyósított gázok szállításához történő használatánál kell alkalmazni.

**4.2.3.2**      A mobil tartányoknak a 6.7.4 szakaszban részletezett tervezési, gyártási és vizsgálati követelményeknek kell megfelelniük. A mélyhűtött, cseppfolyósított gázokat a 4.2.5.2.6 pontban található T75 mobil tartány utasításának és a 3.2 fejezet „A” táblázat 11 oszlopában az adott anyagra vonatkozó, a 4.2.5.3 bekezdésben található mobil tartány különleges előírásoknak megfelelő mobil tartányokban kell szállítani.

**4.2.3.3**      A mobil tartányokat alkalmas módon védeni kell a szállítás során a hosszirányú és keresztirányú lökésekből vagy felborulásból adódóan a tartányt, ill. üzemi szerelvényeit érő sérülésekkel szemben. Amennyiben a tartány és az üzemi szerelvények úgy vannak kialakítva, hogy a lökéseknek és a felborulásnak ellenállnak, akkor nem szükséges ily módon védeni. A tartányok védelmének példái a 6.7.4.12.5 pontban találhatók.

**4.2.3.4**      Ha a szállított gáz(ok) neve nincs feltüntetve a 6.7.4.15.2 pontban meghatározott fémtáblán, a 6.7.4.13.1 pontban előírt bizonyítvány másolatát az illetékes hatóság vagy általa felhatalmazott szerv kérésére a feladó, a címzett vagy az ügynöke útján késedelem nélkül be kell mutatni.

**4.2.3.5**      Az üres, tisztítatlan és nem gáztalanított mobil tartányoknak ugyanolyan előírásoknak kell megfelelniük, mint az előzőleg szállított mélyhűtött, cseppfolyósított gázzal megtöltött mobil tartányoknak.

**4.2.3.6      Töltés**

**4.2.3.6.1**      Töltés előtt a mobil tartányt ellenőrizni kell annak biztosítására, hogy a szállítandó mélyhűtött, cseppfolyósított gázra engedélyezett legyen és nem töltenek bele olyan mélyhűtött, cseppfolyósított gázt, amely a tartány, a tömítések, az üzemi szerelvények vagy a védőbevonatok anyagával érintkezve veszélyesen reagálhat, veszélyes anyagokat képezhet vagy anyagukat jelentősen gyengítheti. Töltés alatt a mélyhűtött, cseppfolyósított gáz hőmérsékletének a méretezési hőmérséklet tartomány határain belül kell lennie.

**4.2.3.6.2**      A kezdeti töltési fok becsléséhez figyelembe kell venni a tervezett szállításhoz szükséges megtartási időt, beszámítva a lehetséges késéseket. A 4.2.3.6.3 és a 4.2.3.6.4 pontban előírtak kivételével a tartány kezdeti töltési fokának akkorának kell lennie, hogy ha a tartalom – a hélium kivételével – olyan hőmérsékletet érne el, amelyen a gőznyomás egyenlő a megengedett legnagyobb üzemi nyomással, a folyadék által elfoglalt térfogat nem lenne nagyobb 98%-nál.

**4.2.3.6.3**      A hélium szállítására szolgáló tartányokat legfeljebb a nyomáscsökkentő szelep bemenetéig szabad megtölteni.

**4.2.3.6.4**      Az illetékes hatóság nagyobb kezdeti töltési fokot engedélyezhet, amennyiben a szállítás várható időtartama lényegesen rövidebb, mint a megtartási idő.

**4.2.3.7      Tényleges megtartási idő**

**4.2.3.7.1**      A tényleges megtartási időt minden egyes szállításra ki kell számítani az illetékes hatóság által elismert eljárás szerint a következők alapján:

- a) a szállítandó mélyhűtött, cseppfolyósított gázra vonatkozó referencia megtartási idő (lásd a 6.7.4.2.8.1 pontot) (a 6.7.4.15.1 pont szerinti táblán feltüntetve);
- b) a tényleges töltési sűrűség;
- c) a tényleges töltési nyomás;
- d) a nyomáshatároló eszköz(ök) legkisebb nyitónyomása.



- 4.2.3.7.2** A tényleges megtartási időt vagy magán a mobil tartányon vagy a mobil tartányra tartósan rögzített fémtáblán kell feltüntetni a 6.7.4.15.2 pont szerint.
- 4.2.3.8** A mobil tartány nem adható át szállításra:
- a) ha a belsejében levő folyadékmentes tér akkora, hogy a mobil tartányon belül a folyadék hullámozása megengedhetetlen hidraulikus erőket keltene;
  - b) ha szivárog;
  - c) ha olyan mértékben sérült, hogy ez befolyásolhatja a mobil tartány vagy emelő- vagy rögzítő szerkezeteinek épségét;
  - d) amíg az üzemi szerelvényeket meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak;
  - e) amíg a tényleges megtartási időt a szállított mélyhűtött, cseppfolyósított gázra meg nem a határozták a 4.2.3.7 bekezdés szerint, és a mobil tartányt a 6.7.4.15.2 pont szerinti jelöléssel el nem látták; és
  - f) ha a szállítás időtartama, figyelembe véve a lehetséges késéseket is, meghaladja a tényleges megtartási időt.
- 4.2.3.9** A mobil tartány emelővilla zsebeinek megtöltött tartánynál zárva kell lenniük. Ez az előírás nem vonatkozik azokra a mobil tartányokra, amelyeknek emelővilla zsebeit a 6.7.4.12.4 pont szerint nem kell zárószerkezettel ellátni.
- 4.2.4** **Általános előírások az UN többelemes gázkonténerek (UN MEG-konténerek) használatára**
- 4.2.4.1** Ez a szakasz a nem mélyhűtött gázok szállítására szolgáló, a 6.7.5 szakasz szerinti többelemes gázkonténerek (MEG-konténerek) használatára vonatkozó általános előírásokat tartalmazza.
- 4.2.4.2** A MEG-konténereknek a 6.7.5 szakaszban részletezett tervezési, gyártási és vizsgálati követelményeknek kell megfelelniük. A MEG-konténerek elemeit a 4.1.4.1 bekezdés P200 csomagolási utasításában és a 6.2.1.6 bekezdésben található előírások szerint kell időszakos vizsgálatnak alávetni.
- 4.2.4.3** A MEG-konténereket alkalmas módon védeni kell a szállítás során a hosszirányú és keresztirányú lökésekkel vagy felborulásból adódóan az elemeket, ill. üzemi szerelvényeket érő sérülésekkel szemben. Amennyiben az elemek és az üzemi szerelvények úgy vannak kialakítva, hogy a lökéseknek és a felborulásnak ellenállnak, akkor nem szükséges ily módon védeni. Az ilyen védelemre példák a 6.7.5.10.4 pontban találhatók.
- 4.2.4.4** A MEG-konténerek időszakos vizsgálatára vonatkozó előírásokat a 6.7.5.12 bekezdés tartalmazza. A MEG-konténer, ill. elemei az időszakos vizsgálat határideje után nem tölthetők meg, de a MEG-konténer a határidő eltelte után is szállítható.
- 4.2.4.5** **Töltés**
- 4.2.4.5.1** Töltés előtt a MEG-konténert ellenőrizni kell annak biztosítására, hogy a szállítandó gázra engedélyezett legyen és az ADR vonatkozó előírásait betartották.
- 4.2.4.5.2** A MEG-konténer elemeit a 4.1.4.1 bekezdés P200 csomagolási utasításában az adott gázra meghatározott üzemi nyomás, töltési fok és töltési előírások betartásával kell megtölteni. Ha egy MEG-konténert vagy elemei egy csoportját nem elemenként, hanem egységként töltenek meg, akkor semmilyen esetben sem szabad a legkisebb üzemi nyomású elem üzemi nyomása fölé tölteni.
- 4.2.4.5.3** A MEG-konténereket nem szabad a megengedett legnagyobb bruttó tömegüket meghaladó mértékben megtölteni.
- 4.2.4.5.4** A leválasztó szelepeket a töltés után el kell zárni és a szállítás alatt zárva kell maradniuk. Mérgező (a T, TF, TC, TO, TFC és TOC csoportba tartozó) gázok csak olyan MEG-

konténerben szállíthatók, amely elemei leválasztó szeleppel vannak ellátva.

**4.2.4.5.5** A töltőnyílás(oka)t dugóval vagy sapkával kell lezárni. A zárószerkezetek és a szerelvények tömítettségét a töltőnek a töltés után ellenőriznie kell.

**4.2.4.5.6** A MEG-konténer nem adható át töltésre:

- a) ha olyan mértékben sérült, hogy ez befolyásolhatja a nyomástartó tartályok, az üzemi vagy a szerkezeti szerelvények épségét;
- b) amíg a nyomástartó tartályokat, az üzemi és a szerkezeti szerelvényeket meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak; és
- c) ha a tanúsításra, az időszakos vizsgálatra, ill. a töltésre vonatkozó jelölés olvashatatlan.

**4.2.4.6** A megtöltött MEG-konténer nem adható át szállításra:

- a) ha szivárog;
- b) ha olyan mértékben sérült, hogy ez befolyásolhatja a nyomástartó tartályok, az üzemi vagy a szerkezeti szerelvények épségét;
- c) amíg a nyomástartó tartályokat, az üzemi és a szerkezeti szerelvényeket meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak; és
- d) ha a tanúsításra, az időszakos vizsgálatra, ill. a töltésre vonatkozó jelölés olvashatatlan.

**4.2.4.7** Az üres, tisztítatlan és nem gáztalanított MEG-konténernek ugyanazon követelményeknek kell megfelelnie, mint az előzőleg szállított anyaggal megtöltött MEG-konténernek.

## **4.2.5 Mobil tartány utasítások és különleges előírások**

### **4.2.5.1 Általános előírások**

**4.2.5.1.1** Ez a szakasz a mobil tartányban szállítható veszélyes árukhoz tartozó mobil tartány utasításokat és különleges előírásokat tartalmazza. Minden mobil tartány utasítást egy betűből és számokból álló kód jelöl (pl. T1). A mobil tartányban szállítható anyagokhoz az alkalmazandó mobil tartány utasítást a 3.2 fejezet „A” táblázat 10 oszlopa tünteti fel. Ha a 10 oszlopban az adott anyagra nincs mobil tartány utasítás feltüntetve, akkor ez az anyag nem szállítható mobil tartányban, kivéve, ha azt az illetékes hatóság a 6.7.1.3 bekezdés szerint engedélyezte. A mobil tartány különleges előírások a 3.2 fejezet „A” táblázat 11 oszlopában találhatók. Minden mobil tartány különleges előírást egy betűkből és számokból álló kód jelöl (pl. TP1). A mobil tartány különleges előírásokat a 4.2.5.3 bekezdés tartalmazza.

***Megjegyzés:** A MEG-konténerben történő szállításra engedélyezett gázoknál a 3.2 fejezet „A” táblázat 10 oszlopában „(M)” jelölés található.*

### **4.2.5.2 Mobil tartány utasítások**

**4.2.5.2.1** A mobil tartány utasításokat az 1 – 9 osztály veszélyes anyagaihoz kell alkalmazni. A mobil tartány utasítás az adott anyaghoz használható mobil tartányra vonatkozó előírásokról ad tájékoztatást. Ezeket az előírásokat az e fejezet és a 6.7 fejezet általános követelményei kiegészítéseképpen kell betartani.

**4.2.5.2.2** Az 1 és a 3 – 9 osztály anyagaihoz a mobil tartány utasítások tartalmazzák az alkalmazandó legkisebb próbanyomást, a tartány legkisebb falvastagságát (referencia acélra), az alsó nyílásokra és a nyomás csökkentésre vonatkozó követelményeket. A T23 mobil tartány utasításban szerepel azoknak a 4.1 osztályba tartozó önreaktív anyagoknak és az 5.2 osztályba tartozó szerves peroxidoknak a felsorolása, amelyek mobil tartányban szállíthatók.

**4.2.5.2.3** A nem mélyhűtött, cseppfolyósított gázokra a T50 mobil tartány utasítás vonatkozik. A T50 utasítás a mobil tartányban szállítható, nem mélyhűtött, cseppfolyósított gázokra tartalmazza a megengedett legnagyobb üzemi nyomást, a folyadékszint alatt levő nyílásokra és a nyomás csökkentésére vonatkozó követelményeket és a legnagyobb töltési sűrűséget.



**4.2.5.2.4** A mélyhűtött, cseppfolyósított gázokra a T75 mobil tartány utasítás vonatkozik.

**4.2.5.2.5** *A megfelelő mobil tartány utasítás meghatározása*

Egy adott veszélyes árura a 3.2 fejezet „A” táblázat 10 oszlopában előírt mobil tartány utasítás szerintin kívül olyan mobil tartányok is használhatók, amelyeknek a legkisebb próbanyomása nagyobb, vagy nagyobb a falvastagsága, ill. az alsó nyílásokra és a nyomáscsökkentő berendezésekre szigorúbb előírások vonatkoznak. Az adott anyag szállításához megfelelő mobil tartány határozható meg a következők szerint.

| Az előírt mobil tartány utasítás | További engedélyezett mobil tartány utasítások  |
|----------------------------------|---|
| T1                               | T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22 |
| T2                               | T4, T5, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22             |
| T3                               | T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22         |
| T4                               | T5, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22                 |
| T5                               | T10, T14, T19, T20, T22   |
| T6                               | T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22                     |
| T7                               | T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22                         |
| T8                               | T9, T10, T13, T14, T19, T20, T21, T22   |
| T9                               | T10, T13, T14, T19, T20, T21, T22   |
| T10                              | T14, T19, T20, T22  |
| T11                              | T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22   |
| T12                              | T14, T16, T18, T19, T20, T22  |
| T13                              | T14, T19, T20, T21, T22   |
| T14                              | T19, T20, T22   |
| T15                              | T16, T17, T18, T19, T20, T21, T22   |
| T16                              | T18, T19, T20, T22  |
| T17                              | T18, T19, T20, T21, T22   |
| T18                              | T19, T20, T22   |
| T19                              | T20, T22  |
| T20                              | T22   |
| T21                              | T22   |
| T22                              | Nincs   |
| T23                              | Nincs   |

**4.2.5.2.6** *Mobil tartány utasítások*

A mobil tartány utasítások az egyes anyagok szállításához használt mobil tartányra vonatkozó követelményeket határozzák meg. A T1 – T22 mobil tartány utasítás meghatározza az alkalmazandó legkisebb próbanyomást, a legkisebb falvastagságot (referencia acélra mm-ben), a nyomás csökkentésre és az alsó nyílásokra vonatkozó követelményeket.

| T1 – T22   |                                   | MOBIL TARTÁNY UTASÍTÁSOK   |  | T1 – T22   |
|--|-----------------------------------|--|--|--|
| Ezek a mobil tartány utasítások a 3 – 9 osztály folyékony és szilárd anyagaira vonatkoznak.<br>A 4.2.1 szakasz általános előírásait és a 6.7.2 szakasz követelményeit be kell tartani. |                                   |  |  |  |
| Mobil<br>tartány<br>utasítás   | Legkisebb<br>próbanyomás<br>(bar) | Legkisebb<br>falvastagság<br>(referencia acélra<br>mm-ben)<br>(lásd 6.7.2.4) | A nyomás<br>csökkentésre<br>vonatkozó<br>követelmények <sup>a)</sup><br>(lásd 6.7.2.8) | Az alsó nyílásokra<br>vonatkozó<br>követelmények<br>(lásd 6.7.2.6) |
| T1   | 1,5                               | Lásd 6.7.2.4.2   | Normál   | Lásd 6.7.2.6.2   |
| T2   | 1,5                               | Lásd 6.7.2.4.2   | Normál   | Lásd 6.7.2.6.3   |
| T3   | 2,65                              | Lásd 6.7.2.4.2   | Normál   | Lásd 6.7.2.6.2   |
| T4   | 2,65                              | Lásd 6.7.2.4.2   | Normál   | Lásd 6.7.2.6.3   |
| T5   | 2.65                              | Lásd 6.7.2.4.2   | Lásd 6.7.2.8.3   | Nem engedélyezett  |
| T6   | 4                                 | Lásd 6.7.2.4.2   | Normál   | Lásd 6.7.2.6.2   |
| T7   | 4                                 | Lásd 6.7.2.4.2   | Normál   | Lásd 6.7.2.6.3   |
| T8   | 4                                 | Lásd 6.7.2.4.2   | Normál   | Nem engedélyezett  |
| T9   | 4                                 | 6 mm   | Normál   | Nem engedélyezett  |
| T10  | 4                                 | 6 mm   | Lásd 6.7.2.8.3   | Nem engedélyezett  |
| T11  | 6                                 | Lásd 6.7.2.4.2   | Normál   | Lásd 6.7.2.6.3   |
| T12  | 6                                 | Lásd 6.7.2.4.2   | Lásd 6.7.2.8.3   | Lásd 6.7.2.6.3   |
| T13  | 6                                 | 6 mm   | Normál   | Nem engedélyezett  |
| T14  | 6                                 | 6 mm   | Lásd 6.7.2.8.3   | Nem engedélyezett  |
| T15  | 10                                | Lásd 6.7.2.4.2   | Normál   | Lásd 6.7.2.6.3   |
| T16  | 10                                | Lásd 6.7.2.4.2   | Lásd 6.7.2.8.3   | Lásd 6.7.2.6.3   |
| T17  | 10                                | 6 mm   | Normál   | Lásd 6.7.2.6.3   |
| T18  | 10                                | 6 mm   | Lásd 6.7.2.8.3   | Lásd 6.7.2.6.3   |
| T19  | 10                                | 6 mm   | Lásd 6.7.2.8.3   | Nem engedélyezett  |
| T20  | 10                                | 8 mm   | Lásd 6.7.2.8.3   | Nem engedélyezett  |
| T21  | 10                                | 10 mm  | Normál   | Nem engedélyezett  |
| T22  | 10                                | 10 mm  | Lásd 6.7.2.8.3   | Nem engedélyezett  |

a) A rovatokban szereplő „Normál” szó arra utal, hogy a 6.7.2.8 bekezdés minden követelményét teljesíteni kell, a 6.7.2.8.3 pont kivételével.

| T23   |  | MOBIL TARTÁNY UTASÍTÁS       |  |  |  |                  | T23                                |                                   |
|---|--|------------------------------|--|--|--|------------------|------------------------------------|-----------------------------------|
| Ez a mobil tartány utasítás a 4.1 osztály önreaktív anyagaiira és az 5.2 osztály szerves peroxidjaira vonatkozik. A 4.2.1 szakasz általános előírásait és a 6.7.2 szakasz követelményeit teljesíteni kell. A 4.1 osztály önreaktív anyagaiira és az 5.2 osztály peroxidjaira a 4.2.1.13 bekezdés vonatkozó kiegészítő előírásait ugyancsak be kell tartani. |  |                              |  |  |  |                  |                                    |                                   |
| UN szám   | Anyag  | Legkisebb próba-nyomás (bar) | Legkisebb falvastagság (referencia acélra, mm-ben) | Az alsó nyílásokra vonatkozó követelmények | A nyomás csökkentésre vonatkozó követelmények            | Töltési fok      | Szabályozási hőmérséklet           | Vész-hőmérséklet                  |
| 3109  | <b>F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID</b><br>terc-Butil-hidroperoxid <sup>a)</sup> , legfeljebb 72%-os, vízzel<br>Kumil-hidroperoxid, legfeljebb 90%-os,<br>A típusú hígítóval<br>Di-terc-butyl-peroxid, legfeljebb 32%-os,<br>A típusú hígítóval<br>Izopropil-kumil-hidroperoxid, legfeljebb 72%-os, A típusú hígítóval<br>p-Mentil-hidroperoxid legfeljebb 72%-os, A típusú hígítóval<br>Pinanil-hidroperoxid, legfeljebb 56%-os,<br>A típusú hígítóval | 4                            | Lásd 6.7.2.4.2                                     | Lásd 6.7.2.6.3                             | Lásd 6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8 | Lásd 4.2.1.13.13 |                                    |                                   |
| 3110  | <b>F TÍPUSÚ, SZILÁRD SZERVES PEROXID</b><br>Dikumil-peroxid <sup>b)</sup>  | 4                            | Lásd 6.7.2.4.2                                     | Lásd 6.7.2.6.3                             | Lásd 6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8 | Lásd 4.2.1.13.13 |                                    |                                   |
| 3119  | <b>F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID, HŐMÉRSÉKLET-SZABÁLYOZÁSSAL</b><br>terc-Amil-peroxi-neodekanoát<br>legfeljebb 47%-os,<br>A típusú hígítóval<br>terc-Butil-peroxi-acetát, legfeljebb 32%-os, B típusú hígítóval  | 4                            | Lásd 6.7.2.4.2                                     | Lásd 6.7.2.6.3                             | Lásd 6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8 | Lásd 4.2.1.13.13 | c)<br><br><br>-10 °C<br><br>+30 °C | c)<br><br><br>-5 °C<br><br>+35 °C |

a) Amennyiben intézkedéseket tettek a 65% terc-butyl-hidroperoxid és 35% víz keverékével azonos biztonság eléréséhez.

b) Legnagyobb mennyiség mobil tartányonként 2000 kg.

c) Az illetékes hatóság jóváhagyása szerint.

| T23<br>(folyt.)  |   | MOBIL TARTÁNY UTASÍTÁS                      |  |   |  |                     | T23<br>(folyt.)   |   |
|------------------|---|---|--|---|--|---------------------|---|---|
| UN<br>szám       | Anyag   | Legki-<br>sebb<br>próba-<br>nyomás<br>(bar) | Legkisebb<br>falvastagság<br>(referencia<br>acélra,<br>mm-ben) | Az alsó<br>nyílásokra<br>vonatközo-<br>követelmé-<br>nyek | A nyomás<br>csökkentésre<br>vonatközo-<br>követelmé-<br>nyek | Töltési fok         | Szabályo-<br>zási<br>hőmér-<br>séklet                       | Vészho-<br>mérséklet  |
| 3119<br>(folyt.) | terc-Butil-peroxi-2-etil-<br>hexanoát, legfeljebb<br>32%-os, B típusú<br>hígítóval<br>terc-Butil-peroxi-<br>-3,5,5-trimetil-hexa-<br>noát, legfeljebb 32%-<br>os, B típusú hígítóval<br>terc-Butil-peroxi-<br>pivalát, legfeljebb 27%-<br>os, B típusú hígítóval<br>Di(3,5,5-trimetil-<br>-hexanoil)-peroxid,<br>legfeljebb 38%-os, A<br>vagy B típusú hígítóval<br>Perox-ecetsav,<br>desztillált, F típusú,<br>stabilizált <sup>d)</sup> |   |  |   |  |                     | +15 °C<br><br>+35 °C<br><br>+5 °C<br><br>0 °C<br><br>+ 30°C | +20 °C<br><br>+40 °C<br><br>+10 °C<br><br>+5 °C<br><br>+ 35°C |
| 3120             | <b>F TÍPUSÚ, SZILÁRD<br/>SZERVES<br/>PEROXID, HŐ-<br/>MÉRSÉKLET-<br/>SZABÁLYOZÁSSAL</b>   | 4   | Lásd<br>6.7.2.4.2  | Lásd<br>6.7.2.6.3   | Lásd<br>6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8  | Lásd<br>4.2.1.13.13 | c)  | c)  |
| 3229             | <b>F TÍPUSÚ,<br/>ÖNREAKTÍV<br/>FOLYÉKONY<br/>ANYAG</b>  | 4   | Lásd<br>6.7.2.4.2  | Lásd<br>6.7.2.6.3   | Lásd<br>6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8  | Lásd<br>4.2.1.13.13 |   |   |
| 3230             | <b>F TÍPUSÚ,<br/>ÖNREAKTÍV<br/>SZILÁRD ANYAG</b>  | 4   | Lásd<br>6.7.2.4.2  | Lásd<br>6.7.2.6.3   | Lásd<br>6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8  | Lásd<br>4.2.1.13.13 |   |   |
| 3239             | <b>F TÍPUSÚ, ÖNRE-<br/>AKTÍV FOLYÉ-<br/>KONY ANYAG<br/>HŐMÉRSÉKLET-<br/>SZABÁLYOZÁSSAL</b>  | 4   | Lásd<br>6.7.2.4.2  | Lásd<br>6.7.2.6.3   | Lásd<br>6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8  | Lásd<br>4.2.1.13.13 | c)  | c)  |
| 3240             | <b>F TÍPUSÚ, ÖNRE-<br/>AKTÍV SZILÁRD<br/>ANYAG HŐMÉR-<br/>SÉKLET-SZABÁ-<br/>LYOZÁSSAL</b>   | 4   | Lásd<br>6.7.2.4.2  | Lásd<br>6.7.2.6.3   | Lásd<br>6.7.2.8.2<br>4.2.1.13.6<br>4.2.1.13.7<br>4.2.1.13.8  | Lásd<br>4.2.1.13.13 | c)  | c)  |

c) Az illetékes hatóság jóváhagyása szerint.

d) Peroxi-ecetsav desztillációjából származó készítmények legfeljebb 41% peroxi-ecetsav tartalommal vizes oldatban, legfeljebb 9,5% összes aktív oxigéntartalommal (peroxi-ecetsav + H<sub>2</sub>O<sub>2</sub>), amelyek a „Vizsgálatok és kritériumok kézikönyv” 20.4.3 f) pontjának megfelelnek.

| T50  |  | MOBIL TARTÁNY UTASÍTÁS  |                              |  | T50                               |
|--|--|---|------------------------------|--|-----------------------------------|
| Ez a mobil tartány utasítás a nem mélyhűtött, cseppfolyósított gázokra vonatkozik. A 4.2.2 szakasz általános előírásait és a 6.7.3 szakasz követelményeit be kell tartani. |  |   |                              |  |                                   |
| UN szám  | Nem mélyhűtött, cseppfolyósított gázok           | Legnagyobb megengedett üzemi nyomás (bar)<br>– kis méretű tartányra <sup>a)</sup> ;<br>– hőszigetelés nélküli tartányra <sup>a)</sup> ;<br>– napsugárzás elleni védőlemez esetén <sup>a)</sup> ;<br>– szigetelés esetén <sup>a)</sup> | Nyílás a folyadékszint alatt | A nyomás csökkentésre vonatkozó követelmények <sup>b)</sup> (lásd 6.7.3.7) | Legnagyobb töltési sűrűség (kg/l) |
| 1005   | Ammónia, vízmentes                               | 29,0<br>25,7<br>22,0<br>19,7  | Megengedett                  | Lásd 6.7.3.7.3   | 0,53                              |
| 1009   | Bróm-trifluor-metán (R 13B1 hűtőgáz)             | 38,0<br>34,0<br>30,0<br>27,5  | Megengedett                  | Normál   | 1,13                              |
| 1010   | Butadiének, stabilizált                          | 7,5<br>7,0<br>7,0<br>7,0  | Megengedett                  | Normál   | 0,55                              |
| 1010   | Butadiének és szénhidrogén keveréke, stabilizált | Lásd a megengedett legnagyobb üzemi nyomás meghatározását a 6.7.3.1 bekezdésben   | Megengedett                  | Normál   | Lásd 4.2.2.7                      |
| 1011   | Bután  | 7,0<br>7,0<br>7,0<br>7,0  | Megengedett                  | Normál   | 0,51                              |
| 1012   | Butén  | 8,0<br>7,0<br>7,0<br>7,0  | Megengedett                  | Normál   | 0,53                              |
| 1017   | Klór   | 19,0<br>17,0<br>15,0<br>13,5  | Nem megengedett              | Lásd 6.7.3.7.3   | 1,25                              |
| 1018   | Klór-difluor-metán (R 22 hűtőgáz)                | 26,0<br>24,0<br>21,0<br>19,0  | Megengedett                  | Normál   | 1,03                              |
| 1020   | Klór-pentafluor-etán (R 115 hűtőgáz)             | 23,0<br>20,0<br>18,0<br>16,0  | Megengedett                  | Normál   | 1,06                              |
| 1021   | 1-Klór-1,2,2,2-tetrafluor-etán (R 124 hűtőgáz)   | 10 3<br>9,8<br>7,9<br>7,0   | Megengedett                  | Normál   | 1,20                              |
| 1027   | Ciklopropán                                      | 18,0<br>16,0<br>14,5<br>13,0  | Megengedett                  | Normál   | 0,53                              |
| 1028   | Diklór-difluor-metán (R 12 hűtőgáz)              | 16,0<br>15,0<br>13,0<br>11,5  | Megengedett                  | Normál   | 1,15                              |

| T50<br>(folyt.) |   | MOBIL TARTÁNY UTASÍTÁS   |                                 |  | T50<br>(folyt.)                         |
|-----------------|---|--|---------------------------------|--|---|
| UN<br>szám      | Nem mélyhűtött, cseppfolyósított<br>gázok   | Legnagyobb megengedett<br>üzemi nyomás (bar)<br>– kis méretű tartánnyra <sup>a)</sup> ;<br>– hőszigetelés nélküli<br>tartánnyra <sup>a)</sup> ;<br>– napsugárzás elleni<br>védőlemez esetén <sup>a)</sup> ;<br>– szigetelés esetén <sup>a)</sup> | Nyílás a<br>folyadékszint alatt | A nyomás<br>csökkentésre<br>vonatkozó<br>követelmények<br><sup>b)</sup> (lásd 6.7.3.7) | Legnagyobb<br>töltési sűrűség<br>(kg/l) |
| 1029            | Diklór-fluor-metán<br>(R 21 hűtőgáz)  | 7,0<br>7,0<br>7,0<br>7,0   | Megengedett                     | Normál   | 1,23                                    |
| 1030            | 1,1-Difluor-etán<br>(R 152a hűtőgáz)  | 16,0<br>14,0<br>12,4<br>11,0   | Megengedett                     | Normál   | 0,79                                    |
| 1032            | Dimetil-amin, vízmentes   | 7,0<br>7,0<br>7,0<br>7,0   | Megengedett                     | Normál   | 0,59                                    |
| 1033            | Dimetil-éter  | 15,5<br>13,8<br>12,0<br>10,6   | Megengedett                     | Normál   | 0,58                                    |
| 1036            | Etil-amin   | 7,0<br>7,0<br>7,0<br>7,0   | Megengedett                     | Normál   | 0,61                                    |
| 1037            | Etil-klorid   | 7,0<br>7,0<br>7,0<br>7,0   | Megengedett                     | Normál   | 0,80                                    |
| 1040            | Etilén-oxid nitrogénnel<br>50 °C-on legfeljebb 1 MPa<br>(10 bar) össznyomásig                       | -<br>-<br>-<br>10,0  | Nem<br>megengedett              | Lásd<br>6.7.3.7.3  | 0,78                                    |
| 1041            | Etilén-oxid és szén-dioxid<br>keveréke 9%-nál több, de<br>legfeljebb 87% etilén-oxid<br>tartalommal | Lásd a megengedett<br>legnagyobb üzemi nyomás<br>meghatározását a 6.7.3.1<br>bekezdésben   | Megengedett                     | Normál   | Lásd 4.2.2.7                            |
| 1055            | Izobutén  | 8,1<br>7,0<br>7,0<br>7,0   | Megengedett                     | Normál   | 0,52                                    |
| 1060            | Metil-acetilén és propadién<br>keverék, stabilizált   | 28,0<br>24,5<br>22,0<br>20,0   | Megengedett                     | Normál   | 0,43                                    |
| 1061            | Metil-amin, vízmentes   | 10,8<br>9,6<br>7,8<br>7,0  | Megengedett                     | Normál   | 0,58                                    |

| <b>T50<br/>(folyt.)</b> |  | <b>MOBIL TARTÁNY UTASÍTÁS</b>  |                                 |  | <b>T50<br/>(folyt.)</b>                 |
|-------------------------|--|--|---------------------------------|--|---|
| UN<br>szám              | Nem mélyhűtött, cseppfolyósított<br>gázok            | Legnagyobb megengedett<br>üzemi nyomás (bar)<br>– kis méretű tartányra <sup>a)</sup> ;<br>– hőszigetelés nélküli<br>tartányra <sup>a)</sup> ;<br>– napsugárzás elleni<br>védőlemez esetén <sup>a)</sup> ;<br>– szigetelés esetén <sup>a)</sup> | Nyílás a<br>folyadékszint alatt | A nyomás<br>csökkentésre<br>vonatkozó<br>követelmények<br><sup>b)</sup> (lásd 6.7.3.7) | Legnagyobb<br>töltési sűrűség<br>(kg/l) |
| 1062                    | Metil-bromid legfeljebb<br>2% klórpikrin tartalommal | 7,0<br>7,0<br>7,0<br>7,0   | Nem<br>megengedett              | Lásd<br>6.7.3.7.3  | 1,51                                    |
| 1063                    | Metil-klorid<br>(R 40 hűtőgáz)                       | 14,5<br>12,7<br>11,3<br>10,0   | Megengedett                     | Normál   | 0,81                                    |
| 1064                    | Metil-merkaptán                                      | 7,0<br>7,0<br>7,0<br>7,0   | Nem<br>megengedett              | Lásd<br>6.7.3.7.3  | 0,78                                    |
| 1067                    | Dinitrogén-tetroxid<br>(nitrogén-dioxid)             | 7,0<br>7,0<br>7,0<br>7,0   | Nem<br>megengedett              | Lásd<br>6.7.3.7.3  | 1,30                                    |
| 1075                    | Petróleumgáz,<br>cseppfolyósított                    | Lásd a megengedett<br>legnagyobb üzemi nyomás<br>meghatározását a 6.7.3.1<br>bekezdésben   | Megengedett                     | Normál   | Lásd 4.2.2.7                            |
| 1077                    | Propilén (propén)                                    | 28,0<br>24,5<br>22,0<br>20,0   | Megengedett                     | Normál   | 0,43                                    |
| 1078                    | Hűtőgáz, m.n.n.                                      | Lásd a megengedett<br>legnagyobb üzemi nyomás<br>meghatározását a 6.7.3.1<br>bekezdésben   | Megengedett                     | Normál   | Lásd 4.2.2.7                            |
| 1079                    | Kén-dioxid   | 11,6<br>10,3<br>8,5<br>7,6   | Nem<br>megengedett              | Lásd<br>6.7.3.7.3  | 1,23                                    |
| 1082                    | Trifluor-klór-etilén,<br>stabilizált                 | 17,0<br>15,0<br>13,1<br>11,6   | Nem<br>megengedett              | Lásd<br>6.7.3.7.3  | 1,13                                    |
| 1083                    | Trimetil-amin, vízmentes                             | 7,0<br>7,0<br>7,0<br>7,0   | Megengedett                     | Normál   | 0,56                                    |
| 1085                    | Vinil-bromid, stabilizált                            | 7,0<br>7,0<br>7,0<br>7,0   | Megengedett                     | Normál   | 1,37                                    |
| 1086                    | Vinil-klorid, stabilizált                            | 10,6<br>9,3<br>8,0<br>7,0  | Megengedett                     | Normál   | 0,81                                    |

| T50<br>(folyt.) |  | MOBIL TARTÁNY UTASÍTÁS   |                                 |  | T50<br>(folyt.)                         |
|-----------------|--|--|---------------------------------|--|---|
| UN<br>szám      | Nem mélyhűtött, cseppfolyósított<br>gázok  | Legnagyobb megengedett<br>üzemi nyomás (bar)<br>– kis méretű tartányra <sup>a)</sup> ;<br>– hőszigetelés nélküli<br>tartányra <sup>a)</sup> ;<br>– napsugárzás elleni<br>védőlemez esetén <sup>a)</sup> ;<br>– szigetelés esetén <sup>a)</sup> | Nyílás a<br>folyadékszint alatt | A nyomás<br>csökkentésre<br>vonatkozó<br>követelmények<br><sup>b)</sup> (lásd 6.7.3.7) | Legnagyobb<br>töltési sűrűség<br>(kg/l) |
| 1087            | Vinil-metil-éter, stabilizált  | 7,0<br>7,0<br>7,0<br>7,0   | Megengedett                     | Normál   | 0,67                                    |
| 1581            | Klórpikrin és metil-bromid<br>keveréke 2%-nál nagyobb<br>klórpikrin tartalommal  | 7,0<br>7,0<br>7,0<br>7,0   | Nem<br>megengedett              | Lásd<br>6.7.3.7.3  | 1,51                                    |
| 1582            | Klórpikrin és metil-klorid<br>keveréke   | 19,2<br>16,9<br>15,1<br>13,1   | Nem<br>megengedett              | Lásd<br>6.7.3.7.3  | 0,81                                    |
| 1858            | Hexafluor-propilén<br>(R 1216 hűtőgáz)   | 19,2<br>16,9<br>15,1<br>13,1   | Megengedett                     | Normál   | 1,11                                    |
| 1912            | Metil-klorid és diklór-<br>metán keverék   | 15,2<br>13,0<br>11,6<br>10,1   | Megengedett                     | Normál   | 0,81                                    |
| 1958            | 1,2-Diklór-1,1,2,2-tetra-<br>fluor-etán (R 114 hűtőgáz)  | 7,0<br>7,0<br>7,0<br>7,0   | Megengedett                     | Normál   | 1,30                                    |
| 1965            | Szénhidrogén-gáz keverék,<br>cseppfolyósított, m.n.n.  | Lásd a legnagyobb<br>megengedett üzemi<br>nyomás meghatározását a<br>6.7.3.1 bekezdésben   | Megengedett                     | Normál   | Lásd 4.2.2.7                            |
| 1969            | Izobután   | 8,5<br>7,5<br>7,0<br>7,0   | Megengedett                     | Normál   | 0,49                                    |
| 1973            | Klór-difluor-metán és klór-<br>pentafluor-etán keverék<br>állandó forrásponttal, kb.<br>49% klór-difluor-metán<br>tartalommal (R 502<br>hűtőgáz) | 28,3<br>25,3<br>22,8<br>20,3   | Megengedett                     | Normál   | 1,05                                    |
| 1974            | Bróm-klór-difluor-metán<br>(R 12B1 hűtőgáz)  | 7,4<br>7,0<br>7,0<br>7,0   | Megengedett                     | Normál   | 1,61                                    |
| 1976            | Oktafluor-ciklobután<br>(RC 318 hűtőgáz)   | 8,8<br>7,8<br>7,0<br>7,0   | Megengedett                     | Normál   | 1,34                                    |
| 1978            | Propán   | 22,5<br>20,4<br>18,0<br>16,5   | Megengedett                     | Normál   | 0,42                                    |



| T50<br>(folyt.) |  | MOBIL TARTÁNY UTASÍTÁS   |                                 |  | T50<br>(folyt.)                         |
|-----------------|--|--|---------------------------------|--|---|
| UN<br>szám      | Nem mélyhűtött, cseppfolyósított<br>gázok  | Legnagyobb megengedett<br>üzemi nyomás (bar)<br>– kis méretű tartányra <sup>a)</sup> ;<br>– hőszigetelés nélküli<br>tartányra <sup>a)</sup> ;<br>– napsugárzás elleni<br>védőlemez esetén <sup>a)</sup> ;<br>– szigetelés esetén <sup>a)</sup> | Nyílás a<br>folyadékszint alatt | A nyomás<br>csökkentésre<br>vonatkozó<br>követelmények<br><sup>b)</sup> (lásd 6.7.3.7) | Legnagyobb<br>töltési sűrűség<br>(kg/l) |
| 1983            | 1-Klór-2,2,2-trifluor-etán<br>(R 133a hűtőgáz)   | 7,0<br>7,0<br>7,0<br>7,0   | Megengedett                     | Normál   | 1,18                                    |
| 2035            | 1,1,1-Trifluor-etán<br>(R 143a hűtőgáz)  | 31,0<br>27,5<br>24,2<br>21,8   | Megengedett                     | Normál   | 0,76                                    |
| 2424            | Oktafluor-propán<br>(R 218 hűtőgáz)  | 23,1<br>20,8<br>18,6<br>16,6   | Megengedett                     | Normál   | 1,07                                    |
| 2517            | 1-Klór-1,1-difluor-etán<br>(R 142b hűtőgáz)  | 8,9<br>7,8<br>7,0<br>7,0   | Megengedett                     | Normál   | 0,99                                    |
| 2602            | Diklór-difluor-metán és<br>1,1-difluor-etán azeotrop<br>keveréke kb. 74% diklór-<br>difluor-metán tartalommal<br>(R 500 hűtőgáz) | 20,0<br>18,0<br>16,0<br>14,5   | Megengedett                     | Normál   | 1,01                                    |
| 3057            | Trifluor-acetil-klorid   | 14,6<br>12,9<br>11,3<br>9,9  | Nem<br>megengedett              | 6.7.3.7.3  | 1,17                                    |
| 3070            | Etilén-oxid és diklór-<br>difluor-metán keverék<br>legfeljebb 12,5% etilén-<br>oxiddal   | 14,0<br>12,0<br>11,0<br>9,0  | Megengedett                     | 6.7.3.7.3  | 1,09                                    |
| 3153            | Perfluor-(metil-vinil-éter)  | 14,3<br>13,4<br>11,2<br>10,2   | Megengedett                     | Normál   | 1,14                                    |
| 3159            | 1,1,1,2-Tetrafluor-etán<br>(R 134a hűtőgáz)  | 17,7<br>15,7<br>13,8<br>12,1   | Megengedett                     | Normál   | 1,04                                    |
| 3161            | Cseppfolyósított gáz, -<br>gyúlékony, m.n.n.   | Lásd a megengedett<br>legnagyobb üzemi nyomás<br>meghatározását a 6.7.3.1<br>bekezdésben   | Megengedett                     | Normál   | Lásd 4.2.2.7                            |
| 3163            | Cseppfolyósított gáz,<br>m.n.n.  | Lásd a megengedett<br>legnagyobb üzemi nyomás<br>meghatározását a 6.7.3.1<br>bekezdésben   | Megengedett                     | Normál   | Lásd 4.2.2.7                            |
| 3220            | Pentafluor-etán<br>(R 125 hűtőgáz)   | 34,4<br>30,8<br>27,5<br>24,5   | Megengedett                     | Normál   | 0,95                                    |

| T50<br>(folyt.) |   | MOBIL TARTÁNY UTASÍTÁS   |                                 |  | T50<br>(folyt.)                         |
|-----------------|---|--|---------------------------------|--|---|
| UN<br>szám      | Nem mélyhűtött, cseppfolyósított<br>gázok   | Legnagyobb megengedett<br>üzemi nyomás (bar)<br>– kis méretű tartányra <sup>a)</sup> ;<br>– hőszigetelés nélküli<br>tartányra <sup>a)</sup> ;<br>– napsugárzás elleni<br>védőlemez esetén <sup>a)</sup> ;<br>– szigetelés esetén <sup>a)</sup> | Nyílás a<br>folyadékszint alatt | A nyomás<br>csökkentésre<br>vonatkozó<br>követelmények<br><sup>b)</sup> (lásd 6.7.3.7) | Legnagyobb<br>töltési sűrűség<br>(kg/l) |
| 3252            | Difluor-metán<br>(R 32 hűtőgáz))  | 43,0<br>39,0<br>34,4<br>30,5   | Megengedett                     | Normál   | 0,78                                    |
| 3296            | Heptafluor-propán<br>(R 227 hűtőgáz)  | 16,0<br>14,0<br>12,5<br>11,0   | Megengedett                     | Normál   | 1,20                                    |
| 3297            | Etilén-oxid és klór-<br>tetrafluor-etán keverék<br>legfeljebb 8,8% etilén-oxid<br>tartalommal                   | 8,1<br>7,0<br>7,0<br>7,0   | Megengedett                     | Normál   | 1,16                                    |
| 3298            | Etilén-oxid és pentafluor-<br>etán keverék legfeljebb<br>7,9% etilén-oxid<br>tartalommal                        | 25,9<br>23,4<br>20,9<br>18,6   | Megengedett                     | Normál   | 1,02                                    |
| 3299            | Etilén-oxid és tetrafluor-<br>etán keverék legfeljebb<br>5,6% etilén-oxid<br>tartalommal                        | 16,7<br>14,7<br>12,9<br>11,2   | Megengedett                     | Normál   | 1,03                                    |
| 3318            | Ammónia oldat, vizes, re-<br>latív sűrűség 15 °C-on ki-<br>sebb, mint 0,880, 50%-nál<br>több ammóniatartalommal | Lásd a megengedett<br>legnagyobb üzemi nyomás<br>meghatározását a 6.7.3.1<br>bekezdésben   | Megengedett                     | Lásd<br>6.7.3.7.3  | Lásd 4.2.2.7                            |
| 3337            | R 404A hűtőgáz  | 31,6<br>28,3<br>25,3<br>22,5   | Megengedett                     | Normál   | 0,84                                    |
| 3338            | R 407A hűtőgáz  | 31,3<br>28,1<br>25,1<br>22,4   | Megengedett                     | Normál   | 0,95                                    |
| 3339            | R 407B hűtőgáz  | 33,0<br>29,6<br>26,5<br>23,6   | Megengedett                     | Normál   | 0,95                                    |
| 3340            | R 407C hűtőgáz  | 29,9<br>26,8<br>23,9<br>21,3   | Megengedett                     | Normál   | 0,95                                    |

- a) A „kis méretű tartány” átmérője legfeljebb 1,5 m;  
a „hőszigetelés nélküli tartány” átmérője 1,5 m-nél nagyobb és nincs hőszigeteléssel vagy napsugárzás elleni védőlemezzel ellátva (lásd 6.7.3.2.12);  
a „napsugárzás elleni védőlemezzel ellátott tartány” átmérője 1,5 m-nél nagyobb és napsugárzás elleni védőlemezzel van ellátva (lásd 6.7.3.2.12);  
a „szigetelt tartány” átmérője 1,5 m-nél nagyobb és szigeteléssel van ellátva (lásd 6.7.3.2.12);  
(A „tervezési referencia hőmérséklet” meghatározására lásd a 6.7.3.1 bekezdést.)
- b) A nyomás csökkentésre vonatkozó követelmények oszlopban a „Normál” szó azt jelenti, hogy a 6.7.3.7.3 pontban előírt hasadótárcsa nem szükséges.

| T75  | MOBIL TARTÁNY UTASÍTÁS | T75 |
|--|------------------------|-----|
| Ez a mobil tartány utasítás a mélyhűtött, cseppfolyósított gázokra vonatkozik. A 4.2.3 szakasz általános előírásait és a 6.7.4 szakasz követelményeit be kell tartani. |                        |     |

#### 4.2.5.3 Mobil tartány különleges előírások

Egyes anyagokra mobil tartány különleges előírások vonatkoznak, amelyek azokat az előírásokat jelzik, amelyek kiegészítik vagy módosítják a mobil tartány utasításokban, ill. a 6.7 fejezetben rögzített követelményeket. A mobil tartány különleges előírások TP betűkkel kezdődő kóddal (az angol „tank provision” kifejezés rövidítése) vannak jelölve és a 3.2 fejezet „A” táblázat 11 oszlopában vannak feltüntetve az egyes anyagokhoz. A következő felsorolás tartalmazza a mobil tartány különleges előírásokat:

**TP1** A 4.2.1.9.2 pontban előírt töltési fokot be kell tartani

$$(\text{töltési fok} = \frac{97}{1 + \alpha(t_r - t_f)}).$$

**TP2** A 4.2.1.9.3 pontban előírt töltési fokot be kell tartani

$$(\text{töltési fok} = \frac{95}{1 + \alpha(t_r - t_f)}).$$

**TP3** Az olvadáspontjuk feletti hőmérsékleten szállított szilárd anyagok és a magas hőmérsékletű folyékony anyagok esetén a töltési fokot (%-ban) a 4.2.1.9.5 pont szerint kell meghatározni (töltési fok =  $95 \frac{d_r}{d_f}$ ).

**TP4** A mobil tartány töltési foka nem haladhatja meg a 90%-ot, ill. az illetékes hatóság által engedélyezett más értéket (lásd a 4.2.1.16.2 pontot).

**TP5** A 4.2.3.6 bekezdésben előírt töltési fokot be kell tartani.

**TP6** Annak érdekében, hogy a tartány felrepedését minden körülmények között megakadályozzák (beleértve azt az esetet is, ha a láng teljesen körülveszi), a tartányt olyan nyomáscsökkentő szerkezettel kell ellátni, amely megfelel a tartány befogadóképességének és a szállított anyag természetének. A szerkezetnek az anyaggal összeférhetőnek kell lennie.

**TP7** A gőztérből a levegőt nitrogénnel vagy más módon ki kell űzni.

**TP8** A mobil tartány próbanyomását 1,5 bar-ra lehet csökkenteni, ha a szállított anyag lobbanáspontja nagyobb mint 0 °C.

**TP9** Az ezen tétel alá tartozó anyag csak az illetékes hatóság engedélyével szállítható mobil tartányban.

**TP10** Legalább 5 mm vastag ólom bélés szükséges, amelyet évente kell vizsgálni vagy az illetékes hatóság által engedélyezett más alkalmas bélés anyag.

**TP11** (fenntartva)

**TP12** (törölve)

**TP13** (fenntartva)

- TP14** (fenntartva)
- TP15** (fenntartva)
- TP16** A tartányt különleges szerkezettel kell ellátni vákuum és túlnyomás megakadályozására normális szállítási feltételek mellett. Ezt az illetékes hatóságnak engedélyeznie kell. A nyomás csökkentésre vonatkozó követelmények megegyeznek a 6.7.2.8.3 pontban leírtakkal a termék nyomáscsökkentő szelepből történő kikristályosodásának megakadályozására.
- TP17** A tartány hőszigeteléséhez csak szervesetlen, nem éghető anyagok használhatók.
- TP18** A hőmérsékletet 18 °C és 40 °C között kell tartani. A megszilárdult metakrilsavat tartalmazó mobil tartányt a szállítás alatt nem szabad visszamelegíteni.
- TP19** A számított falvastagságot 3 mm-rel kell növelni. A falvastagságokat ultrahanggal kell ellenőrizni az időszakos folyadéknomás-próbák között félidőben.
- TP20** Ez az anyag csak szigetelt tartányban, nitrogén alatt szállítható.
- TP21** A falvastagság nem lehet 8 mm-nél kisebb. A tartányokat legalább 2,5 évenként hidraulikus nyomáspróbának és belső vizsgálatnak kell alávetni.
- TP22** A csatlakozásokhoz vagy egyéb eszközökhöz használt kenőanyagoknak az oxigénnel összeférhetőeknek kell lenniük.
- TP23** A szállítás csak az illetékes hatóság által előírt különleges feltételek mellett engedélyezett.
- TP24** A mobil tartány ellátható a legnagyobb töltési fok mellett is a tartány gőzterében maradó eszközzel a szállított anyag lassú bomlása következtében kialakuló túlnyomás megakadályozására. Ennek az eszköznek meg kell akadályoznia felborulás esetén a folyadék túlzott mértékű kifolyását vagy idegen anyagoknak a tartányba való bejutását. Ezt az eszközt az illetékes hatóságnak vagy az általa felhatalmazott szervnek engedélyeznie kell.
- TP25** A 99,95%-os vagy nagyobb tisztaságú kén-trioxid inhibitor nélkül is szállítható mobil tartányban, ha a hőmérsékletet 32,5 °C-on vagy magasabb értéken tartják.
- TP26** Felmelegített állapotban történő szállításnál a fűtőberendezésnek a tartány külsején kell lennie. Az UN 3176 tétel esetén ezt az előírást csak akkor kell figyelembe venni, ha az anyag a vízzel veszélyesen reagál.
- TP27** 4 bar legkisebb próbanyomású mobil tartány is használható, ha bizonyítható, hogy a 6.7.2.1 bekezdésben a próbanyomásra vonatkozó fogalom meghatározás alapján 4 bar vagy annál kisebb próbanyomás is elfogadható.
- TP28** 2,65 bar legkisebb próbanyomású mobil tartány is használható, ha bizonyítható, hogy a 6.7.2.1 bekezdésben a próbanyomásra vonatkozó fogalom meghatározás alapján 2,65 bar vagy annál kisebb próbanyomás is elfogadható.
- TP29** 1,5 bar legkisebb próbanyomású mobil tartány is használható, ha bizonyítható, hogy a 6.7.2.1 bekezdésben a próbanyomásra vonatkozó fogalom meghatározás alapján 1,5 bar vagy annál kisebb próbanyomás is elfogadható.
- TP30** Ezt az anyagot szigetelt tartányban kell szállítani.
- TP31** Ez az anyag csak szilárd állapotban szállítható tartányban.

- TP32** Az UN 0331, 0332 és 3375 anyagokhoz mobil tartányok csak a következő feltételek teljesülése esetén használhatók:
- a) A sürgősségi elkerülésére a fémből gyártott mobil tartányokat nyomáscsökkentő szerkezettel kell ellátni, ami lehet rugóterhelésű szelep, hasadótarcsa vagy olvadóbetét. Az a nyomás, amelynél a nyomáscsökkentő szerkezet működésbe lép, nem lehet 2,65 bar-nál nagyobb az olyan mobil tartányoknál, amelyek legkisebb próbanyomása 4 bar-nál nagyobb.
  - b) A tartányban történő szállításra való alkalmasságot bizonyítani kell. Ennek meghatározására alkalmas módszer pl. a 8 vizsgálati sorozat 8.d) próbája (lásd „Vizsgálatok és kritériumok kézikönyv”, I rész, 18.7 pont).
  - c) Az anyag nem hagyható a tartányban olyan hosszú ideig, ami károsodást okozhat. Megfelelő intézkedéseket kell tenni, hogy az anyag a tartányban ne tömörödjön össze és ne ülepedjen le (pl. tisztítás stb.).
- TP33** Az ehhez az anyaghoz tartozó mobil tartány utasítás a szemcsés és porszerű anyagokra, valamint az olyan szilárd anyagokra vonatkozik, amelyeket olvadáspontjuk feletti hőmérsékleten töltenek és ürítenek, de lehűtve, szilárd anyagként szállítanak. Az olvadáspontjuk feletti hőmérsékleten szállított szilárd anyagokra lásd a 4.2.1.19 bekezdést.
- TP34** A mobil tartányt nem kell a 6.7.4.14.1 pont szerinti ütközési próbának kitenni, ha a mobil tartányon a 6.7.4.15.1 pontban meghatározott táblán és ezenkívül a tartány oldalán, a külső burkolaton, legalább 10 cm-es betűvel fel van tüntetve a „VASÚTON NEM SZÁLLÍTHATÓ” felirat.
- TP35** A 2008. december 31-ig érvényes ADR szerinti T14 mobil tartány utasítás 2014. december 31-ig tovább alkalmazható.

## 4.3 FEJEZET

**A FÉMBŐL GYÁRTOTT, RÖGZÍTETT TARTÁNYOK (TARTÁNYJÁRMŰVEK), LESZERELHETŐ TARTÁNYOK, TANKKONTÉNEREK ÉS TARTÁNYOS CSEREFELÉPÍTMÉNYEK, VALAMINT BATTÉRIÁS JÁRMŰVEK ÉS TÖBBELEMES GÁZKONTÉNEREK (MEG-KONTÉNEREK) HASZNÁLATA**

***Megjegyzés:** A mobil tartányok és az UN többelemes gázkonténerek (UN MEG-konténerek) használatára lásd a 4.2 fejezetet; a szállvázis műanyag tartányok használatára lásd a 4.4 fejezetet; a hulladékok szállítására szolgáló, vákuummal üzemelő tartányok használatára lásd a 4.5 fejezetet.*

**4.3.1 Alkalmazási terület**

**4.3.1.1** Az oldal teljes szélességében nyomtatott követelményeket a rögzített tartányokra (tartányjárművekre), a leszerelhető tartányokra, a battériás járművekre, a tankkonténerekre, a tartányos cserefelépítményekre és a MEG-konténerekre egyaránt alkalmazni kell. Az egyetlen oszlopban nyomtatott követelményeket csak

- a rögzített tartányokra (tartányjárművekre), a leszerelhető tartányokra és a battériás járművekre (bal oldali oszlop); ill.
- a tankkonténerekre, a tartányos cserefelépítményekre és a MEG-konténerekre (jobb oldali oszlop)

kell alkalmazni.

**4.3.1.2** Ezeket a követelményeket a gáz alakú, a folyékony, a porszerű vagy szemcsés anyagok szállításához használt

|   |   |
|---|---|
| rögzített tartányokra (tartányjárművekre),<br>leszerelhető tartányokra és battériás jármű-<br>vekre | tankkonténerekre, tartányos cserefelépítmé-<br>nyekre és MEG-konténerekre |
|---|---|

kell alkalmazni.

**4.3.1.3** A 4.3.2 szakasz tartalmazza az összes osztály anyagainak szállítására szolgáló rögzített tartányok (tartányjárművek), leszerelhető tartányok, tankkonténerek és tartányos cserefelépítmények és a 2 osztály gázainak szállítására szolgáló battériás járművek és MEG-konténerek használatára vonatkozó előírásokat. A 4.3.3 és a 4.3.4 szakasz a használatra vonatkozó különleges előírásokat tartalmazza, amelyek kiegészítik vagy módosítják a 4.3.2 szakasz előírásait.

**4.3.1.4** A gyártásra, a szerelvényekre, a típusjóváhagyásra, a vizsgálatokra és a jelölésre vonatkozó követelményeket lásd a 6.8 fejezetben.

**4.3.1.5** A jelen fejezet alkalmazását illető átmeneti előírásokat az

|       |       |
|-------|-------|
| 1.6.3 | 1.6.4 |
|-------|-------|

szakasz tartalmazza.

**4.3.2 Az összes osztályra vonatkozó követelmények**

**4.3.2.1 Használat**

**4.3.2.1.1** Az ADR hatálya alá tartozó valamely anyag csak akkor szállítható rögzített tartányban (tartányjárműben), leszerelhető tartányban, battériás járműben, tankkonténerben, tartányos cserefelépítményben vagy MEG-konténerben, ha a 3.2 fejezet „A” táblázat 12 oszlopában a

4.3.3.1.1 vagy a 4.3.4.1.1 pont szerinti valamely tartánycódra hivatkozás szerepel.

**4.3.2.1.2** Az előírt tartány, battériás jármű és MEG-konténer típus a 3.2 fejezet „A” táblázat 12 oszlopában egy kód formájában van megadva. Az itt megjelenő azonosító kód meghatározott sorrendben betűkből, ill. betűkből és számokból áll. A négy részes kód magyarázata a 4.3.3.1.1 pontban található, ha a szállítandó anyag a 2 osztályba tartozik, illetve a 4.3.4.1.1 pontban, ha a szállítandó anyag a 3 – 9 osztályba<sup>5)</sup> tartozik.

**4.3.2.1.3** A 4.3.2.1.2 pont szerint előírt tartány típus az a típus, amely a legkevésbé szigorú gyártási követelményeknek felel meg, amelyek a szóban forgó anyag esetében még elfogadhatók. Ha ebben a fejezetben vagy a 6.8 fejezetben nincs más előírva, lehetséges olyan tartány használata is, amelynek kódja nagyobb tervezési nyomást ír elő, ill. a töltő és ürítő nyílásokra vagy a biztonsági szelepekre, szerkezetekre szigorúbb előírást tartalmaz (a 2 osztályra vonatkozóan lásd a 4.3.3.1.1, a 3 – 9 osztályra a 4.3.4.1.1 pontot).

**4.3.2.1.4** Bizonyos anyagok esetében a tartányokra, a battériás járművekre, ill. MEG-konténerekre kiegészítő előírások is vonatkoznak, amelyeket a 3.2 fejezet „A” táblázat 13 oszlopa különleges előírások formájában tartalmaz.

**4.3.2.1.5** A tartányokat, a battériás járműveket és a MEG-konténereket csak olyan veszélyes anyagokkal szabad megtölteni, amelyekre a 6.8.2.3.1 pont szerint engedélyezve vannak, és amelyek a tartány anyagával, a tömítésekkel, a szerelvényekkel és a védőbevonattal érintkezve nem léphetnek veszélyes reakcióba (a veszélyes reakciókat lásd az 1.2.1 szakaszban), nem hozhatnak létre veszélyes terméket, vagy nem gyöngíthetik jelentősen a tartány anyagát<sup>6)</sup>.

**4.3.2.1.6** A veszélyes anyagokhoz használt tartányokban nem szabad élelmiszereket szállítani, kivéve, ha a közegészségügyi szempontból káros következmények megelőzéséhez szükséges intézkedéseket megtették.

**4.3.2.1.7** A tartány-vizsgálati könyvet (gépkönyvet) a tulajdonosnak vagy az üzemben tartónak kell őriznie, és a könyv dokumentumait az illetékes hatóság kérésére be kell tudnia mutatni. A tartány-vizsgálati könyvet (gépkönyvet) a tartány teljes élettartama alatt vezetni kell, és a tartány használatból való kivonása után még 15 hónapig meg kell őrizni.

Ha a tartány élettartama alatt bármikor megváltozik a tulajdonos vagy az üzemben tartó, a tartány-vizsgálati könyvet (gépkönyvet) az új tulajdonosnak, ill. üzemben tartónak át kell adni.

A tartány időszakos, ill. soron kívüli vizsgálatok a 6.8.2.4.5 és a 6.8.3.4.16 pontok szerinti próbákat, ellenőrzéseket vagy vizsgálatokat végző szakértő rendelkezésére kell bocsátani a tartány-vizsgálati könyv, ill. minden szükséges dokumentum másolatát.

#### **4.3.2.2** *Töltési fok*

**4.3.2.2.1** Folyékony anyagok környezeti hőmérsékleten való szállítására használt tartányoknál a következő töltési fokokat nem szabad túllépni:

a) egyéb veszélyeket (pl. mérgezést, marást) nem jelentő gyúlékony anyagok esetén szellőztető-berendezéssel vagy biztonsági szeleppel felszerelt tartányoknál (akkor is, ha a szelep előtt hasadótárcsa van):

$$\text{a töltési fok} = \text{a befogadóképesség} \cdot \frac{100}{1 + \alpha(50 - t_F)} \% - \text{a};$$

b) mérgező vagy maró anyagok esetén (akár gyúlékonyak, akár nem) szellőztető-berendezéssel vagy biztonsági szeleppel felszerelt tartányoknál (akkor is, ha a szelep előtt hasadótárcsa van):

5) Kivételt képeznek az 5.2 és a 7 osztály anyagainak szállítására szolgáló tartányok (lásd a 4.3.4.1.3 pontot).

6) Szükség esetén az anyag gyártójával és az illetékes hatósággal kell konzultálni annak megítéléséhez, hogy az anyag a tartány, a battériás jármű vagy a MEG-konténer anyagával összeférhető-e.

$$\text{a töltési fok} = \text{a befogadóképesség} \frac{98}{1 + \alpha(50 - t_F)} \% \text{-a;}$$

- c) gyúlékony anyagok és az enyhén mérgező vagy gyengén maró anyagok esetén (akár gyúlékonyak, akár nem) légmentesen zárt, biztonsági szelep nélküli tartányoknál:

$$\text{a töltési fok} = \text{a befogadóképesség} \frac{97}{1 + \alpha(50 - t_F)} \% \text{-a;}$$

- d) nagyon mérgező vagy mérgező, erősen maró vagy maró anyagok esetén (akár gyúlékonyak, akár nem) légmentesen zárt, biztonsági szelep nélküli tartányoknál:

$$\text{a töltési fok} = \text{a befogadóképesség} \frac{95}{1 + \alpha(50 - t_F)} \% \text{-a.}$$

#### 4.3.2.2.2

Ezekben a képletekben  $\alpha$  a folyadék átlagos köbös hőtágulási együtthatóját jelenti 15 °C és 50 °C között, azaz 35 °C legnagyobb hőmérséklet-változásra. Az  $\alpha$ -t a következő képlet szerint kell kiszámítani:

$$\alpha = \frac{d_{15} - d_{50}}{35d_{50}}.$$

Az előző képletekben

$d_{15}$  és  $d_{50}$  a folyadék sűrűsége 15°C-on, ill. 50°C-on;

$t_F$  a folyadék átlagos hőmérséklete a töltés alatt.

#### 4.3.2.2.3

A 4.3.2.2.1 a) – d) pontban előírtak nem vonatkoznak az olyan tartányokra, amelyek a szállított anyagot a szállítás során fűtőberendezéssel 50 °C fölötti hőmérsékleten tartják. Ilyen esetben a szállítás megkezdésekor a töltési fokot úgy kell megválasztani, ill. a hőmérsékletet úgy kell szabályozni, hogy a tartány a szállítás időtartama alatt végig legfeljebb 95%-ig legyen megtöltve, és a szállítás során a hőmérséklet ne emelkedjen a töltési hőmérséklet fölé.

#### 4.3.2.2.4

Amennyiben a folyékony állapotú anyagok, a cseppfolyósított, ill. a mélyhűtött, cseppfolyósított gázok szállítására használt tartány nincs válaszfalakkal vagy hullámtörő lemezekkel legfeljebb 7500 liter űrtartalmú rekeszekre osztva, a töltési foknak a befogadóképesség legalább 80%-ának vagy legfeljebb 20%-ának kell lennie.

Ez az előírás nem vonatkozik:

- azokra a folyékony anyagokra, amelyeknek a kinematikai viszkozitása 20 °C-on legalább 2680 mm<sup>2</sup>/s;
- azokra az olvadékokra, amelyeknek a kinematikai viszkozitása a töltési hőmérsékleten legalább 2680 mm<sup>2</sup>/s;
- az UN 1963 mélyhűtött, cseppfolyósított héliumra és az UN 1966 mélyhűtött, cseppfolyósított hidrogénre.

#### 4.3.2.3 Üzemeltetés

##### 4.3.2.3.1

A tartány falvastagságának a teljes használati időtartam alatt nem szabad  
a 6.8.2.1.17 – 6.8.2.1.21 | a 6.8.2.1.17 – 6.8.2.1.20  
pontban előírt legkisebb érték alá csökkennie.



- 4.3.2.3.2** (fenntartva) A tankkonténereket, ill. MEG-konténereket a szállítás során a szállító járművön úgy kell rögzíteni, hogy az oldalról és a hátulról jövő lökések vagy felborulás ellen megfelelő módon biztosítva legyenek<sup>7)</sup> a szállító jármű vagy a tankkonténer, ill. MEG-konténer berendezései által. Ha a tankkonténerek, ill. MEG-konténerek, beleértve az üzemi szerelvényeket is, úgy vannak kialakítva, hogy lökéseknek és a felborulásnak ellenállnak, akkor nem szükséges azokat ilyen módon biztosítani.
- 4.3.2.3.3** Megfelelő intézkedéseket kell tenni a gázok és gőzök veszélyes mennyiségben történő kiszabadulásának megakadályozására a tartányok, battériás járművek, ill. MEG-konténerek töltése és ürítése alatt. A tartányt, battériás járművet és MEG-konténert úgy kell lezárni, hogy tartalma ellenőrizhetetlenül ne juthasson a szabadba. Az alsó ürítésű tartány nyílásait csavarmentes dugóval, vakkarimával vagy más, ugyanilyen hatékonyságú szerkezettel kell lezárni. A tartány, battériás jármű és MEG-konténer zárószervezeteinek tömítettségét – különösen a merülőcső tetején levőt – a töltőnek a tartány megtöltése után ellenőrizni kell.
- 4.3.2.3.4** Abban az esetben, ha több, egymás mögött elhelyezett zárószervezet van, legelőször a betöltött anyaghoz legközelebb esőt kell elzárni.
- 4.3.2.3.5** A szállítás alatt a tartány külsején nem lehet a betöltött anyagból semmilyen veszélyes maradék.
- 4.3.2.3.6** Egymással veszélyesen reagáló anyagokat nem szabad a tartányok szomszédos kamráiban szállítani.  
Szállíthatók azonban egymással veszélyesen reagáló anyagok a tartányok szomszédos kamráiban akkor, ha ezeket a kamrákat a tartányfallal azonos vagy nagyobb vastagságú fal választja el egymástól, illetve, ha a rakott kamrákat üres tér vagy üres kamra választja el.
- 4.3.2.4** *Üres, tisztítatlan tartányok, battériás járművek és MEG-konténerek*  
*Megjegyzés:* Az üres, tisztítatlan tartányokra, battériás járművekre és MEG-konténerekre a 4.3.5 szakasz TU1, TU2, TU4, TU16 és TU35 különleges előírás vonatkozik.
- 4.3.2.4.1** A szállítás alatt a tartány külsején nem maradhat a betöltött anyagból semmilyen veszélyes maradék.
- 4.3.2.4.2** Az üres, tisztítatlan tartányokat, battériás járműveket, ill. MEG-konténereket csak úgy szabad szállításra felvenni, ha ugyanúgy vannak lezárva és ugyanolyan tömítettek, mintha töltve lennének.
- 4.3.2.4.3** Ha az üres, tisztítatlan tartányok, battériás járművek és MEG-konténerek nincsenek ugyanúgy lezárva és nem ugyanolyan tömítettek, mintha töltve lennének és ezért nem felelnek meg az ADR előírásainak, a megfelelő biztonságot szem előtt tartva, a legközelebbi alkalmas helyre szállíthatók, ahol a tisztítás vagy javítás elvégezhető.  
A biztonság megfelelőnek tekinthető, ha megtették a szükséges intézkedéseket ahhoz, hogy az ADR előírásainak megfelelő biztonságot érjenek el, és a veszélyes áruk ellenőrzés nélkül ne jussanak a szabadba.
- 4.3.2.4.4** Az üres, tisztítatlan rögzített tartányok (tartányjárművek), leszerelhető tartányok, battériás járművek, tankkonténerek, tartányos cserefelépítmények és MEG-konténerek a 6.8.2.4.2 és a

7) A tartány védelmének példái:

- az oldalirányú védelem állhat pl. hosszanti tartórudakból, amelyek a tartány két hosszanti oldala középvonalában vannak;
- a felborulás elleni védelem állhat pl. erősítőgyűrűkből vagy a keretre erősített keresztrudakból;
- a hátulról jövő lökések elleni védelem lehet pl. lökhárító vagy ütközőkeret.

6.8.2.4.3 pontban meghatározott időköz eltelte után is szállíthatók a vizsgálat végrehajtása céljából.

#### 4.3.3 A 2 osztályra vonatkozó különleges előírások

##### 4.3.3.1 Kódok és tartány rangsor

##### 4.3.3.1.1 A tartányok, battériás járművek és MEG-konténerek kódja

A 3.2 fejezet „A” táblázat 12 oszlopában szereplő kódok (tartánykódok) négy részének jelentése a következő:

| Rész | Leírás  | Tartánykód  |
|------|---|---|
| 1    | A tartány, battériás jármű vagy MEG-konténer típusa | C = sűrített gázok szállítására szolgáló tartány, battériás jármű vagy MEG-konténer<br>P = cseppfolyósított gázok vagy oldott gázok szállítására szolgáló tartány, battériás jármű vagy MEG-konténer<br>R = mélyhűtött, cseppfolyósított gázok szállítására szolgáló tartány  |
| 2    | Tervezési nyomás                                    | * = a 4.3.3.2.5 táblázat szerinti legkisebb próbanyomás értéke (bar-ban), vagy<br>22 = a legkisebb tervezési nyomás (bar-ban)   |
| 3    | Nyílások (lásd a 6.8.2.2 és a 6.8.3.2 bekezdést)    | B = háromszoros zárószerkezetű alsó töltő- vagy ürítőnyílással ellátott tartány; vagy olyan battériás jármű, ill. MEG-konténer, amelynek nyílásai a folyadék szint alatt vannak vagy amely sűrített gázok szállítására szolgál<br>C = háromszoros zárószerkezetű felső töltő- vagy ürítőnyílással ellátott tartány, amelynél a folyadékszint alatt csak tisztítónyílások vannak<br>D = háromszoros zárószerkezetű felső töltő- vagy ürítőnyílással ellátott tartány; vagy olyan battériás jármű, ill. MEG-konténer, amelynél a folyadékszint alatt nincsenek nyílások |
| 4    | Biztonsági szelepek, ill. szerkezetek               | N = a 6.8.3.2.9, ill. a 6.8.3.2.11 és a 6.8.3.2.12 vagy a 6.8.3.2.10 pont szerinti biztonsági szeleppel ellátott tartány, battériás jármű, ill. MEG-konténer, amely nem légmentesen zárt<br>H = légmentesen zárt (lásd az 1.2.1 szakaszt) tartány, battériás jármű, ill. MEG-konténer   |

**Megjegyzés: 1.** A 3.2 fejezet „A” táblázat 13 oszlopában bizonyos gázokra feltüntetett TU17 különleges előírás azt jelzi, hogy a gáz csak olyan battériás járműben vagy MEG-konténerben szállítható, amelynek elemei tartályok.

**2.** A magán a tartányon vagy a táblán feltüntetett nyomás nem lehet kisebb, mint a „\*”-nak megfelelő érték vagy a legkisebb tervezési nyomás.

##### 4.3.3.1.2 Tartányrangsor

**Tartánykód** A tartánykódhoz engedélyezett anyagok szállítására használható, további tartányok kódjai

|      |                                    |
|------|------------------------------------|
| C*BN | C#BN, C#CN, C#DN, C#BH, C#CH, C#DH |
| C*BH | C#BH, C#CH, C#DH                   |
| C*CN | C#CN, C#DN, C#CH, C#DH             |
| C*CH | C#CH, C#DH                         |
| C*DN | C#DN, C#DH                         |
| C*DH | C#DH                               |
| P*BN | P#BN, P#CN, P#DN, P#BH, P#CH, P#DH |
| P*BH | P#BH, P#CH, P#DH                   |
| P*CN | P#CN, P#DN, P#CH, P#DH             |

|      |                  |
|------|------------------|
| P*CH | P#CH, P#DH       |
| P*DN | P#DN, P#DH       |
| P*DH | P#DH             |
| R*BN | R#BN, R#CN, R#DN |
| R*CN | R#CN, R#DN       |
| R*DN | R#DN             |

A #-jellel jelölt helyen szereplő számnak legalább egyenlőnek kell lennie a \*-gal jelölt helyen szereplő számmal.

**Megjegyzés:** Ez a rangsor nem veszi figyelembe az egyes tételekre vonatkozó esetleges különleges előírásokat (lásd a 4.3.5 és a 6.8.4 szakaszt).

#### 4.3.3.2 Töltési feltételek és próbanyomások

**4.3.3.2.1** A sűrített gázok szállítására használt tartányoknál a próbanyomásnak az üzemi nyomás 1,5-szeresének kell lennie, az üzemi nyomás alatt az 1.2.1 szakaszban a nyomástartó tartály üzemi nyomására adott meghatározás szerinti nyomás értendő.

**4.3.3.2.2** A próbanyomást

- a nagy nyomáson cseppfolyósított gázok; és
- az oldott gázok

szállítására használt tartányoknál a úgy kell meghatározni, hogy a tartányt a legnagyobb töltési fokra megtöltve az anyag nyomása hőszigetelt tartány esetében 55 °C-on, illetve hőszigetelés nélküli tartány esetében 65 °C-on ne haladja meg a próbanyomást.

**4.3.3.2.3** A kis nyomáson cseppfolyósított gázok szállítására használt tartányoknál a próbanyomás:

- a) hőszigetelt tartány esetén legalább a folyadéknak 60 °C-hoz tartozó, 0,1 MPa-lal (1 bar-ral) csökkentett gőznyomása, de legalább 1 MPa (10 bar);
- b) hőszigetelés nélküli tartány esetén legalább a folyadéknak 65 °C-hoz tartozó, 0,1 MPa-lal (1 bar-ral) csökkentett gőznyomása, de legalább 1 MPa (10 bar).

A legnagyobb töltési fok meghatározásához az űrtartalom literenként engedélyezett legnagyobb töltési tömeget a következők szerint kell kiszámítani:

az űrtartalom literenként engedélyezett legnagyobb töltési tömeg = a folyadékfázis 50 °C-on fennálló sűrűsége (kg/l-ben) x 0,95.

Ezenkívül a gőzfázis 60 °C alatt nem tűnhet el.

Ha a tartány átmérője legfeljebb 1,5 m, a próbanyomásra és a legnagyobb töltési fokra a 4.1.4.1 bekezdés P200 csomagolási utasítása szerinti értékek érvényesek.

**4.3.3.2.4** A mélyhűtött, cseppfolyósított gázok szállítására használt tartányok esetén a próbanyomás nem lehet kisebb, mint a tartányon feltüntetett legnagyobb megengedett üzemi nyomás 1,3-szerese, de legalább 300 kPa (3 bar) nyomás (túlnyomás); a vákuumszigetelésű tartányok próbanyomása nem lehet kisebb, mint a legnagyobb megengedett üzemi nyomás és 100 kPa (1 bar) összegének 1,3-szerese.

**4.3.3.2.5** A rögzített tartányban (tartányjárműben), leszerelhető tartányban, battériás járműben, tankkonténerben és MEG-konténerben szállítható gázok és gázkeverékek táblázata a tartány legkisebb próbanyomásának, valamint adott esetben a töltési fokának megadásával

Az m.n.n. tételek alá sorolt gázoknál és gázkeverékeknél a próbanyomásra és a legnagyobb töltési fokra vonatkozó értékeket az illetékes hatóság által elismert szakértőnek kell meghatároznia.

Ha a sűrített vagy nagy nyomáson cseppfolyósított gázok szállítására szolgáló tartányokat a táblázatban megadottnál kisebb próbanyomásnak vetik alá, és a tartányok hőszigeteléssel vannak ellátva, az illetékes hatóság által elismert szakértő csökkentheti az engedélyezett

legnagyobb töltési tömeget, amennyiben az anyag nyomása a tartányban 55 °C-on nem haladja meg a tartányon feltüntetett próbanyomást.

| UN<br>szám | Megnevezés  | Oszta-<br>lyozási<br>kód | A tartány legkisebb<br>próbanyomása   |                        |                        |                          | Engedélyezett<br>legnagyobb<br>töltési tömeg az<br>űrtartalom<br>1 literjére, kg |
|------------|---|--------------------------|---|------------------------|------------------------|--------------------------|--|
|            |   |                          | hőszigeteléssel   |                        | hőszigetelés<br>nélkül |                          |  |
|            |   |                          | MPa   | bar                    | MPa                    | bar                      |  |
| 1001       | Acetilén, oldott  | 4F                       | csak tartályokból álló battériás járműben, ill. MEG-<br>konténerben szállítható |                        |                        |                          |  |
| 1002       | Levegő, sűrített  | 1A                       | lásd 4.3.3.2.1  |                        |                        |                          |  |
| 1003       | Levegő, mélyhűtött,<br>cseppfolyósított   | 3O                       | lásd 4.3.3.2.4  |                        |                        |                          |  |
| 1005       | Ammónia, vízmentes  | 2TC                      | 2,6   | 26                     | 2,9                    | 29                       | 0,53   |
| 1006       | Argon, sűrített   | 1A                       | lásd 4.3.3.2.1  |                        |                        |                          |  |
| 1008       | Bór-trifluorid  | 2TC                      | 22,5<br>30  | 225<br>300             | 22,5<br>30             | 225<br>300               | 0,715<br>0,86  |
| 1009       | Bróm-trifluor-metán<br>(R 13B1 hűtőgáz)   | 2A                       | 12  | 120                    | 4,2<br>12<br>25        | 42<br>120<br>250         | 1,50<br>1,13<br>1,44<br>1,60   |
| 1010       | Butadiének, stabilizált<br>(1,2-butadién) vagy<br>Butadiének, stabilizált<br>(1,3-butadién) vagy<br>Butadiének és szénhidrogén<br>keveréke, stabilizált | 2F                       | 1<br><br>1<br><br>1   | 10<br><br>10<br><br>10 | 1<br><br>1<br><br>1    | 10<br><br>10<br><br>10   | 0,59<br><br>0,55<br><br>0,50   |
| 1011       | Bután   | 2F                       | 1   | 10                     | 1                      | 10                       | 0,51   |
| 1012       | Butén keverék vagy<br>1-butén vagy<br>cisz-2-butén vagy<br>transz-2-butén   | 2F                       | 1<br>1<br>1<br>1  | 10<br>10<br>10<br>10   | 1<br>1<br>1<br>1       | 10<br>10<br>10<br>10     | 0,50<br>0,53<br>0,55<br>0,54   |
| 1013       | Szén-dioxid   | 2A                       | 19<br>22,5  | 190<br>225             | 19<br>25               | 190<br>250               | 0,73<br>0,78<br>0,66<br>0,75   |
| 1016       | Szén-monoxid, sűrített  | 1TF                      | lásd 4.3.3.2.1  |                        |                        |                          |  |
| 1017       | Klór  | 2TOC                     | 1,7   | 17                     | 1,9                    | 19                       | 1,25   |
| 1018       | Klór-difluor-metán (R 22<br>hűtőgáz)  | 2A                       | 2,4   | 24                     | 2,6                    | 26                       | 1,03   |
| 1020       | Klór-pentafluor-etán<br>(R 115 hűtőgáz)   | 2A                       | 2   | 20                     | 2,3                    | 23                       | 1,08   |
| 1021       | 1-Klór-1,2,2,2-tetrafluor-etán<br>(R 124 hűtőgáz)   | 2A                       | 1   | 10                     | 1,1                    | 11                       | 1,20   |
| 1022       | Klór-trifluor-metán<br>(R 13 hűtőgáz)   | 2A                       | 12<br>22,5  | 120<br>225             | 10<br>12<br>19<br>25   | 100<br>120<br>190<br>250 | 0,96<br>1,12<br>0,83<br>0,90<br>1,04<br>1,10                                     |
| 1023       | Városi gáz, sűrített  | 1TF                      | lásd 4.3.3.2.1  |                        |                        |                          |  |
| 1026       | Dicián  | 2TF                      | 10  | 100                    | 10                     | 100                      | 0,70   |
| 1027       | Ciklopropán   | 2F                       | 1,6   | 16                     | 1,8                    | 18                       | 0,53   |
| 1028       | Diklór-difluor-metán<br>(R 12 hűtőgáz)  | 2A                       | 1,5   | 15                     | 1,6                    | 16                       | 1,15   |
| 1029       | Diklór-fluor-metán  | 2A                       | 1   | 10                     | 1                      | 10                       | 1,23   |
| 1030       | 1,1-Difluor-etán  | 2F                       | 1,4   | 14                     | 1,6                    | 16                       | 0,79   |

| UN<br>szám | Megnevezés  | Oszta-<br>lyozási<br>kód | A tartány legkisebb<br>próbanyomása   |     |                        |                          | Engedélyezett<br>legnagyobb<br>töltési tömeg az<br>űrtartalom<br>1 literjére, kg |
|------------|---|--------------------------|---|-----|------------------------|--------------------------|--|
|            |   |                          | hőszigeteléssel   |     | hőszigetelés<br>nélkül |                          |  |
|            |   |                          | MPa   | bar | MPa                    | bar                      |  |
|            | (R 152a hűtőgáz)  |                          |   |     |                        |                          |  |
| 1032       | Dimetil-amin, vízmentes   | 2F                       | 1   | 10  | 1                      | 10                       | 0,59   |
| 1033       | Dimetil-éter  | 2F                       | 1,4   | 14  | 1,6                    | 16                       | 0,58   |
| 1035       | Etán  | 2F                       | 12  | 120 | 9,5<br>12<br>30        | 95<br>120<br>300         | 0,32<br>0,25<br>0,29<br>0,39   |
| 1036       | Etil-amin   | 2F                       | 1   | 10  | 1                      | 10                       | 0,61   |
| 1037       | Etil-klorid   | 2F                       | 1   | 10  | 1                      | 10                       | 0,80   |
| 1038       | Etilén, mélyhűtött,<br>cseppfolyósított   | 3F                       | lásd 4.3.3.2.4  |     |                        |                          |  |
| 1039       | Etil-metil-éter   | 2F                       | 1   | 10  | 1                      | 10                       | 0,64   |
| 1040       | Etilén-oxid nitrogénnel, 50 °C-on<br>legfeljebb 1 MPa (10 bar)<br>össznyomásig  | 2TF                      | 1,5   | 15  | 1,5                    | 15                       | 0,78   |
| 1041       | Etilén-oxid és szén-dioxid<br>keveréke 9%-nál több, de<br>legfeljebb 87% etilén-oxid<br>tartalommal                       | 2F                       | 2,4   | 24  | 2,6                    | 26                       | 0,73   |
| 1046       | Hélium, sűrített  | 1A                       | lásd 4.3.3.2.1  |     |                        |                          |  |
| 1048       | Hidrogén-bromid, vízmentes  | 2TC                      | 5   | 50  | 5,5                    | 55                       | 1,54   |
| 1049       | Hidrogén, sűrített  | 1F                       | lásd 4.3.3.2.1  |     |                        |                          |  |
| 1050       | Hidrogén-klorid, vízmentes  | 2TC                      | 12  | 120 | 10<br>12<br>15<br>20   | 100<br>120<br>150<br>200 | 0,69<br>0,30<br>0,56<br>0,67<br>0,74   |
| 1053       | Hidrogén-szulfid  | 2TF                      | 4,5   | 45  | 5                      | 50                       | 0,67   |
| 1055       | Izobutén  | 2F                       | 1   | 10  | 1                      | 10                       | 0,52   |
| 1056       | Krypton, sűrített   | 1A                       | lásd 4.3.3.2.1  |     |                        |                          |  |
| 1058       | Cseppfolyósított gáz, nem<br>gyúlékony,<br>nitrogén, szén-dioxid vagy<br>levegő alatt                                     | 2A                       | a töltőnyomás 1,5-szerese, lásd 4.3.3.2.2 vagy<br>4.3.3.2.3                     |     |                        |                          |  |
| 1060       | Metil-acetilén és propadién<br>keverék, stabilizált<br>P1 keverék<br>P2 keverék<br>Propadién 1...4% metil-<br>acetilénnel | 2F                       | lásd 4.3.3.2.2 vagy 4.3.3.2.3   |     |                        |                          |  |
|            |   |                          | 2,5   | 25  | 2,8                    | 28                       | 0,49   |
|            |   |                          | 2,2   | 22  | 2,3                    | 23                       | 0,47   |
|            |   |                          | 2,2   | 22  | 2,2                    | 22                       | 0,50   |
| 1061       | Metil-amin, vízmentes   | 2F                       | 1   | 10  | 1,1                    | 11                       | 0,58   |
| 1062       | Metil-bromid legfeljebb 2%<br>klórpikrin tartalommal  | 2T                       | 1   | 10  | 1                      | 10                       | 1,51   |
| 1063       | Metil-klorid (R 40 hűtőgáz)   | 2F                       | 1,3   | 13  | 1,5                    | 15                       | 0,81   |
| 1064       | Metil-merkaptán   | 2TF                      | 1   | 10  | 1                      | 10                       | 0,78   |
| 1065       | Neon, sűrített  | 1A                       | lásd 4.3.3.2.1  |     |                        |                          |  |
| 1066       | Nitrogén, sűrített  | 1A                       | lásd 4.3.3.2.1  |     |                        |                          |  |
| 1067       | Dinitrogén-tetroxid<br>(nitrogén-dioxid)  | 2TOC                     | csak tartályokból álló battériás járműben, ill. MEG-<br>konténerben szállítható |     |                        |                          |  |

| UN<br>szám | Megnevezés  | Oszta-<br>lyozási<br>kód | A tartány legkisebb<br>próbanyomása   |     |                        |                   | Engedélyezett<br>legnagyobb<br>töltési tömeg az<br>űrtartalom<br>1 literjére, kg |
|------------|---|--------------------------|---|-----|------------------------|-------------------|--|
|            |   |                          | hőszigeteléssel   |     | hőszigetelés<br>nélkül |                   |  |
|            |   |                          | MPa   | bar | MPa                    | bar               |  |
| 1070       | Dinitrogén-oxid   | 2O                       | 22,5  | 225 | 18<br>22,5<br>25       | 180<br>225<br>250 | 0,78<br>0,68<br>0,74<br>0,75   |
| 1071       | Krakkgáz, sűrített  | 1TF                      | lásd 4.3.3.2.1  |     |                        |                   |  |
| 1072       | Oxigén, sűrített  | 1O                       | lásd 4.3.3.2.1  |     |                        |                   |  |
| 1073       | Oxigén, mélyhűtött,<br>cseppfolyósított   | 3O                       | lásd 4.3.3.2.4  |     |                        |                   |  |
| 1076       | Foszgén (szén-oxi-klorid)   | 2TC                      | csak tartályokból álló battériás járműben, ill. MEG-<br>konténerben szállítható |     |                        |                   |  |
| 1077       | Propilén (propén)   | 2F                       | 2,5   | 25  | 2,7                    | 27                | 0,43   |
| 1078       | Hűtőgáz, m.n.n., mint:<br>F1 keverék<br>F2 keverék<br>F3 keverék<br>egyéb keverékek | 2A                       | 1   | 10  | 1,1                    | 11                | 1,23   |
|            |   |                          | 1,5   | 15  | 1,6                    | 16                | 1,15   |
|            |   |                          | 2,4   | 24  | 2,7                    | 27                | 1,03   |
|            |   |                          | lásd 4.3.3.2.2 vagy 4.3.3.2.3   |     |                        |                   |  |
| 1079       | Kén-dioxid  | 2TC                      | 1   | 10  | 1,2                    | 12                | 1,23   |
| 1080       | Kén-hexafluorid   | 2A                       | 12  | 120 | 7                      | 70                | 1,34   |
|            |   |                          |   |     | 14                     | 140               | 1,04   |
|            |   |                          |   |     | 16                     | 160               | 1,33   |
|            |   |                          |   |     | 16                     | 160               | 1,37   |
| 1082       | Trifluor-klór-etilén, stabilizált   | 2TF                      | 1,5   | 15  | 1,7                    | 17                | 1,13   |
| 1083       | Trimetil-amin, vízmentes  | 2F                       | 1   | 10  | 1                      | 10                | 0,56   |
| 1085       | Vinil-bromid, stabilizált   | 2F                       | 1   | 10  | 1                      | 10                | 1,37   |
| 1086       | Vinil-klorid, stabilizált   | 2F                       | 1   | 10  | 1,1                    | 11                | 0,81   |
| 1087       | Vinil-metil-éter, stabilizált   | 2F                       | 1   | 10  | 1                      | 10                | 0,67   |
| 1581       | Klórpikrin és metil-bromid<br>keveréke 2%-nál több klórpikrin<br>tartalommal        | 2T                       | 1   | 10  | 1                      | 10                | 1,51   |
| 1582       | Klórpikrin és metil-klorid<br>keveréke  | 2T                       | 1,3   | 13  | 1,5                    | 15                | 0,81   |
| 1612       | Hexaetil-tetrafoszfát és sűrített<br>gáz keveréke                                   | 1T                       | lásd 4.3.3.2.1  |     |                        |                   |  |
| 1749       | Klór-trifluorid   | 2TOC                     | 3   | 30  | 3                      | 30                | 1,40   |
| 1858       | Hexafluor-propilén<br>(R 1216 hűtőgáz)  | 2A                       | 1,7   | 17  | 1,9                    | 19                | 1,11   |
| 1859       | Szilícium-tetrafluorid  | 2TC                      | 20  | 200 | 20                     | 200               | 0,74   |
|            |   |                          | 30  | 300 | 30                     | 300               | 1,10   |
| 1860       | Vinil-fluorid, stabilizált  | 2F                       | 12  | 120 |                        |                   | 0,58   |
|            |   |                          | 22,5  | 225 |                        |                   | 0,65   |
|            |   |                          |   |     | 25                     | 250               | 0,64   |
| 1912       | Metil-klorid és diklór-metán<br>keverék   | 2F                       | 1,3   | 13  | 1,5                    | 15                | 0,81   |
| 1913       | Neon, mélyhűtött,<br>cseppfolyósított   | 3A                       | lásd 4.3.3.2.4  |     |                        |                   |  |
| 1951       | Argon, mélyhűtött,<br>cseppfolyósított  | 3A                       | lásd 4.3.3.2.4  |     |                        |                   |  |
| 1952       | Etilén-oxid és szén-dioxid<br>keveréke, legfeljebb 9% etilén-<br>oxid tartalommal   | 2A                       | 19  | 190 | 19                     | 190               | 0,66   |
|            |   |                          | 25  | 250 | 25                     | 250               | 0,75   |
| 1953       | Sűrített gáz, mérgező, gyúlékony,<br>m.n.n. <sup>a)</sup>                           | 1TF                      | lásd 4.3.3.2.1 vagy 4.3.3.2.2   |     |                        |                   |  |

| UN<br>szám | Megnevezés   | Oszta-<br>lyozási<br>kód | A tartány legkisebb<br>próbanyomása                 |  |   |  | Engedélyezett<br>legnagyobb<br>töltési tömeg az<br>űrtartalom<br>1 literjére, kg |
|------------|--|--------------------------|---|--|---|--|--|
|            |  |                          | hőszigeteléssel                                     |  | hőszigetelés<br>nélkül                                    |  |  |
|            |  |                          | MPa   | bar  | MPa   | bar  |  |
| 1954       | Sűrített gáz, gyúlékony, m.n.n.  | 1F                       | lásd 4.3.3.2.1 vagy 4.3.3.2.2                       |  |   |  |  |
| 1955       | Sűrített gáz, mérgező, m.n.n. <sup>a)</sup>  | 1T                       | lásd 4.3.3.2.1 vagy 4.3.3.2.2                       |  |   |  |  |
| 1956       | Sűrített gáz, m.n.n.   | 1A                       | lásd 4.3.3.2.1 vagy 4.3.3.2.2                       |  |   |  |  |
| 1957       | Deutérium, sűrített  | 1F                       | lásd 4.3.3.2.1                                      |  |   |  |  |
| 1958       | 1,2-Diklór-1,1,2,2-tetrafluor-<br>etán (R 114 hűtőgáz)   | 2A                       | 1   | 10   | 1   | 10   | 1,30   |
| 1959       | 1,1-Difluor-etilén<br>(R 1132a hűtőgáz)  | 2F                       | 12<br>22,5  | 120<br>225   | <br>25  | <br>250  | 0,66<br>0,78<br>0,77   |
| 1961       | Etán, mélyhűtött,<br>cseppfolyósított  | 3F                       | lásd 4.3.3.2.4                                      |  |   |  |  |
| 1962       | Etilén   | 2F                       | 12<br>22,5  | 120<br>225   | <br>22,5<br>30  | <br>225<br>300                                     | 0,25<br>0,36<br>0,34<br>0,37   |
| 1963       | Hélium, mélyhűtött,<br>cseppfolyósított  | 3A                       | lásd 4.3.3.2.4                                      |  |   |  |  |
| 1964       | Szénhidrogén-gáz keverék,<br>sűrített, m.n.n.  | 1F                       | lásd 4.3.3.2.1 vagy 4.3.3.2.2                       |  |   |  |  |
| 1965       | Szénhidrogén-gáz keverék,<br>cseppfolyósított, m.n.n.<br>A gázkeverék<br>A01 gázkeverék<br>A02 gázkeverék<br>A0 gázkeverék<br>A1 gázkeverék<br>B1 gázkeverék<br>B2 gázkeverék<br>B gázkeverék<br>C gázkeverék<br>egyéb keverék | 2F                       | 1<br>1,2<br>1,2<br>1,2<br>1,6<br>2<br>2<br>2<br>2,5 | 10<br>12<br>12<br>12<br>16<br>20<br>20<br>20<br>25 | 1<br>1,4<br>1,4<br>1,4<br>1,8<br>2,3<br>2,3<br>2,3<br>2,7 | 10<br>14<br>14<br>14<br>18<br>23<br>23<br>23<br>27 | 0,50<br>0,49<br>0,48<br>0,47<br>0,46<br>0,45<br>0,44<br>0,43<br>0,42             |
|            |  |                          | lásd 4.3.3.2.2 vagy 4.3.3.2.3                       |  |   |  |  |
| 1966       | Hidrogén, mélyhűtött,<br>cseppfolyósított  | 3F                       | lásd 4.3.3.2.4                                      |  |   |  |  |
| 1967       | Rovarirtó gáz, mérgező, m.n.n. <sup>a)</sup>   | 2T                       | lásd 4.3.3.2.2 vagy 4.3.3.2.3                       |  |   |  |  |
| 1968       | Rovarirtó gáz, m.n.n.  | 2A                       | lásd 4.3.3.2.2 vagy 4.3.3.2.3                       |  |   |  |  |
| 1969       | Izobután   | 2F                       | 1   | 10   | 1   | 10   | 0,49   |
| 1970       | Kripton, mélyhűtött,<br>cseppfolyósított   | 3A                       | lásd 4.3.3.2.4                                      |  |   |  |  |
| 1971       | Metán, sűrített vagy földgáz,<br>sűrített, magas metántartalommal  | 1F                       | lásd 4.3.3.2.1                                      |  |   |  |  |
| 1972       | Metán, mélyhűtött,<br>cseppfolyósított, vagy földgáz,<br>mélyhűtött, cseppfolyósított,<br>magas metántartalommal   | 3F                       | lásd 4.3.3.2.4                                      |  |   |  |  |
| 1973       | Klór-difluor-metán és klór-penta-<br>fluor-etán keveréke, állandó<br>forrásponttal, kb. 49% klór-<br>difluor-metán tartalommal (R<br>502 hűtőgáz)  | 2A                       | 2,5   | 25   | 2,8   | 28   | 1,05   |
| 1974       | Bróm-klór-difluor-metán<br>(R 12B1 hűtőgáz)  | 2A                       | 1   | 10   | 1   | 10   | 1,61   |



| UN<br>szám | Megnevezés   | Oszta-<br>lyozási<br>kód | A tartány legkisebb<br>próbanyomása |              |                        |                | Engedélyezett<br>legnagyobb<br>töltési tömeg az<br>űrtartalom<br>1 literjére, kg |
|------------|--|--------------------------|-------------------------------------|--------------|------------------------|----------------|--|
|            |  |                          | hőszigeteléssel                     |              | hőszigetelés<br>nélkül |                |  |
|            |  |                          | MPa                                 | bar          | MPa                    | bar            |  |
| 1976       | Oktafluor-ciklobután<br>(RC 318 hűtőgáz)   | 2A                       | 1                                   | 10           | 1                      | 10             | 1,34   |
| 1977       | Nitrogén, mélyhűtött,<br>cseppfolyósított  | 3A                       | lásd 4.3.3.2.4                      |              |                        |                |  |
| 1978       | Propán   | 2F                       | 2,1                                 | 21           | 2,3                    | 23             | 0,42   |
| 1982       | Tetrafluor-metán<br>(R 14 hűtőgáz)   | 2A                       | 20<br>30                            | 200<br>300   | 20<br>30               | 200<br>300     | 0,62<br>0,94   |
| 1983       | 1-Klór-2,2,2-trifluor-etán<br>(R 133a hűtőgáz)   | 2A                       | 1                                   | 10           | 1                      | 10             | 1,18   |
| 1984       | Trifluor-metán<br>(R 23 hűtőgáz)   | 2A                       | 19<br>25                            | 190<br>250   | <br>19<br>25           | <br>190<br>250 | 0,92<br>0,99<br>0,87<br>0,95   |
| 2034       | Hidrogén és metán keverék,<br>sűrített   | 1F                       | lásd 4.3.3.2.1                      |              |                        |                |  |
| 2035       | 1,1,1-Trifluor-etán<br>(R 143a hűtőgáz)  | 2F                       | 2,8                                 | 28           | 3,2                    | 32             | 0,79   |
| 2036       | Xenon  | 2A                       | 12                                  | 120          | <br>13                 | <br>130        | 1,30<br>1,24   |
| 2044       | 2,2-Dimetil-propán   | 2F                       | 1                                   | 10           | 1                      | 10             | 0,53   |
| 2073       | Ammónia, vizes oldat, relatív<br>sűrűség 15 °C-on kisebb, mint<br>0,880,<br>35%-nál több, de legfeljebb 40%<br>ammóniatartalommal<br>40%-nál több, de legfeljebb 50%<br>ammóniatartalommal | 4A                       | <br><br><br>                        | <br><br><br> | <br><br><br>           | <br><br><br>   | <br><br><br>   |
|            |  |                          | 1                                   | 10           | 1                      | 10             | 0,80   |
|            |  |                          | 1,2                                 | 12           | 1,2                    | 12             | 0,77   |
| 2187       | Szén-dioxid, mélyhűtött,<br>cseppfolyósított   | 3A                       | lásd 4.3.3.2.4                      |              |                        |                |  |
| 2189       | Diklór-szilán  | 2TFC                     | 1                                   | 10           | 1                      | 10             | 0,90   |
| 2191       | Szulfuril-fluorid  | 2T                       | 5                                   | 50           | 5                      | 50             | 1,10   |
| 2193       | Hexafluor-etán<br>(R 116 hűtőgáz)  | 2A                       | 16<br>20                            | 160<br>200   | <br>20                 | <br>200        | 1,28<br>1,34<br>1,10   |
| 2197       | Hidrogén-jodid, vízmentes  | 2TC                      | 1,9                                 | 19           | 2,1                    | 21             | 2,25   |
| 2200       | Propadién, stabilizált   | 2F                       | 1,8                                 | 18           | 2,0                    | 20             | 0,50   |
| 2201       | Dinitrogén-oxid, mélyhűtött,<br>cseppfolyósított   | 3O                       | lásd 4.3.3.2.4                      |              |                        |                |  |
| 2203       | Szilícium-hidrogén (szilán) <sup>b)</sup>  | 2F                       | 22,5<br>25                          | 225<br>250   | 22,5<br>25             | 225<br>250     | 0,32<br>0,36   |
| 2204       | Karbonil-szulfid   | 2TF                      | 2,7                                 | 27           | 3,0                    | 30             | 0,84   |
| 2417       | Karbonil-fluorid   | 2TC                      | 20<br>30                            | 200<br>300   | 20<br>30               | 200<br>300     | 0,47<br>0,70   |
| 2419       | Bróm-trifluor-etilén   | 2F                       | 1                                   | 10           | 1                      | 10             | 1,19   |
| 2420       | Hexafluor-aceton   | 2TC                      | 1,6                                 | 16           | 1,8                    | 18             | 1,08   |
| 2422       | Oktafluor-2-butén<br>(R 1318 hűtőgáz)  | 2A                       | 1                                   | 10           | 1                      | 10             | 1,34   |
| 2424       | Oktafluor-propán<br>(R 218 hűtőgáz)  | 2A                       | 2,1                                 | 21           | 2,3                    | 23             | 1,07   |
| 2451       | Nitrogén-trifluorid  | 2O                       | 20<br>30                            | 200<br>300   | 20<br>30               | 200<br>300     | 0,50<br>0,75   |
| 2452       | Etil-acetilén, stabilizált   | 2F                       | 1                                   | 10           | 1                      | 10             | 0,57   |



| UN<br>szám | Megnevezés  | Oszta-<br>lyozási<br>kód | A tartány legkisebb<br>próbanyomása |                 |                        |                     | Engedélyezett<br>legnagyobb<br>töltési tömeg az<br>űrtartalom<br>1 literjére, kg |
|------------|---|--------------------------|-------------------------------------|-----------------|------------------------|---------------------|--|
|            |   |                          | hőszigeteléssel                     |                 | hőszigetelés<br>nélkül |                     |  |
|            |   |                          | MPa                                 | bar             | MPa                    | bar                 |  |
| 2453       | Etil-fluorid<br>(R 161 hűtőgáz)   | 2F                       | 2,1                                 | 21              | 2,5                    | 25                  | 0,57   |
| 2454       | Metil-fluorid<br>(R 41 hűtőgáz)   | 2F                       | 30                                  | 300             | 30                     | 300                 | 0,36   |
| 2517       | 1-Klór-1,1-difluor-etán<br>(R 142b hűtőgáz)   | 2F                       | 1                                   | 10              | 1                      | 10                  | 0,99   |
| 2591       | Xenon, mélyhűtött,<br>cseppfolyósított  | 3A                       | lásd 4.3.3.2.4                      |                 |                        |                     |  |
| 2599       | Klór-trifluor-metán és trifluor-<br>metán azeotróp keveréke kb.<br>60% klór-trifluor-metán<br>tartalommal<br>(R 503 hűtőgáz)  | 2A                       | 3,1<br>4,2<br>10                    | 31<br>42<br>100 | 3,1<br><br>4,2<br>10   | 31<br><br>22<br>100 | 0,11<br>0,21<br>0,76<br>0,20<br>0,66   |
| 2601       | Ciklobután  | 2F                       | 1                                   | 10              | 1                      | 10                  | 0,63   |
| 2602       | Diklór-difluor-metán és 1,1-<br>difluor-etán azeotrop keveréke<br>kb. 74% diklór-difluor-metán<br>tartalommal (R 500 hűtőgáz)   | 2A                       | 1,8                                 | 18              | 2                      | 20                  | 1,01   |
| 2901       | Bróm-klorid   | 2TOC                     | 1                                   | 10              | 1                      | 10                  | 1,50   |
| 3057       | Trifluor-acetil-klorid  | 2TC                      | 1,3                                 | 13              | 1,5                    | 15                  | 1,17   |
| 3070       | Etilén-oxid és diklór-difluor-<br>metán keveréke legfeljebb 12,5%<br>etilén-oxiddal   | 2A                       | 1,5                                 | 15              | 1,6                    | 16                  | 1,09   |
| 3083       | Perkloril-fluorid   | 2TO                      | 2,7                                 | 27              | 3,0                    | 30                  | 1,21   |
| 3136       | Trifluor-metán, mélyhűtött,<br>cseppfolyósított   | 3A                       | lásd 4.3.3.2.4                      |                 |                        |                     |  |
| 3138       | Etilén, acetilén és propilén<br>keverék, mélyhűtött,<br>cseppfolyósított, legalább 71,5%<br>etilén, legfeljebb 22,5% acetilén<br>és legfeljebb 6% propilén<br>tartalommal | 3F                       | lásd 4.3.3.2.4                      |                 |                        |                     |  |
| 3153       | Perfluor-(etil-vinil-éter)  | 2F                       | 1,4                                 | 14              | 1,5                    | 15                  | 1,14   |
| 3154       | Perfluor-(etil-vinil-éter)  | 2F                       | 1                                   | 10              | 1                      | 10                  | 0,98   |
| 3156       | Sűrített gáz, gyújtó hatású, m.n.n.   | 1O                       | lásd 4.3.3.2.1 vagy 4.3.3.2.2       |                 |                        |                     |  |
| 3157       | Cseppfolyósított gáz, gyújtó<br>hatású, m.n.n.  | 2O                       | lásd 4.3.3.2.2 vagy 4.3.3.2.3       |                 |                        |                     |  |
| 3158       | Mélyhűtött, cseppfolyósított gáz,<br>m.n.n.   | 3A                       | lásd 4.3.3.2.4                      |                 |                        |                     |  |
| 3159       | 1,1,1,2-Tetrafluor-etán<br>(R 134a hűtőgáz)   | 2A                       | 1,6                                 | 16              | 1,8                    | 18                  | 1,04   |
| 3160       | Cseppfolyósított gáz, mérgező,<br>gyúlékony, m.n.n. <sup>a)</sup>   | 2TF                      | lásd 4.3.3.2.2 vagy 4.3.3.2.3       |                 |                        |                     |  |
| 3161       | Cseppfolyósított gáz, gyúlékony,<br>m.n.n.  | 2F                       | lásd 4.3.3.2.2 vagy 4.3.3.2.3       |                 |                        |                     |  |
| 3162       | Cseppfolyósított gáz, mérgező,<br>m.n.n. <sup>a)</sup>  | 2T                       | lásd 4.3.3.2.2 vagy 4.3.3.2.3       |                 |                        |                     |  |
| 3163       | Cseppfolyósított gáz, m.n.n.  | 2A                       | lásd 4.3.3.2.2 vagy 4.3.3.2.3       |                 |                        |                     |  |
| 3220       | Pentafluor-etán (R 125 hűtőgáz)   | 2A                       | 4,1                                 | 41              | 4,9                    | 49                  | 0,95   |
| 3252       | Difluor-metán (R 32 hűtőgáz)  | 2F                       | 3,9                                 | 39              | 4,3                    | 43                  | 0,78   |
| 3296       | Heptafluor-propán (R 227<br>hűtőgáz)  | 2A                       | 1,4                                 | 14              | 1,6                    | 16                  | 1,20   |

| UN<br>szám | Megnevezés  | Oszta-<br>lyozási<br>kód | A tartány legkisebb<br>próbanyomása |     |                        |     | Engedélyezett<br>legnagyobb<br>töltési tömeg az<br>űrtartalom<br>1 literjére, kg |
|------------|---|--------------------------|-------------------------------------|-----|------------------------|-----|--|
|            |   |                          | hőszigeteléssel                     |     | hőszigetelés<br>nélkül |     |  |
|            |   |                          | MPa                                 | bar | MPa                    | bar |  |
| 3297       | Etilén-oxid és klór-tetrafluor-etán keverék legfeljebb 8,8% etilén-oxid tartalommal                 | 2A                       | 1                                   | 10  | 1                      | 10  | 1,16   |
| 3298       | Etilén-oxid és pentafluor-etán keverék legfeljebb 7,9% etilén-oxid tartalommal                      | 2A                       | 2,4                                 | 24  | 2,6                    | 26  | 1,02   |
| 3299       | Etilén-oxid és tetrafluor-etán keverék legfeljebb 5,6% etilén-oxid tartalommal                      | 2A                       | 1,5                                 | 15  | 1,7                    | 17  | 1,03   |
| 3300       | Etilén-oxid és szén-dioxid keverék 87%-nál nagyobb etilén-oxid tartalommal                          | 2TF                      | 2,8                                 | 28  | 2,8                    | 28  | 0,73   |
| 3303       | Sűrített gáz, mérgező, gyújtó hatású, m.n.n. <sup>a)</sup>  | 1TO                      | lásd 4.3.3.2.1 vagy 4.3.3.2.2       |     |                        |     |  |
| 3304       | Sűrített gáz, mérgező, maró, m.n.n. <sup>a)</sup>   | 1TC                      | lásd 4.3.3.2.1 vagy 4.3.3.2.2       |     |                        |     |  |
| 3305       | Sűrített gáz, mérgező, gyúlékony, maró, m.n.n. <sup>a)</sup>  | 1TFC                     | lásd 4.3.3.2.1 vagy 4.3.3.2.2       |     |                        |     |  |
| 3306       | Sűrített gáz, mérgező, gyújtó hatású, maró, m.n.n. <sup>a)</sup>                                    | 1TOC                     | lásd 4.3.3.2.1 vagy 4.3.3.2.2       |     |                        |     |  |
| 3307       | Cseppfolyósított gáz, mérgező, gyújtó hatású, m.n.n. <sup>a)</sup>                                  | 2TO                      | lásd 4.3.3.2.2 vagy 4.3.3.2.3       |     |                        |     |  |
| 3308       | Cseppfolyósított gáz, mérgező, maró, m.n.n. <sup>a)</sup>   | 2TC                      | lásd 4.3.3.2.2 vagy 4.3.3.2.3       |     |                        |     |  |
| 3309       | Cseppfolyósított gáz, mérgező, gyúlékony, maró, m.n.n. <sup>a)</sup>                                | 2TFC                     | lásd 4.3.3.2.2 vagy 4.3.3.2.3       |     |                        |     |  |
| 3310       | Cseppfolyósított gáz, mérgező, gyújtó hatású, maró, m.n.n. <sup>a)</sup>                            | 2TOC                     | lásd 4.3.3.2.2 vagy 4.3.3.2.3       |     |                        |     |  |
| 3311       | Mélyhűtött, cseppfolyósított, gyújtó hatású gáz, m.n.n.   | 3O                       | lásd 4.3.3.2.4                      |     |                        |     |  |
| 3312       | Mélyhűtött, cseppfolyósított, gyúlékony gáz, m.n.n.   | 3F                       | lásd 4.3.3.2.4                      |     |                        |     |  |
| 3318       | Ammónia oldat, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 50%-nál több ammónia-tartalommal | 4TC                      | lásd 4.3.3.2.2                      |     |                        |     |  |
| 3337       | R 404A hűtőgáz  | 2A                       | 2,9                                 | 29  | 3,2                    | 32  | 0,84   |
| 3338       | R 407A hűtőgáz  | 2A                       | 2,8                                 | 28  | 3,2                    | 32  | 0,95   |
| 3339       | R 407B hűtőgáz  | 2A                       | 3,0                                 | 30  | 3,3                    | 33  | 0,95   |
| 3340       | R 407C hűtőgáz  | 2A                       | 2,7                                 | 27  | 3,0                    | 30  | 0,95   |
| 3354       | Rovarirtó gáz, gyúlékony, m.n.n.  | 2F                       | lásd 4.3.3.2.2 vagy 4.3.3.2.3       |     |                        |     |  |
| 3355       | Rovarirtó gáz, mérgező, gyúlékony, m.n.n. <sup>a)</sup>   | 2TF                      | lásd 4.3.3.2.2 vagy 4.3.3.2.3       |     |                        |     |  |

a) Akkor engedélyezett, ha LC<sub>50</sub> értéke 200 ppm vagy annál nagyobb.

b) Piroforosnak tekintendő.

#### 4.3.3.3 Üzemeltetés

##### 4.3.3.3.1

Ha a tartányt, battériás járművet, ill. MEG-konténert különböző gázokhoz engedélyezték, a gáztöltet megváltoztatása során a biztonságos üzemeltetéshez szükséges mértékben ki kell üríteni, tisztítani, ill. gáztalanítani.

**4.3.3.3.2** A tartányon, battériás járművön, ill. MEG-konténeren a szállításra való átadásakor csak a betöltött vagy az éppen lefejtett gázra vonatkozó, a 6.8.3.5.6 pont szerinti érvényes adatoknak szabad láthatóknak lenniük, a többi gázra vonatkozó minden adatot le kell takarni.

**4.3.3.3.3** Egy battériás jármű, ill. MEG-konténer minden eleme csak ugyanazt a gázt tartalmazhatja.

**4.3.3.4** (fenntartva)

#### **4.3.4 A 3 – 9 osztályra vonatkozó előírások**

##### **4.3.4.1 Kódok, a csoportos hozzárendelés és a tartány rangsor**

###### **4.3.4.1.1 A tartányok kódja**

A 3.2 fejezet „A” táblázatának 12 oszlopában szereplő kódok (tartánykódok) négy részének jelentése a következő:

| Rész | Leírás                                | Tartánykód   |
|------|---------------------------------------|--|
| 1    | A tartány típusa                      | L = folyékony állapotban levő anyagok (folyékony anyagok vagy olvasztott állapotban szállításra átadott szilárd anyagok) szállítására szolgáló tartány;<br>S = szilárd állapotban levő anyagok (porszerű vagy szemcsés anyagok) szállítására szolgáló tartány  |
| 2    | Tervezési nyomás                      | G = a legkisebb tervezési nyomás a 6.8.2.1.14 pont általános követelményei szerint; vagy<br>1.5; 2.65; 4; 10; 15 vagy 21 = a legkisebb tervezési nyomás barban (lásd a 6.8.2.1.14 pontot)  |
| 3    | Nyílások (lásd a 6.8.2.2.2 pontot)    | A = kétszeres zárószervezetű, alsó töltő-, ill. ürítőnyílással ellátott tartány<br>B = háromszoros zárószervezetű, alsó töltő-, ill. ürítőnyílással ellátott tartány<br>C = felső töltő-, ill. ürítőnyílással ellátott tartány, amelynél a folyadékszint alatt csak tisztítónyílások vannak<br>D = felső töltő-, ill. ürítőnyílással ellátott tartány, amelynél a folyadékszint alatt nincsenek nyílások               |
| 4    | Biztonsági szelepek, ill. szerkezetek | V = a 6.8.2.2.6 pont szerinti szellőző-berendezéssel ellátott, de lángzár nélküli tartány; vagy nem robbanási nyomás álló tartány<br>F = a 6.8.2.2.6 pont szerinti szellőző-berendezéssel ellátott tartány lángzárral; vagy robbanási nyomás álló tartány<br>N = a 6.8.2.2.6 pont szerinti szellőző-berendezés nélküli tartány, amely nincs légmentesen zárva<br>H = légmentesen zárt tartány (lásd az 1.2.1 szakaszt) |

###### **4.3.4.1.2 Az ADR-tartányok kódjának anyagcsoportokhoz történő hozzárendelése és a tartányok rangsora**

**Megjegyzés:** Bizonyos anyagok és anyag csoportok a csoportos hozzárendelésben nem szerepelnek, ezekre lásd a 4.3.4.1.3 pontot.

## Csoportos hozzárendelés

| Tartánykód  | Az engedélyezett anyagok csoportja                                      |                  |  |
|---|---|------------------|--|
|   | Osztály   | Osztályozási kód | Csomagolási csoport  |
| Folyékony anyagokhoz  |   |                  |  |
| LGAV  | 3   | F2               | III  |
|   | 9   | M9               | III  |
| LGBV  | 4.1   | F2               | II, III  |
|   | 5.1   | O1               | III  |
|   | 9   | M6               | III  |
|   | 9   | M11              | III  |
| és az LGAV tartánykódhoz engedélyezett anyagok csoportjai                       |   |                  |  |
| LGBF  | 3   | F1               | II<br>gőznyomás 50 °C-on ≤ 1,1 bar   |
|   | 3   | F1               | III  |
|   | 3   | D                | II<br>gőznyomás 50 °C-on ≤ 1,1 bar   |
|   | 3   | D                | III  |
|   | és az LGAV és LGBV tartánykódhoz engedélyezett anyagok csoportjai       |                  |  |
| L1.5BN  | 3   | F1               | II<br>gőznyomás 50 °C-on > 1,1 bar   |
|   | 3   | F1               | III<br>lobbanáspont < 23 °C, viszkozus,<br>gőznyomás 50 °C-on > 1,1 bar,<br>forráspont > 35 °C |
|   | 3   | D                | II<br>gőznyomás 50 °C-on > 1,1 bar   |
|   | és az LGAV, LGBV és LGBF tartánykódhoz engedélyezett anyagok csoportjai |                  |  |
| L4BN  | 3   | F1               | I<br>III, forráspont ≤ 35 °C   |
|   | 3   | FC               | III  |
|   | 3   | D                | I  |
|   | 5.1   | OT1              | I  |
|   | 5.1   | O1               | I, II  |
|   | 8   | C1               | II, III  |
|   | 8   | C3               | II, III  |
|   | 8   | C4               | II, III  |
|   | 8   | C5               | II, III  |
|   | 8   | C7               | II, III  |
|   | 8   | C8               | II, III  |
|   | 8   | C9               | II, III  |
|   | 8   | C10              | II, III  |
|   | 8   | CF1              | II   |
|   | 8   | CF2              | II   |
|   | 8   | CS1              | II   |
|   | 8   | CW1              | II   |
|   | 8   | CW2              | II   |
|   | 8   | CO1              | II   |
|   | 8   | CO2              | II   |
|   | 8   | CT1              | II, III  |
|   | 8   | CT2              | II, III  |
|   | 8   | CFT              | II   |
|   | 9   | M11              | III  |
| és az LGAV, LGBV, LGBF és L1.5BN tartánykódhoz engedélyezett anyagok csoportjai |   |                  |  |

| Tartánykód | Az engedélyezett anyagok csoportja  |                  |                     |
|------------|---|------------------|---------------------|
|            | Osztály   | Osztályozási kód | Csomagolási csoport |
| L4BH       | 3   | FT1              | II, III             |
|            | 3   | FT2              | II                  |
|            | 3   | FC               | II                  |
|            | 3   | FTC              | II                  |
|            | 6.1   | T1               | II, III             |
|            | 6.1   | T2               | II, III             |
|            | 6.1   | T3               | II, III             |
|            | 6.1   | T4               | II, III             |
|            | 6.1   | T5               | II, III             |
|            | 6.1   | T6               | II, III             |
|            | 6.1   | T7               | II, III             |
|            | 6.1   | TF1              | II                  |
|            | 6.1   | TF2              | II, III             |
|            | 6.1   | TF3              | II                  |
|            | 6.1   | TS               | II                  |
|            | 6.1   | TW1              | II                  |
|            | 6.1   | TW2              | II                  |
|            | 6.1   | TO1              | II                  |
|            | 6.1   | TO2              | II                  |
|            | 6.1   | TC1              | II                  |
|            | 6.1   | TC2              | II                  |
|            | 6.1   | TC3              | II                  |
|            | 6.1   | TC4              | II                  |
|            | 6.1   | TFC              | II                  |
|            | 6.2   | I3               | II                  |
|            | 6.2   | I4               |                     |
|            | 9   | M2               | II                  |
|            | és az LGAV, LGBV, LGBF, L1.5BN és L4BN tartánykódhoz engedélyezett anyagok csoportjai       |                  |                     |
| L4DH       | 4.2   | S1               | II, III             |
|            | 4.2   | S3               | II, III             |
|            | 4.2   | ST1              | II, III             |
|            | 4.2   | ST3              | II, III             |
|            | 4.2   | SC1              | II, III             |
|            | 4.2   | SC3              | II, III             |
|            | 4.3   | W1               | II, III             |
|            | 4.3   | WF1              | II, III             |
|            | 4.3   | WT1              | II, III             |
|            | 4.3   | WC1              | II, III             |
|            | 8   | CT1              | II, III             |
|            | és az LGAV, LGBV, LGBF, L1.5BN, L4BN és L4BH tartánykódhoz engedélyezett anyagok csoportjai |                  |                     |
| L10BH      | 8   | C1               | I                   |
|            | 8   | C3               | I                   |
|            | 8   | C4               | I                   |
|            | 8   | C5               | I                   |
|            | 8   | C7               | I                   |
|            | 8   | C8               | I                   |
|            | 8   | C9               | I                   |
|            | 8   | C10              | I                   |
|            | 8   | CF1              | I                   |
|            | 8   | CF2              | I                   |
|            | 8   | CS1              | I                   |
|            | 8   | CW1              | I                   |
|            | 8   | CW2              | I                   |

| Tartánýkód  | Az engedélyezett anyagok csoportja |                  |                     |
|---|------------------------------------|------------------|---------------------|
|   | Osztály                            | Osztályozási kód | Csomagolási csoport |
| L10BH<br>(folyt.)   | 8                                  | CO1              | I                   |
|   | 8                                  | CO2              | I                   |
|   | 8                                  | CT1              | I                   |
|   | 8                                  | CT2              | I                   |
|   | 8                                  | COT              | I                   |
| és az LGAV, LGBV, LGBF, L1.5BN, L4BN és L4BH tartánýkódhoz engedélyezett anyagok csoportjai                                   |                                    |                  |                     |
| L10CH   | 3                                  | FT1              | I                   |
|   | 3                                  | FT2              | I                   |
|   | 3                                  | FC               | I                   |
|   | 3                                  | FTC              | I                   |
|   | 6.1                                | T1               | I                   |
|   | 6.1                                | T2               | I                   |
|   | 6.1                                | T3               | I                   |
|   | 6.1                                | T4               | I                   |
|   | 6.1                                | T5               | I                   |
|   | 6.1                                | T6               | I                   |
|   | 6.1                                | T7               | I                   |
|   | 6.1                                | TF1              | I                   |
|   | 6.1                                | TF2              | I                   |
|   | 6.1                                | TF3              | I                   |
|   | 6.1                                | TS               | I                   |
|   | 6.1                                | TW1              | I                   |
|   | 6.1                                | TO1              | I                   |
|   | 6.1                                | TC1              | I                   |
|   | 6.1                                | TC2              | I                   |
|   | 6.1                                | TC3              | I                   |
|   | 6.1                                | TC4              | I                   |
|   | 6.1                                | TFC              | I                   |
| és az LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH és L10BH tartánýkódhoz engedélyezett anyagok csoportjai                            |                                    |                  |                     |
| L10DH   | 4.3                                | W1               | I                   |
|   | 4.3                                | WF1              | I                   |
|   | 4.3                                | WT1              | I                   |
|   | 4.3                                | WC1              | I                   |
|   | 4.3                                | WFC              | I                   |
|   | 5.1                                | OTC              | I                   |
|   | 8                                  | CT1              | I                   |
| és az LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L4DH, L10BH és L10CH tartánýkódhoz engedélyezett anyagok csoportjai               |                                    |                  |                     |
| L15CH   | 3                                  | FT1              | I                   |
|   | 6.1                                | TF1              | I                   |
| és az LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L10BH és L10CH tartánýkódhoz engedélyezett anyagok csoportjai                     |                                    |                  |                     |
| L21DH   | 4.2                                | S1               | I                   |
|   | 4.2                                | S3               | I                   |
|   | 4.2                                | SW               | I                   |
|   | 4.2                                | ST3              | I                   |
| és az LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L4DH, L10BH, L10CH, L10DH és L15CH tartánýkódhoz engedélyezett anyagok csoportjai |                                    |                  |                     |
| Szilárd anyagokhoz  |                                    |                  |                     |
| SGAV  | 4.1                                | F1               | III                 |
|   | 4.1                                | F3               | III                 |
|   | 4.2                                | S2               | II, III             |
|   | 4.2                                | S4               | III                 |

| Tartánykód       | Az engedélyezett anyagok csoportja                                |                  |                     |
|------------------|---|------------------|---------------------|
|                  | Osztály   | Osztályozási kód | Csomagolási csoport |
| SGAV<br>(folyt.) | 5.1   | O2               | II, III             |
|                  | 8   | C2               | II, III             |
|                  | 8   | C4               | III                 |
|                  | 8   | C6               | III                 |
|                  | 8   | C8               | III                 |
|                  | 8   | C10              | II, III             |
|                  | 8   | CT2              | III                 |
|                  | 9   | M7               | III                 |
|                  | 9   | M11              | II, III             |
| SGAN             | 4.1   | F1               | II                  |
|                  | 4.1   | F3               | II                  |
|                  | 4.1   | FT1              | II, III             |
|                  | 4.1   | FT2              | II, III             |
|                  | 4.1   | FC1              | II, III             |
|                  | 4.1   | FC2              | II, III             |
|                  | 4.2   | S2               | II                  |
|                  | 4.2   | S4               | II, III             |
|                  | 4.2   | ST2              | II, III             |
|                  | 4.2   | ST4              | II, III             |
|                  | 4.2   | SC2              | II, III             |
|                  | 4.2   | SC4              | II, III             |
|                  | 4.3   | W2               | II, III             |
|                  | 4.3   | WF2              | II                  |
|                  | 4.3   | WS               | II, III             |
|                  | 4.3   | WT2              | II, III             |
|                  | 4.3   | WC2              | II, III             |
|                  | 5.1   | O2               | II, III             |
|                  | 5.1   | OT2              | II, III             |
|                  | 5.1   | OC2              | II, III             |
|                  | 8   | C2               | II                  |
|                  | 8   | C4               | II                  |
|                  | 8   | C6               | II                  |
|                  | 8   | C8               | II                  |
|                  | 8   | C10              | II                  |
|                  | 8   | CF2              | II                  |
|                  | 8   | CS2              | II                  |
|                  | 8   | CW2              | II                  |
|                  | 8   | CO2              | II                  |
|                  | 8   | CT2              | II                  |
|                  | 9   | M3               | III                 |
|                  | és az SGAV tartánykódhoz engedélyezett anyagok csoportjai         |                  |                     |
| SGAH             | 6.1   | T2               | II, III             |
|                  | 6.1   | T3               | II, III             |
|                  | 6.1   | T5               | II, III             |
|                  | 6.1   | T7               | II, III             |
|                  | 6.1   | T9               | II                  |
|                  | 6.1   | TF3              | II                  |
|                  | 6.1   | TS               | II                  |
|                  | 6.1   | TW2              | II                  |
|                  | 6.1   | TO2              | II                  |
|                  | 6.1   | TC2              | II                  |
|                  | 6.1   | TC4              | II                  |
|                  | 9   | M1               | II, III             |
|                  | és az SGAV és SGAN tartánykódhoz engedélyezett anyagok csoportjai |                  |                     |

| Tartánycód | Az engedélyezett anyagok csoportja  |  |   |
|------------|---|--|---|
|            | Osztály   | Osztályozási kód   | Csomagolási csoport                                 |
| S4AH       | 6.2<br>9<br>és az SGAV, SGAN és SGAH tartánycódhoz engedélyezett anyagok csoportjai   | I3<br>M2   | II<br>II  |
| S10AN      | 8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>és az SGAV és SGAN tartánycódhoz engedélyezett anyagok csoportjai                      | C2<br>C4<br>C6<br>C8<br>C10<br>CF2<br>CS2<br>CW2<br>CO2<br>CT2 | I<br>I<br>I<br>I<br>I<br>I<br>I<br>I<br>I<br>I<br>I |
| S10AH      | 6.1<br>6.1<br>6.1<br>6.1<br>6.1<br>6.1<br>6.1<br>6.1<br>6.1<br>és az SGAV, SGAN, SGAH és S10AN tartánycódhoz engedélyezett anyagok csoportjai | T2<br>T3<br>T5<br>T7<br>TS<br>TW2<br>TO2<br>TC2<br>TC4         | I<br>I<br>I<br>I<br>I<br>I<br>I<br>I<br>I           |

#### Tartányrangsor

Olyan tartányok is használhatók, amelyeknek tartánycódja sem ebben a táblázatban, sem a 3.2 fejezet „A” táblázatában nincsen feltüntetve, azzal a feltétellel, hogy a kód minden eleme, az 1 – 4 részben található betűk, ill. számok legalább azonos biztonsági szintnek felelnek meg, mint a 3.2 fejezet „A” táblázatában feltüntetett kód megfelelő elemei. A biztonsági szintek növekvő sorrendben a következők:

#### 1 rész: Tartány típus

S → L

#### 2 rész: Tervezési nyomás

G → 1.5 → 2.65 → 4 → 10 → 15 → 21 bar

#### 3. rész: Nyílások

A → B → C → D

#### 4 rész: Biztonsági szelepek, ill. szerkezetek

V → F → N → H

Például:

- az L10CN kóddal ellátott tartány használható olyan anyagokhoz is, amelyekhez az L4BN kód van hozzárendelve;
- az L4BN kóddal ellátott tartány használható olyan anyagokhoz is, amelyekhez az SGAN kód van hozzárendelve.

**Megjegyzés:** A rangsor nem veszi figyelembe az egyes tételekre vonatkozó esetleges különleges előírásokat (lásd a 4.3.5 és a 6.8.4 szakaszt).



**4.3.4.1.3**

A következő anyagokra és anyagcsoportokra, amelyeknél a 3.2 fejezet „A” táblázat 12 oszlopában a tartánycód után (+) jel látható, különleges előírások vonatkoznak. Ebben az esetben a tartányok alternatív használata más anyagokhoz és anyagcsoportokhoz csak akkor engedélyezett, ha az a típusjóváadási bizonyítványban szerepel. Figyelembe véve a 3.2 fejezet „A” táblázat 13 oszlopában található különleges előírásokat, a 4.3.4.1.2 pont végén található előírások szerinti, magasabb értékű tartányok alkalmazhatók.

Ezekre a tartányokra a követelményeket a következő tartánycódok adják meg, kiegészítve a vonatkozó különleges előírásokkal, amelyeket a 3.2 fejezet „A” táblázat 13 oszlopa tartalmaz.

- a) 4.1 osztály:  
UN 2448 olvasztott kén: LGBV kód;
- b) 4.2 osztály:  
UN 1381 fehér- vagy sárgafoszfór szárazon vagy víz alatt vagy oldatban és UN 2447 olvasztott fehér- vagy sárgafoszfór: L10DH kód;
- c) 4.3 osztály:  
UN 1389 folyékony alkálifém amalgám, UN 1391 alkálifém diszperzió vagy UN 1391 alkáliföldfém diszperzió, UN 1392 folyékony alkáliföldfém-amalgám, UN 1415 lítium, UN 1420 folyékony káliumfém-ötvözetek, UN 1421 folyékony alkálifém-ötvözetek, m.n.n., UN 1422 folyékony kálium-nátrium-ötvözetek, UN 1428 nátrium, UN 2257 kálium, UN 3401 szilárd alkálifém-amalgám, UN 3402 szilárd alkáliföldfém-amalgám, UN 3403 szilárd káliumfém-ötvözetek és UN 3404 szilárd kálium-nátrium-ötvözetek: L10BN kód;  
UN 1407 cézium és UN 1423 rubídium: L10CH kód;
- d) 5.1 osztály:  
UN 1873 perklórsav 50 tömeg%-nál több, de legfeljebb 72 tömeg% savtartalommal: L4DN kód;  
UN 2015 hidrogén-peroxid vizes oldat, stabilizált, 70%-nál több hidrogén-peroxid tartalommal: L4DV kód;  
UN 2015 hidrogén-peroxid vizes oldat, stabilizált, 60%-nál több, de legfeljebb 70% hidrogén-peroxid tartalommal: L4BV kód;  
UN 2014 hidrogén-peroxid vizes oldat 20%-nál több, de legfeljebb 60% hidrogén-peroxid tartalommal és UN 3149 hidrogén-peroxid és peroxi-ecetsav keverék, stabilizált: L4BV kód;  
UN 2426 folyékony ammónium-nitrát, forró, tömény oldat, 80%-nál több, de legfeljebb 93% koncentrációval: L4BV kód;  
UN 3375 ammónium-nitrát emulzió, szuszpenzió vagy gél, folyékony: LGAV kód;  
UN 3375 ammónium-nitrát emulzió, szuszpenzió vagy gél, szilárd: SGAV kód;
- e) 5.2 osztály:  
UN 3109 F típusú, folyékony szerves peroxid és UN 3119 F típusú, folyékony szerves peroxid hőmérséklet-szabályozással: L4BN kód;  
UN 3110 F típusú, szilárd szerves peroxid és UN 3120 F típusú, szilárd szerves peroxid hőmérséklet-szabályozással: S4AN kód;
- f) 6.1 osztály:  
UN 1613 hidrogén-cianid vizes oldat (cián-hidrogénsav vizes oldat) és UN 3294 hidrogén-cianid alkoholos oldat: L15DH kód;
- g) 7 osztály:  
minden anyagra: különleges tartány;  
Minimális követelmény

folyékony anyagokra: L2.65CN kód;

szilárd anyagokra: S2.65AN kód.

E bekezdés általános előírásaitól függetlenül a radioaktív anyagokhoz használt tartányok más áruk szállítására is használhatók, ha az 5.1.3.2 bekezdés előírásait betartják.

h) 8 osztály:

UN 1052 hidrogén-fluorid, vízmentes és UN 1790 fluor-hidrogénsav, 85%-nál több hidrogén-fluorid tartalommal: L21DH kód;

UN 1744 bróm vagy UN 1744 bróm oldat: L21DH kód ;

UN 1791 hipoklorit oldat és UN 1908 klorit oldat: L4BV kód.

**4.3.4.1.4** Azokat a folyékony hulladékok szállítására szolgáló, a 6.10 fejezet követelményeinek megfelelő tartányokat, amelyek a 6.10.3.2 bekezdés szerint két zárószerkezettel rendelkeznek, az L4AH tartánykódhoz kell rendelni. Ha a tartány szerelvényezése olyan, hogy változva lehet benne folyékony és szilárd anyagot szállítani, akkor az L4AH+S4AH kódkombinációhoz kell rendelni.

#### **4.3.4.2** *Általános előírások*

**4.3.4.2.1** Forró anyag betöltése esetén a tartány külső falának vagy hőszigetelésének hőmérséklete a szállítás során nem emelkedhet 70 °C fölé.

**4.3.4.2.2** Az egy szállítóegység független, de (fenntartva)  
egymással összeköttetésben álló tartányait  
összekötő csöveknek a szállítás alatt  
üresnek kell lenniük. Azokat a hajlékony  
töltő- és ürítőcsöveket, amelyek nem állnak  
állandó összeköttetésben a tartánnyal, üres  
állapotban kell szállítani.

**4.3.4.2.3** (fenntartva)

#### **4.3.5** *Különleges előírások*

Ha a 3.2 fejezet „A” táblázat 13 oszlopában erre vonatkozó bejegyzés található, a következő különleges előírásokat kell alkalmazni:

**TU1** A tartányt tilos addig szállításra átadni, amíg az anyag nem szilárdult meg teljesen és nincs inert gázzal fedve. Az üres, tisztítatlan tartányt, amely ezt az anyagot tartalmazta, inert gázzal kell megtölteni.

**TU2** Az anyagot inert gázzal kell fedni. Az üres, tisztítatlan tartányt, amely ezt az anyagot tartalmazta, inert gázzal kell megtölteni.

**TU3** A tartány belsejét és az anyagokkal érintkezésbe kerülő minden alkatrészét tisztán kell tartani. A szivattyúkhoz, szelepekhez és egyéb készülékekhez a betöltött termékkel veszélyesen reagáló kenőanyag nem használható.

**TU4** A szállítás alatt az anyagnak inert gázréteg alatt kell lennie, amelynek túlnyomása nem lehet 50 kPa-nál (0,5 bar-nál) kevesebb.

Az üres, tisztítatlan tartányt, amely ezt az anyagot tartalmazta, szállításra történő átadásakor legalább 50 kPa (0,5 bar) túlnyomáson inert gázzal kell megtölteni.

**TU5** (fenntartva)

**TU6** Nem engedélyezett a szállítás tartányban, battériás járműben és MEG-konténerben, ha  $LC_{50} < 200$  ppm.

- TU7** Az illesztések tömítéséhez vagy a zárószerkezetek karbantartásához használt anyagoknak a tartalommal összeférhetőnek kell lenniük.
- TU8** Alumíniumötvözet tartány csak akkor használható a szállításhoz, ha a tartányt kizárólag erre használják, és az acetaldehid savmentes.
- TU9** Az UN 1203 motorbenzin vagy benzin vagy gazolin 50 °C-on 110 kPa-nál (1,1 bar-nál) nagyobb, de legfeljebb 150 kPa (1,5 bar) gőznyomással a 6.8.2.1.14 a) pont szerint tervezett és a 6.8.2.2.6 pont szerinti szerelvényekkel ellátott tartányban is szállítható.
- TU10** (fenntartva)
- TU11** Töltés alatt ezen anyag hőmérséklete nem haladhatja meg a 60 °C-ot. A töltési hőmérséklet legfeljebb 80 °C is lehet akkor, ha a töltés során nem képződnek izzó részek és a következő feltételeket teljesítik. Töltés után a tartányt a tömörség ellenőrzésére nyomás alá kell helyezni (pl. sűrített levegővel). Biztosítani kell, hogy a szállítás alatt a túlnyomás fennmaradjon. Ürités előtt ellenőrizni kell, hogy a belső nyomás meghaladja-e az atmoszférikus nyomást. Ellenkező esetben ürítés előtt a tartányba inert gázt kell vezetni.
- TU12** A betöltendő anyag változása esetén ezen anyag szállítása előtt és után a tartányt és szerelvényeit minden maradéktól gondosan meg kell tisztítani.
- TU13** A tartánynak a töltéskor szennyeződésektől mentesnek kell lennie. Az üzemi szerelvényeit, pl. szelepeket és külső csövezetéseket, töltés és ürítés után ki kell üríteni.
- TU14** A tartány zárószerkezeteinek védősapkáját a szállítás alatt rögzíteni kell.
- TU15** A tartányt nem szabad élelmiszerek, fogyasztási cikkek vagy takarmány szállítására használni.
- TU16** Az üres, tisztítatlan tartányt úgy szabad a szállításra átadni, ha vagy
- nitrogénnel van megtöltve; vagy
  - befogadóképességének legalább 96%-áig, de legfeljebb 98%-áig vízzel van megtöltve. Október 1-je és március 31-e között a víznek elegendő mennyiségű fagyásgátló szert kell tartalmaznia, ami megakadályozza a víz megfagyását a szállítás során. A fagyásgátló anyag nem fejthet ki korróziós hatást és nem lehet hajlamos a foszforral való reakcióra.
- TU17** Csak olyan battériás járműben vagy MEG-konténerben szállítható, amelynek elemei tartályok.
- TU18** A töltési fokot úgy kell meghatározni, hogy azon a hőmérsékleten, amelyen az anyag gőznyomása megegyezik a biztonsági szelep nyitónyomásával, a folyadék térfogata ne haladja meg a tartány befogadóképességének 95%-át. A 4.3.2.3.4 pont előírásait nem kell alkalmazni.
- TU19** A tartány a töltési hőmérsékleten és a töltési nyomáson 98%-ig tölthető meg. A 4.3.2.3.4 pont előírásait nem kell alkalmazni.
- TU20** (fenntartva)
- TU21** Az anyagot, ha védőközegként víz használatos, a töltés időpontjában legalább 12 cm vízzel kell fedni, a töltési fok 60 °C-on nem haladhatja meg a 98%-ot. Ha védőközegként nitrogén használatos, a töltési fok 60 °C-on nem haladhatja meg

a 96%-ot. A fennmaradó teret nitrogénnel kell megtölteni oly módon, hogy még lehűlés után se csökkenjen a nyomás az atmoszférikus nyomás alá. A tartányt légmentesen kell lezárni, hogy gázszivárgás ne következzen be.

- TU22** A tartányt legfeljebb befogadóképességének 90%-áig szabad megtölteni; a folyadék átlagos 50 °C hőmérsékletén azonban 5% szabad térnek kell maradnia.
- TU23** A töltési fok nem haladhatja meg űrtartalom-literenként a 0,93 kg-ot, ha a töltés tömegre történik. Ha a töltés térfogatra történik, a töltési fok nem haladhatja meg a tartány befogadóképességének 85%-át.
- TU24** A töltési fok nem haladhatja meg űrtartalom-literenként a 0,95 kg-ot, ha a töltés tömegre történik. Ha a töltés térfogatra történik, a töltési fok nem haladhatja meg a tartány befogadóképességének 85%-át.
- TU25** A töltési fok nem haladhatja meg űrtartalom-literenként az 1,14 kg-ot, ha a töltés tömegre történik. Ha a töltés térfogatra történik, a töltési fok nem haladhatja meg a tartány befogadóképességének 85%-át.
- TU26** A töltési fok nem haladhatja meg a tartány befogadóképességének 85%-át.
- TU27** A tartányt legfeljebb befogadóképességének 98%-áig szabad megtölteni.
- TU28** A tartányt 15 °C hivatkozási hőmérsékleten legfeljebb a befogadóképességének 95%-áig szabad megtölteni.
- TU29** A tartányt legfeljebb befogadóképességének 97%-áig szabad megtölteni, és a legnagyobb hőmérséklet a töltés után nem haladhatja meg a 140 °C-ot.
- TU30** A tartányt a tartány típusjövahagyására vonatkozó vizsgálati jegyzőkönyvben meghatározott mértékig, de legfeljebb befogadóképességének 90%-áig szabad megtölteni.
- TU31** A tartányt nem szabad űrtartalom-literenként 1 kg-nál nagyobb mértékben megtölteni.
- TU32** A tartányt legfeljebb befogadóképességének 88%-áig szabad megtölteni.
- TU33** A tartányt legalább befogadóképességének 88%-áig, de legfeljebb 92%-áig vagy űrtartalom-literenként 2,86 kg-mal szabad megtölteni.
- TU34** A tartányt űrtartalom-literenként legfeljebb 0,84 kg anyaggal szabad megtölteni.
- TU35** Az üres, tisztítatlan rögzített tartány (tartányjármű), üres, tisztítatlan leszerelhető tartány és üres, tisztítatlan tankkonténer, amelyben ez az anyag volt, nem esik az ADR előírásainak hatálya alá, ha a veszélyek elhárítására megfelelő intézkedéseket tettek.
- TU36** A 4.3.2.2 bekezdés szerinti töltési fok 15 °C hivatkozási hőmérsékleten nem haladhatja meg a tartány befogadóképességének 93%-át.
- TU37** Tartányokban csak olyan kórokozókat tartalmazó anyagok szállíthatók, amelyek általában nem képviselnek jelentős veszélyt, és bár kitétel esetén súlyos fertőzést okozhatnak, erre hatékony megelőzési és kezelési módszer áll rendelkezésre, és a fertőzés továbbterjedésének veszélye korlátozott (azaz mérsékelt egyéni és csekély közösségi veszélyt jelentenek).
- TU38** (fenntartva)

**TU39** Az anyag tartányban történő szállításra való alkalmasságát bizonyítani kell. Az alkalmasság értékelési módszert az illetékes hatóságnak jóvá kell hagynia. Ilyen módszer pl. a 8 vizsgálati sorozatban a 8.d) próba (lásd „Vizsgálatok és kritériumok kézikönyv”, I. rész, 18.7 fejezet).

Az anyag nem hagyható a tartányban olyan hosszú ideig, ami károsodást okozhat. Megfelelő intézkedéseket kell tenni, hogy az anyag a tartányban ne tömörödjön össze és ne ülepedjen le (pl. tisztítás stb.).

#### 4.4 FEJEZET

### A SZÁLVÁZAS MŰANYAGBÓL GYÁRTOTT TARTÁNYOK, RÖGZÍTETT TARTÁNYOK (TARTÁNYJÁRMŰVEK), LESZERELHETŐ TARTÁNYOK, TANKKONTÉNEREK ÉS TARTÁNYOS CSEREFELÉPÍTMÉNYEK HASZNÁLATA

**Megjegyzés:** A mobil tartányok és az UN többemeles gázkonténerek (UN MEG-konténerek) használatára lásd a 4.2 fejezetet; a fémből gyártott, rögzített tartányok (tartányjárművek), leszerelhető tartányok, tankkonténerek és tartányos cserefelépítmények, továbbá battériás járművek és többemeles gázkonténerek (MEG-konténerek) – az UN MEG-konténerek kivételével – használatára lásd a 4.3 fejezetet; a hulladékok szállítására szolgáló, vákuummal üzemelő tartányok használatára lásd a 4.5 fejezetet.

#### 4.4.1 Általános előírások

Veszélyes anyagok csak akkor szállíthatók szálvázaz műanyag tartányban, ha kielégítik a következő feltételeket:

- a) az anyag a 3, 5.1, 6.1, 6.2, 8 vagy 9 osztályba tartozik;
- b) az anyag gőznyomása (abszolút nyomás) 50 °C-on nem haladja meg a 110 kPa-t (1,1 bar-t);
- c) az anyag szállítása fémből készült tartányban a 4.3.2.1.1 pont szerint engedélyezett;
- d) az erre az anyagra a 3.2 fejezet „A” táblázat 12 oszlopában található tartánykód második részében meghatározott tervezési nyomás nem haladja meg a 400 kPa-t (4 bar-t) (lásd még a 4.3.4.1.1 pontot is); és
- e) a tartány kielégíti a 6.9 fejezetnek az adott anyag szállítására vonatkozó előírásait.

#### 4.4.2 Üzemeltetés

**4.4.2.1** A 4.3.2.1.5 – 4.3.2.2.4, a 4.3.2.3.3 – 4.3.2.3.6, a 4.3.2.4.1, a 4.3.2.4.2 pont, a 4.3.4.1 és a 4.3.4.2 bekezdés előírásait kell alkalmazni.

**4.4.2.2** A szállított anyag hőmérséklete nem haladhatja meg töltéskor a tartány üzemi hőmérsékletét, ami a 6.9.6 szakaszban hivatkozott tartány táblán van feltüntetve.

**4.4.2.3** A 3.2 fejezet „A” táblázat 13 oszlopában a fémből készült tartányban történő szállításra vonatkozó, a 4.3.5 szakaszban található különleges (TU) előírásokat a szálvázaz műanyag tartányban történő szállításra is alkalmazni kell.

**4.5 FEJEZET****A HULLADÉKOK SZÁLLÍTÁSÁRA SZOLGÁLÓ, VÁKUUMMAL  
ÜZEMELŐ TARTÁNYOK HASZNÁLATA**

**Megjegyzés:** *A mobil tartányok és az UN többelemes gázkonténerek (UN MEG-konténerek) használatára lásd a 4.2 fejezetet; a fémből gyártott, rögzített tartányok (tartányjárművek), leszerelhető tartányok, tankkonténerek és tartányos cserefelépítmények, továbbá battériás járművek és többelemes gázkonténerek (MEG-konténerek) – az UN MEG-konténerek kivételével – használatára lásd a 4.3 fejezetet; a szálvázaz műanyag tartányok használatára lásd a 4.4 fejezetet.*

**4.5.1           Használat**

**4.5.1.1**       A 3, 4.1, 5.1, 6.1, 6.2, 8 és 9 osztály anyagait tartalmazó hulladékok a 6.10 fejezet szerinti, hulladékok szállítására szolgáló, vákuummal üzemelő tartányban is szállíthatók, ha rögzített tartányban, leszerelhető tartányban, tankkonténerben vagy tartányos cserefelépítményben való szállításuk a 4.3 fejezet szerint engedélyezett. Azok az anyagok, amelyeknél a 3.2 fejezet „A” táblázat 12 oszlopában az L4BH tartánykód található, ill. amelyekhez 4.3.4.1.2 pont tartány rangsora szerint L4BH kóddal rendelkező tartányok is használhatók, hulladékok szállítására szolgáló, vákuummal üzemelő olyan tartányokban is szállíthatók, amelyek tartánykódjának harmadik részében „A” vagy „B” betű szerepel (ami a 9.1.3.5 pont szerinti tartányjármű jóváhagyási igazolás 9.5 pontjában fel van tüntetve).

**4.5.2           Üzemeltetés**

**4.5.2.1**       A hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra – a 4.3.2.2.4 és a 4.3.2.3.3 pont kivételével – a 4.3 fejezet előírásait kell alkalmazni, kiegészítve a 4.5.2.2 – 4.5.2.4 bekezdés előírásaival.

**4.5.2.2**       A gyúlékony folyékony anyagokat olyan töltőcsövön kell a hulladékok szállítására szolgáló, vákuummal üzemelő tartányba tölteni, hogy a beömlés a tartány alsó részén történjen. Gondoskodni kell arról, hogy a porlasztás a legkisebb legyen.

**4.5.2.3**       A 23 °C-nál alacsonyabb lobbanáspontú gyúlékony folyadékok levegőnyomással történő ürítésénél a legnagyobb megengedett nyomás 100 kPa (1 bar).

**4.5.2.4**       Ha a hulladékok szállítására szolgáló, vákuummal üzemelő tartányban dugattyú van, az csak akkor szolgálhat válaszfalként is, ha a válaszfal (dugattyú) két oldalán olyan anyagok vannak, amelyek nem lépnek egymással veszélyes reakcióba (lásd a 4.3.2.3.6 pontot).

**4.6 FEJEZET**

(fenntartva)



**4.7 FEJEZET****A ROBBANÓANYAG ELŐÁLLÍTÓ MOBIL EGYSÉGEK (MEMU-k)  
HASZNÁLATA**

**Megjegyzés:** 1. A csomagolóeszközök használatára lásd a 4.1 fejezetet; a mobil tartányok használatára lásd a 4.2 fejezetet; a fémből gyártott, rögzített tartányok (tartányjárművek), leszerelhető tartányok, tankkonténerek és tartányos cserefelépítmények használatára lásd a 4.3 fejezetet; a szálvázazás műanyag tartányok használatára lásd a 4.4 fejezetet; a hulladékok szállítására szolgáló, vákuummal üzemelő tartányok használatára lásd a 4.5 fejezetet.  
2. A gyártásra, a szerelvényekre, a típusjóváhagyásra, a vizsgálatokra és a jelölésre vonatkozó követelményekre lásd a 6.7, a 6.8, a 6.9, a 6.11 és a 6.12 fejezetet.

**4.7.1 Használat**

**4.7.1.1** A 6.12 fejezet szerinti MEMU-val a 3, az 5.1, a 6.1 és a 8 osztály anyagai szállíthatók mobil tartányban, ha a 4.2 fejezet szerint megengedett; rögzített tartányban, leszerelhető tartányban, tankkonténerben és tartányos cserefelépítményben, ha a 4.3 fejezet szerint megengedett; szálvázazás műanyag tartányban, ha a 4.4 fejezet szerint megengedett; ill. ömlesztettáru-konténerben, ha a 7.3 fejezet szerint megengedett.

**4.7.1.2** Az 1 osztályba tartozó robbanóanyagok és –tárgyak az illetékes hatóság engedélyével (lásd a 7.5.5.2.3 pontot) küldeménydarabokban is szállíthatók a 6.12.5 szakasz szerinti különleges rakterekben, amennyiben a csomagolóeszköz a 4.1 fejezet szerint, a szállítás a 7.2 és a 7.5 fejezet szerint megengedett.

**4.7.2 Üzemeltetés**

**4.7.2.1** A 6.12 fejezet szerinti tartányok üzemeltetésére a következő előírások vonatkoznak:

- a) MEMU-val történő szállítás esetén az 1000 liter vagy annál nagyobb befogadóképességű tartányokra a 4.2 fejezet, a 4.3 fejezet (kivéve a 4.3.1.4 bekezdést, a 4.3.2.3.1 pontot, a 4.3.3 és a 4.3.4 szakaszt), ill. a 4.4 fejezet előírásai, valamint a következő 4.7.2.2, 4.7.2.3 és 4.7.2.4 bekezdés előírásai;
- b) MEMU-val történő szállítás esetén az 1000 liternél kisebb befogadóképességű tartányokra a 4.2 fejezet, a 4.3 fejezet (kivéve a 4.3.1.4 és a 4.3.2.1 bekezdést, a 4.3.2.3.1 pontot, a 4.3.3 és a 4.3.4 szakaszt), ill. a 4.4 fejezet előírásai, valamint a következő 4.7.2.2, 4.7.2.3 és 4.7.2.4 bekezdés előírásai.

**4.7.2.2** A tartány falvastagságának a teljes használati időtartam alatt nem szabad a vonatkozó gyártási előírásokban előírt legkisebb érték alá csökkenie.

**4.7.2.3** Szállítás közben a hajlékony ürítőcsőnek, akár állandó összeköttetésben van a tartánnyal, akár nem, valamint a betöltési nyílásnak a kevert (és érzékenyített) robbanóanyagtól mentesnek kell lennie.

**4.7.2.4** Amennyiben tartányban való szállításra a 3.2 fejezet „A” táblázat 13 oszlopában fel van tüntetve 4.3.5 szakasz szerinti különleges előírás (TU), úgy azt is be kell tartani.

**4.7.2.5** Az üzemeltetőnek gondoskodnia kell róla, hogy a 9.8.8 szakaszban említett zárok a szállítás alatt zárva legyenek.

**5. RÉSZ****FELADÁSI ELJÁRÁSOK**

## 5.1 FEJEZET

### ÁLTALÁNOS ELŐÍRÁSOK

#### 5.1.1 Alkalmazási terület és általános előírások

Ez a fejezet a veszélyes áru küldemények jelölésére, bárcázására és okmányolására, valamint ahol szükséges, a küldemény engedélyezésére és az előzetes értesítésre vonatkozik.

#### 5.1.2 Az egyesítőcsomagolások használata

##### 5.1.2.1 a) Az egyesítőcsomagoláson fel kell tüntetni

- i) az „EGYESÍTŐCSOMAGOLÁS” feliratot, és
- ii) a benne levő minden veszélyes áru UN számát, amely elé az „UN” rövidítést kell írni és el kell helyezni rajta a benne levő küldeménydarabokra az 5.2.2 szakaszban előírt bárcákat,

kivéve, ha az egyesítőcsomagolásban levő minden veszélyes árufajta UN száma és bárcája látható, hacsak az 5.2.2.1.11 pont mást nem ír elő. Ha különböző küldeménydarabokra ugyanolyan UN szám, ill. bárca szükséges, akkor azt az egyesítőcsomagoláson csak egyszer kell feltüntetni, ill. elhelyezni.

Az „EGYESÍTŐCSOMAGOLÁS” feliratot jól láthatóan, olvashatóan, a kiindulási ország valamelyik hivatalos nyelvén kell feltüntetni, és ezenkívül, ha ez a nyelv nem az angol, a francia vagy a német, akkor angol, francia vagy német nyelven is fel kell tüntetni, kivéve, ha a szállításban érintett országok közötti megállapodások mást írnak elő.

- b) A következő esetekben az egyesítőcsomagolások két, egymással szemben levő oldalára az 5.2.1.9 bekezdésben ábrázolt, az álló helyzetet jelző nyilakat is el kell helyezni:

- i) azokra az egyesítőcsomagolásokra, amelyekben olyan küldeménydarabok vannak, amelyeket az 5.2.1.9.1 pont szerint e jelöléssel el kell ellátni, kivéve, ha a jelölés kívülről látható; és
- ii) azokra az egyesítőcsomagolásokra, amelyekben folyékony anyagot tartalmazó olyan küldeménydarabok vannak, amelyeket az 5.2.1.9.2 pont szerint e jelöléssel nem kell ellátni, kivéve, ha a csomagolóeszközök zárószervezete az egyesítőcsomagoláson keresztül látható.

##### 5.1.2.2 Minden veszélyes árut tartalmazó küldeménydarabnak, amely az egyesítőcsomagolásban van, meg kell felelnie az ADR összes vonatkozó előírásának. Az egyes csomagolások funkcióját az egyesítőcsomagolás nem befolyásolhatja.

##### 5.1.2.3 Az olyan küldeménydarabot, amelyen az 5.2.1.9 bekezdés szerinti, álló helyzetet jelző nyilak vannak, a jelölésnek megfelelő helyzetben kell egyesítőcsomagolásba, ill. nagycsomagolásba helyezni.

##### 5.1.2.4 Az együvé rakási tilalmak az egyesítőcsomagolásokra is vonatkoznak.

#### 5.1.3 Üres, tisztítatlan, csomagolóeszközök (beleértve az IBC-ket és a nagycsomagolásokat), tartányok, MEMU-k, ömlesztett árut szállító járművek és konténerek

##### 5.1.3.1 Az üres, tisztítatlan csomagolóeszközöket (beleértve az IBC-ket és a nagycsomagolásokat), tartányokat (beleértve a tartányjárműveket, battériás járműveket, leszerelhető tartányokat, mobil tartányokat, tankkonténereket, MEG-konténereket és MEMU-kat), az ömlesztett áru szállításhoz használt járműveket és konténereket, amelyek a 7 osztály kivételével a többi

osztály veszélyes áruit tartalmazták, ugyanúgy kell jelölni és bárcázni, mint töltött állapotban.

**Megjegyzés:** Az okmányokra lásd az 5.4 fejezetet.

- 5.1.3.2** A radioaktív anyagok szállítására használt csomagolóeszközöket, IBC-eket és tartányokat nem szabad más áruk tárolására vagy szállítására használni, kivéve, ha annyira vannak sugárzásmentesítve, hogy a sugárzási szint béta-, gamma-sugárzók és csekély toxicitású alfa-sugárzók esetén legfeljebb  $0,4 \text{ Bq/cm}^2$ , ill. minden más alfa-sugárzó esetén legfeljebb  $0,04 \text{ Bq/cm}^2$ .

#### **5.1.4 Egybecsomagolás**

Amennyiben két vagy több veszélyes árut ugyanazon külső csomagolásba egybecsomagolnak, a küldeménydarabot el kell látni minden egyes árura a megfelelő jelöléssel és veszélyességi bárcákkal. Ha a különböző árukra ugyanolyan veszélyességi bárca szükséges, akkor abból csak egyet kell elhelyezni.

#### **5.1.5 Általános előírások a 7 osztályra**

##### **5.1.5.1 Szállítási engedély és értesítés**

###### **5.1.5.1.1 Általános előírás**

A 6.4 fejezetben leírt küldeménydarab-minta engedélyen kívül meghatározott körülmények között többoldalú szállítási engedélyre is szükség van (lásd az 5.1.5.1.2 és 5.1.5.1.3 pontot), ill. az illetékes hatóságok értesítése is szükséges (lásd az 5.1.5.1.4 pontot).

###### **5.1.5.1.2 Szállítási engedély**

Többoldalú engedély szükséges:

- a) a 6.4.7.5 bekezdés előírásainak nem megfelelő vagy ellenőrzött időszakos szellőztetésre kialakított  $B(M)$  típusú küldeménydarabok szállításához;
- b) az olyan  $B(M)$  típusú küldeménydarabok szállításához, amelyek radioaktív tartalmának aktivitása nagyobb, mint a  $3000A_1$ , ill. a  $3000A_2$  és az  $1000 \text{ TBq}$  közül a kisebb érték;
- c) olyan küldeménydarabok szállításához, amelyek hasadóanyagot tartalmaznak, ha az egyes küldeménydarabok kritikussági biztonsági mutatószámának összege egy járművön vagy egy konténerben meghaladja az 50-et;

azzal a kivétellel, hogy az illetékes hatóság engedélyezheti a szállítást saját országának területén keresztül vagy területére szállítási engedély nélkül is a minta általa kiadott engedélyében (lásd az 5.1.5.2.1 pontot) szereplő különleges előírással.

###### **5.1.5.1.3 Szállítási engedély külön megegyezés alapján**

Az illetékes hatóság jóváhagyhat olyan előírásokat, amelyek szerint az ADR vonatkozó követelményeinek nem mindenben megfelelő küldeményt külön megegyezéssel szállíthatnak (lásd az 1.7.4 szakaszt).

###### **5.1.5.1.4 Értesítések**

Az illetékes hatóságokat a következő esetekben kell értesíteni:

- a) Az olyan küldeménydarab első szállítása előtt, amelyhez az illetékes hatóság engedélye szükséges, a feladónak biztosítani kell, hogy a küldeménydarab gyártási típusához szükséges minden vonatkozó engedélyezési okirat egy példánya mindazon országok illetékes hatóságai számára rendelkezésre álljon, amelyeken keresztül vagy amelybe a küldeményt szállítják. A feladónak nem szükséges ezen illetékes hatóságok

elismerésére várakozni, és az illetékes hatóságok sem kötelesek az engedélyezési okiratok átvételét elismerni.

- b) Minden
- i)  $C$  típusú küldeménydarab szállításánál olyan radioaktív anyag tartalommal, amelynek aktivitása a  $3000A_1$ , ill. a  $3000A_2$  és az 1000 TBq értékek közül a kisebbiknél nagyobb;
  - ii)  $B(U)$  típusú küldeménydarab szállításánál olyan radioaktív anyag tartalommal, amelynek aktivitása a  $3000A_1$ , ill. a  $3000A_2$  és az 1000 TBq értékek közül a kisebbiknél nagyobb;
  - iii)  $B(M)$  típusú küldeménydarab szállításánál;
  - iv) külön megegyezés alapján végzett szállításnál;
- a feladónak mindazon országok illetékes hatóságait értesíteni kell, amelyeken keresztül vagy amelybe a küldeményt szállítják. Ennek az értesítésnek a szállítást megelőzően minden illetékes hatóság birtokában kell lenni, lehetőleg legalább hét nappal a szállítás megkezdése előtt.
- c) A feladónak nem kell külön értesítést feladni, ha a szükséges információkat a szállítási engedély iránti kérelem tartalmazza.
- d) A feladási értesítésnek a következőket kell tartalmaznia:
- i) elegendő adatot, amely lehetővé teszi a küldeménydarab vagy küldeménydarabok azonosítását, beleértve minden vonatkozó engedélyezési okirat számot és azonosító jelzést;
  - ii) a feladási időpontra, a várható megérkezési időpontra és a tervezett szállítási útvonalra vonatkozó adatokat;
  - iii) a radioaktív anyag(ok) vagy nuklid(ok) nevét;
  - iv) a radioaktív anyag fizikai és kémiai állapotának leírását, vagy annak közlését, hogy különleges formájú vagy kis mértékben diszpergálódó radioaktív anyagról van-e szó; és
  - v) a radioaktív tartalom szállítás alatti legnagyobb aktivitását becquerelben (Bq) a hozzátartozó SI-prefixum jelével együtt (lásd az 1.2.2.1 bekezdést). Hasadóanyagoknál az aktivitás helyett a hasadóanyag összes mennyisége is megadható grammban (g) vagy annak többszörösében.

### 5.1.5.2 Az illetékes hatóságok engedélye

#### 5.1.5.2.1 Az illetékes hatóságok engedélye szükséges a következőkre:

- a) a gyártási mintára;
- i) különleges formájú radioaktív anyagokra;
  - ii) kis mértékben diszpergálódó radioaktív anyagokra;
  - iii) 0,1 kg vagy annál több urán-hexafluoridot tartalmazó küldeménydarabokra;
  - iv) hasadó anyagot tartalmazó minden küldeménydarabra, kivéve, ha a 6.4.11.2 bekezdés alapján mentesítve vannak;
  - v)  $B(U)$  típusú és  $B(M)$  típusú küldeménydarabokra;
  - vi)  $C$  típusú küldeménydarabokra;
- b) a külön megegyezésre;
- c) bizonyos szállításokra (lásd az 5.1.5.1.2 pontot).

Az engedélyokirat tanúsítja, hogy a vonatkozó követelményeket betartották; a küldeménydarab-minta engedélyben a mintához azonosító számot kell rendelni.

A küldeménydarab-mintára és a szállításra vonatkozó engedélyek közös engedélyokiratba foglalhatók egybe.

Az engedélyokiratoknak és az engedély iránti kérelmeknek meg kell felelniük a 6.4.23 szakasz előírásainak.

**5.1.5.2.2** A feladónak rendelkeznie kell minden szükséges engedélyokirat egy példányával.

**5.1.5.2.3** Olyan küldeménydarab-minták esetében, amelyekhez nem szükséges az illetékes hatóság engedélye, a feladónak az illetékes hatóság általi ellenőrzéshez – kérésre – rendelkezésre kell bocsátania azokat a dokumentumokat, amelyek bizonyítják, hogy a küldeménydarab-minta minden rá vonatkozó előírásnak megfelel.

**5.1.5.3** *A szállítási mutatószám (TI) és a kritikussági biztonsági mutatószám (CSI) meghatározása*

**5.1.5.3.1** A szállítási mutatószám (TI) egy küldeménydarabra, egyesítőcsomagolásra, konténerre, csomagolatlan LSA-I anyagra vagy csomagolatlan SCO-I tárgyra a következő eljárás alapján meghatározott szám:

- a) Meg kell határozni a legnagyobb sugárzási szintet millisievert per órában (mSv/h) a küldeménydarab, egyesítőcsomagolás, konténer, csomagolatlan LSA-I anyag vagy csomagolatlan SCO-I tárgy külső felületétől 1 m távolságban. Az így kapott értéket meg kell szorozni 100-zal, a kapott érték a szállítási mutatószám. Urán- és tórium-érceknél és ezek koncentrációjainál legnagyobb sugárzási szintként a külső felületől 1 m távolságban bármely ponton a következő értékek vehetők:

|   |             |
|---|-------------|
| urán- és tóriumércekre és fizikai koncentrációikra          | 0,4 mSv/h;  |
| kémiai tóriumkoncentrációkra                                | 0,3 mSv/h;  |
| kémiai uránkoncentrációkra, az urán-hexafluorid kivételével | 0,02 mSv/h. |

- b) A tartányokra, konténerekre, csomagolatlan LSA-I anyagokra és csomagolatlan SCO-I tárgyakra az a) pont szerint kapott értéket a 5.1.5.3.1 táblázatban található megfelelő tényezővel meg kell szorozni.

- c) Az a) és b) pontok szerint kapott értékeket egy tizedesjegyre fel kell kerekíteni (pl.: 1,13-ot 1,2-re), kivétel a 0,05 vagy ennél kisebb érték, ami nullának vehető.

**5.1.5.3.1 táblázat – Szorzótényezők a tartányokhoz, a konténerekhez, a csomagolatlan LSA-I anyagokhoz és SCO-I tárgyakhoz**

| A rakomány mérete <sup>a)</sup>                             | Szorótényező |
|---|--------------|
| rakomány méret $\leq 1 \text{ m}^2$                         | 1            |
| $1 \text{ m}^2 < \text{rakomány méret} \leq 5 \text{ m}^2$  | 2            |
| $5 \text{ m}^2 < \text{rakomány méret} \leq 20 \text{ m}^2$ | 3            |
| $20 < \text{m}^2 \text{ rakomány méret}$                    | 10           |

- a) A rakomány legnagyobb keresztmetszeti területe.

**5.1.5.3.2** A szállítási mutatószámot az egyes egyesítőcsomagolásokra, konténerekre és járművekre vagy a bennük levő küldeménydarabok TI értékének összegzésével vagy a sugárzási szint közvetlen mérésével kell meghatározni, kivéve a nem alaktartó egyesítőcsomagolásokat, amelyekre a szállítási mutatószám csak az összes küldeménydarab TI értékének összegezésével határozható meg.

**5.1.5.3.3** A kritikussági biztonsági mutatószámot minden egyesítőcsomagolásra, ill. konténerre a benne levő küldeménydarabok CSI értékének összegzésével kell meghatározni. Ugyanígy kell meghatározni egy küldemény vagy egy jármű összegzett CSI értékét.

**5.1.5.3.4**

A küldeménydarabokat és az egyesítőcsomagolásokat a 5.1.5.3.4 táblázatban meghatározott feltételek és a következő előírások szerint az I-FEHÉR, a II-SÁRGA vagy a III-SÁRGA kategóriába kell besorolni:

- a) A küldeménydaraboknál és egyesítőcsomagolásoknál a megfelelő kategória meghatározásánál figyelembe kell venni a szállítási mutatószámot (*TI*) és a felületen mért sugárzási szintet. Amennyiben a szállítási mutatószám (*TI*) kielégíti valamelyik kategória feltételeit, de a felületen mért sugárzási szint egy másik kategóriának felel meg, a küldeménydarabot, ill. egyesítőcsomagolást a két kategória közül a magasabba kell besorolni. Ebben az összefüggésben a I-FEHÉR kategória tekintendő legalacsonyabbnak.
- b) A szállítási mutatószámot (*TI*) a 5.1.5.3.1 és a 5.1.5.3.2 pont szerint kell meghatározni.
- c) Amennyiben a felületen mért sugárzási szint nagyobb, mint 2 mSv/h, a küldeménydarabot, ill. egyesítőcsomagolást kizárólagos használat mellett és a 7.5.11 szakasz, CV33 előírás 1.3) és 3.5) a) pontja szerinti előírásoknak megfelelően kell szállítani.
- d) Azt a küldeménydarabot, amelyet külön megegyezés alapján szállítanak, a III-SÁRGA kategóriába kell besorolni, kivéve, ha a küldeménydarab-minta származási országának illetékes hatósága másként állapítja meg az engedélyben (lásd a 2.2.7.2.4.6 pontot).
- e) Azt az egyesítőcsomagolást, amely külön megegyezés alapján szállított küldeménydarabokat tartalmaz, a III-SÁRGA kategóriába kell besorolni, kivéve, ha a küldeménydarab-minta származási országának illetékes hatósága másként állapítja meg az engedélyben (lásd a 2.2.7.2.4.6 pontot).

**5.1.5.3.4 táblázat – A küldeménydarabok és egyesítőcsomagolások kategóriái**

| Feltételek  |   |                         |
|---|---|-------------------------|
| Szállítási mutatószám<br>( <i>TI</i> )            | A felületen mért legnagyobb sugárzási<br>szint a küldeménydarabokon | Kategória               |
| 0 <sup>a)</sup>                                   | Legfeljebb 0,005 mSv/h  | I-FEHÉR                 |
| Nagyobb, mint 0, de<br>legfeljebb 1 <sup>a)</sup> | Nagyobb, mint 0,005 mSv/h, de<br>legfeljebb 0,5 mSv/h               | II-SÁRGA                |
| Nagyobb, mint 1, de<br>legfeljebb 10              | Nagyobb, mint 0,5 mSv/h, de<br>legfeljebb 2 mSv/h                   | III-SÁRGA               |
| Nagyobb, mint 10                                  | Nagyobb, mint 2 mSv/h, de<br>legfeljebb 10 mSv/h                    | III-SÁRGA <sup>b)</sup> |

a) Amennyiben a mért szállítási mutatószám (*TI*) nem nagyobb, mint 0,05, a szállítási mutatószám (*TI*) a 5.1.5.3.1 c) pont alapján nullának vehető.

b) Kizárólagos használat mellett kell szállítani.

#### 5.1.5.4 Az engedélyekre és előzetes értesítésre vonatkozó előírások összefoglalása

- Megjegyzés:** 1. Az olyan küldeménydarab első szállítása előtt, amelyhez az illetékes hatóság küldeménydarab-minta engedélyre van szüksége, a feladónak biztosítania kell, hogy a küldeménydarab-minta engedélynek egy példánya minden érintett ország illetékes hatóságának rendelkezésre álljon [lásd az 5.1.5.1.4 a) pontot].
2. Értesítés akkor szükséges, ha a tartalom meghaladja a  $3000A_1$ , ill. a  $3000A_2$  vagy az  $1000\text{ TBq}$  értéket [lásd az 5.1.5.1.4 b) pontot].
3. A szállításhoz többoldalú engedély szükséges, ha a tartalom meghaladja a  $3000A_1$ , ill. a  $3000A_2$  vagy az  $1000\text{ TBq}$  értéket, vagy ha ellenőrzött időszakos szellőztetés szükséges (lásd az 5.1.5.1 bekezdést).
4. Az engedélyezésére és az előzetes értesítésre lásd az anyag szállítására alkalmazott küldeménydarabra vonatkozó előírásokat.

| Tárgy  | UN szám  | Az illetékes hatóságok engedélyre van szüksége-e |                                 | A származási ország és az érintett országok <sup>a)</sup> illetékes hatóságainak értesítése szükséges-e a feladó által minden szállítás előtt | Hivatkozás  |
|--|--|--|---------------------------------|---|---|
|  |  | származási ország                                | érintett országok <sup>a)</sup> |   |   |
| Nem felsorolt $A_1$ és $A_2$ érték számítása   | –  | Igen   | Igen                            | Nem   | –   |
| Engedményes küldeménydarabok   | 2908, 2909, 2910, 2911                                     |  |                                 |   | –   |
| – küldeménydarab-minta   |  | Nem  | Nem                             | Nem   |   |
| – szállítás  |  | Nem  | Nem                             | Nem   |   |
| LSA anyagok <sup>b)</sup> , SCO-tárgyak <sup>b)</sup> , IP-1, IP-2 és IP-3 típusú küldeménydarabok, nem hasadó és hasadó-engedményes | 2912, 2913, 3321, 3322                                     |  |                                 |   | –   |
| – küldeménydarab-minta   |  | Nem  | Nem                             | Nem   |   |
| – szállítás  |  | Nem  | Nem                             | Nem   |   |
| A típusú küldeménydarabok <sup>b)</sup> , nem hasadó és hasadó-engedményes   | 2915, 3332   |  |                                 |   | –   |
| – küldeménydarab-minta   |  | Nem  | Nem                             | Nem   |   |
| – szállítás  |  | Nem  | Nem                             | Nem   |   |
| B(U) típusú küldeménydarabok <sup>b)</sup> , nem hasadó és hasadó-engedményes  | 2916   |  |                                 |   | 5.1.5.1.4 b), 5.1.5.2.1 a), 6.4.22.2                  |
| – küldeménydarab-minta   |  | Igen   | Nem                             | lásd az 1 megj.   |   |
| – szállítás  |  | Nem  | Nem                             | lásd a 2 megj.  |   |
| B(M) típusú küldeménydarabok <sup>b)</sup> , nem hasadó és hasadó-engedményes  | 2917   |  |                                 |   | 5.1.5.1.4 b), 5.1.5.2.1 a), 5.1.5.1.2, 6.4.22.3       |
| – küldeménydarab-minta   |  | Igen   | Igen                            | Nem   |   |
| – szállítás  |  | lásd a 3 megj.                                   | lásd a 3 megj.                  | Igen  |   |
| C típusú küldeménydarabok <sup>b)</sup> , nem hasadó és hasadó-engedményes   | 3323   |  |                                 |   | 5.1.5.1.4 b), 5.1.5.2.1 a), 6.4.22.2                  |
| – küldeménydarab-minta   |  | Igen   | Nem                             | lásd az 1 megj.   |   |
| – szállítás  |  | Nem  | Nem                             | lásd a 2 megj.  |   |
| Hasadóanyag-tartalmú küldeménydarabok  | 2977, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3333 |  |                                 |   | 5.1.5.2.1 a), 5.1.5.1.2, 6.4.22.2, 6.4.22.4, 6.4.22.5 |
| – küldeménydarab-minta   |  | Igen <sup>c)</sup>                               | Igen <sup>c)</sup>              | Nem   |   |
| – szállítás  |  | Nem <sup>d)</sup>                                | Nem <sup>d)</sup>               | lásd a 2 megj.  |   |
| – ha a kritikussági biztonsági mutatószámok összege legfeljebb 50  |  |  |                                 |   |   |
| – ha a kritikussági biztonsági mutatószámok összege nagyobb 50-nél   |  | Igen   | Igen                            | lásd a 2 megj.  |   |



| Tárgy  | UN szám             | Az illetékes hatóságok engedélye szükséges-e |                                 | A származási ország és az érintett országok <sup>a)</sup> illetékes hatóságainak értesítése szükséges-e a feladó által minden szállítás előtt | Hivatkozás  |
|--|---------------------|--|---------------------------------|---|---|
|  |                     | származási ország                            | érintett országok <sup>a)</sup> |   |   |
| Különleges formájú radioaktív anyagok<br>– gyártási minta<br>– szállítás   | –<br>lásd a 4 megj. | Igen<br>lásd a 4 megj.                       | Nem<br>lásd a 4 megj.           | Nem<br>lásd a 4 megj.   | 1.6.6.3,<br>5.1.5.2.1 a),<br>6.4.22.5                               |
| Kis mértékben diszpergálódó radioaktív anyagok<br>– gyártási minta<br>– szállítás                                  | –<br>lásd a 4 megj. | Igen<br>lásd a 4 megj.                       | Nem<br>lásd a 4 megj.           | Nem<br>lásd a 4 megj.   | 5.1.5.2.1 a),<br>6.4.22.2<br>6.4.22.3                               |
| Küldeménydarabok, amelyek legalább 0,1 kg urán-hexafluoridot tartalmaznak<br>– küldeménydarab-minta<br>– szállítás | –<br>lásd a 4 megj. | Igen<br>lásd a 4 megj.                       | Nem<br>lásd a 4 megj.           | Nem<br>lásd a 4 megj.   | 5.1.5.2.1 a),<br>6.4.22.1   |
| Külön megegyezés<br>– szállítás  | 2919, 3331          | Igen   | Igen                            | Igen  | 1.7.4.2,<br>5.1.5.2.1 b),<br>5.1.5.1.4 b)                           |
| Engedélyezett küldeménydarab-minták, amelyekre átmeneti előírások vonatkoznak                                      |                     | lásd az 1.6.6 szakaszt                       | lásd az 1.6.6 szakaszt          | lásd az 1 megj.   | 1.6.6.1,<br>1.6.6.2,<br>5.1.5.1.2,<br>5.1.5.1.4 b),<br>5.1.5.2.1 a) |

- a) Azon országok, amelyekből a küldemény szállítását indul, amelyeken át történik, vagy amelyekbe irányul.
- b) Amennyiben a radioaktív tartalom olyan hasadóanyagokból áll, amelyek a hasadóanyagokat tartalmazó küldeménydarabokra vonatkozó előírások alól nem mentesülnek, akkor a hasadóanyagokat tartalmazó küldeménydarabokra vonatkozó előírások érvényesek (lásd a 6.4.11 szakaszt).
- c) A hasadóanyagokra vonatkozó küldeménydarab-minták esetén a táblázat valamely más pontja szerint is szükség lehet engedélyre.
- d) Szállítási engedélyre azonban a táblázat valamely más pontja szerint is szükség lehet.

## 5.2 FEJEZET

### JELÖLÉS ÉS BÁRCÁZÁS

#### 5.2.1 A küldeménydarabok jelölése

**Megjegyzés:** A csomagolóeszközök, nagycsomagolások, gáztartályok és IBC-k gyártásával, vizsgálatával és engedélyezésével kapcsolatos jelölésekre lásd a 6. részt.

**5.2.1.1** Hacsak az ADR-ben nincs másként előírva, minden küldeménydarabon jól látható módon és tartósan fel kell tüntetni a benne levő veszélyes áru UN számát, amely elé az „UN” rövidítést kell írni. Csomagolatlan tárgyak esetén a feliratot magán a tárgyon, vagy a kereten, a kezelő-, tárolóeszközön vagy indítóállványon kell feltüntetni.

**5.2.1.2** Minden e fejezetben előírt jelölésnek

- a) jól láthatónak és olvashatónak kell lennie; és
- b) jól láthatósága az időjárás hatására lényegesen nem csökkenhet.

**5.2.1.3** A kármentő csomagolásokat kiegészítésként a „KÁRMENTŐ CSOMAGOLÁS” felirattal kell ellátni.

**5.2.1.4** A 450 liternél nagyobb űrtartalmú IBC-eket és a nagycsomagolásokat két, egymással szemben levő oldalukon kell megjelölni.

#### 5.2.1.5 *Kiegészítő előírások az 1 osztály áruira*

Az 1 osztály áruit tartalmazó küldeménydarabokon kiegészítésként fel kell tüntetni a 3.1.2 szakasz szerinti helyes szállítási megnevezést. Ezt a jelölést jól olvasható módon és maradandóan a kiindulási ország valamely hivatalos nyelvén kell feltüntetni, és ha ez a nyelv nem az angol, a francia vagy a német, akkor vagy angolul, vagy franciául, vagy németül is fel kell tüntetni, kivéve, ha a szállításban érintett országok közötti megállapodások mást írnak elő.

#### 5.2.1.6 *Kiegészítő előírások a 2 osztály gázaira*

Az újratölthető tartályokon jól olvashatóan és tartósan fel kell írni a következőket:

- a) a gáz vagy gázkeverék UN számát és a 3.1.2 szakasz szerinti helyes szállítási megnevezését;  

Az m.n.n. tételek alá sorolt gázok esetében csak az UN számot és a gáz műszaki megnevezését<sup>1)</sup> kell megadni;

Gázkeverékek esetében nem szükséges két olyan alkotórésznel többet megnevezni, amely a keverék veszélyessége tekintetében mértékadó;
- b) az olyan sűrített gázoknál, amelyeket tömegre töltenek, és a cseppfolyósított gázoknál: vagy a töltet engedélyezett legnagyobb tömegét és a tartály saját tömegét, beleértve a szerelvényeket és tartozékokat is, amelyek a töltés alatt a tartályon vannak, vagy a bruttó tömeget;

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1) A műszaki megnevezés helyett a következő megnevezések is engedélyezettek:

- az UN 1078 hűtőgáz, m.n.n. esetében: F1 keverék, F2 keverék, F3 keverék;
- az UN 1060 metil-acetilén és propadién keverék, stabilizált esetén: P1 keverék, P2 keverék;
- az UN 1965 szénhidrogén-gáz keverék, cseppfolyósított, m.n.n. esetén: A keverék vagy bután, A01 keverék vagy bután, A02 keverék vagy bután, A0 keverék vagy bután, A1 keverék, B1 keverék, B2 keverék, B keverék, C keverék vagy propán;
- az UN 1010 butadiének, stabilizált esetén: 1,2-butadién, stabilizált, 1,3-butadién, stabilizált.

- c) a következő időszakos vizsgálat időpontját (év).

Ezeket az adatokat vagy a tartályra erősített tartós adattáblára vagy címkére kell beütni vagy felírni, vagy jól tapadó és jól olvasható módon, pl. festéssel vagy más azonos értékű eljárással magára a tartályra kell felírni.

**Megjegyzés:** 1. Lásd még a 6.2.2.7 bekezdést.

2. A nem utántölthető tartályokra lásd a 6.2.2.8 bekezdést.

#### **5.2.1.7 Különleges előírások a 7 osztály radioaktív anyagainak jelölésére**

**5.2.1.7.1** Minden küldeménydarabon a csomagolás külső oldalán olvashatóan és tartósan fel kell tüntetni a feladó vagy a címzett, vagy mindkettő azonosító adatait.

**5.2.1.7.2** Minden küldeménydarabon, az engedményes küldeménydarabok kivételével, a csomagolás külső oldalára jól olvashatóan és tartós módon rá kell írni az áru UN számát, amely elé az „UN” rövidítést kell írni és helyes szállítási megnevezését. Az engedményes küldeménydarabok esetén csak az UN számot kell feltüntetni, amely elé az „UN” rövidítést kell írni.

**5.2.1.7.3** Az 50 kg bruttó tömegnél nehezebb küldeménydarabokon a csomagolás külső oldalán jól olvashatóan és tartósan fel kell tüntetni az engedélyezett bruttó tömeget.

**5.2.1.7.4** Minden küldeménydarabon, amely:

- a) valamely *IP-1* típusú, *IP-2* típusú vagy *IP-3* típusú küldeménydarab-mintának felel meg, a csomagolás külső oldalán jól olvashatóan és tartósan fel kell tüntetni az „IP-1 TÍPUS”, „IP-2 TÍPUS”, ill. „IP-3 TÍPUS” feliratot;
- b) valamely *A* típusú küldeménydarab-mintának felel meg, a csomagolás külső oldalán jól olvashatóan és tartósan fel kell tüntetni az „A TÍPUS” feliratot;
- c) valamely *IP-2* típusú, *IP-3* típusú, illetve *A* típusú küldeménydarab-mintának felel meg, a csomagolás külső oldalán jól olvashatóan és tartósan fel kell tüntetni a minta származási országának államjelzését<sup>2)</sup> és vagy a gyártó nevét vagy a küldeménydarab egyéb azonosítóját, melyet a minta származási országának illetékes hatósága határozott meg.

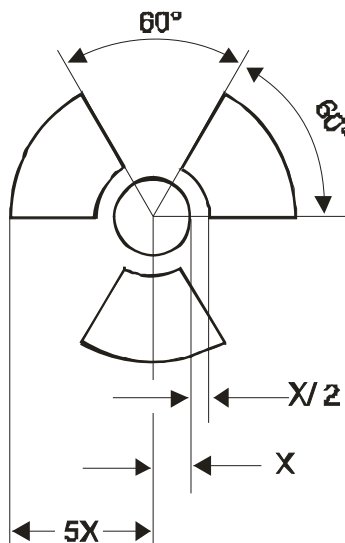
**5.2.1.7.5** Minden küldeménydarabon, amely megfelel az illetékes hatóság által jóváhagyott valamely mintának, a csomagolás külső oldalán jól olvashatóan és tartósan fel kell tüntetni:

- a) az erre a mintára az illetékes hatóság által kiadott azonosító jelet;
- b) a sorozatszámot, amely lehetővé teszi minden egyes, a mintának megfelelő csomagolás egyértelmű azonosítását;
- c) *B(U)* vagy *B(M)* típusú küldeménydarab-minta esetén a „B(U) TÍPUS” vagy „B(M) TÍPUS” feliratot; és
- d) *C* típusú küldeménydarab-minta esetén a „C TÍPUS” feliratot.

**5.2.1.7.6** Minden *B(U)*, *B(M)* vagy *C* típusú mintának megfelelő küldeménydarabot el kell látni a legkülső tűz- és vízálló tartály külső oldalán beütéssel, domborítással vagy más eljárással tűz- és vízálló módon felvitt következő sugárveszély szimbólummal:

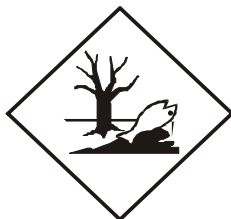
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2) A Közúti Közlekedésről szóló Bécsi Egyezmény (1968) által előírt, a nemzetközi forgalomban résztvevő gépjárművek államjelzése.



Sugárveszély szimbólum  
 $X$  sugarú belső körre vonatkozó arányokkal.  
 Az  $X$  megengedett legkisebb mérete 4 mm.

- 5.2.1.7.7** Ha az *LSA-I* vagy *SCO-I* tárgy tartályban, ill. burkolóanyagban van és a 4.1.9.2.3 pont szerint kizárólagos használat mellett szállítják, a tartály, ill. a burkolóanyag külső felületére felírható a „RADIOACTIVE LSA-I”, illetve a „RADIOACTIVE SCO-I” felirat.
- 5.2.1.7.8** Az illetékes hatóság gyártási minta engedélyéhez, ill. szállítási engedélyéhez kötött küldeménydarabok nemzetközi szállítása esetén, ha az érintett országokban különböző engedélytípusok szükségesek, a jelölést a gyártási minta származási országában kiadott engedélynek megfelelően kell végrehajtani.
- 5.2.1.8** *A környezetre veszélyes anyagok különleges jelölése*
- 5.2.1.8.1** Azokon a küldeménydarabokon, amelyek a 2.2.9.1.10 pont kritériumai szerint környezetre veszélyes anyagot tartalmaznak, tartósan fel kell tüntetni az 5.2.1.8.3 pont szerinti, „környezetre veszélyes anyag” jelölést, kivéve azokat, amelyeknek tartalma egy önálló csomagolóeszközben, vagy kombinált csomagolás esetén belső csomagolóeszközként
- legfeljebb 5 liter folyékony anyag; vagy
  - legfeljebb 5 kg szilárd anyag.
- 5.2.1.8.2** A „környezetre veszélyes anyag” jelölést az 5.2.1.1 bekezdésben előírt jelölés közelében kell elhelyezni. Az 5.2.1.2 és az 5.2.1.4 bekezdés előírásait is be kell tartani.
- 5.2.1.8.3** A „környezetre veszélyes anyag” jelölés a következő ábrán látható. A jelölésnek 100 x 100 mm nagyságúnak kell lennie, kivéve, ha a küldeménydarab méretei miatt csak kisebb jelölés fér el.



Jelkép (hal és fa): fekete; fehér vagy más, kellően elütő színű alapon.

#### 5.2.1.9 Az álló helyzetet jelző nyilak

##### 5.2.1.9.1 Az 5.2.1.9.2 pontban említett esetek kivételével

- azokat a kombinált csomagolásokat, amelyekben a belső csomagolásban folyékony anyag van;
- a szellőző szerkezettel ellátott önálló csomagolóeszközöket, és
- a mélyhűtött, cseppfolyósított gázok szállítására szolgáló mélyhűtő tartályokat

a következő ábrához hasonló vagy az ISO 780:1985 szabványban szereplő leírásnak megfelelő, a küldeménydarab álló helyzetét jelző nyilakkal jól látható módon meg kell jelölni. Az álló helyzetet jelző nyilakat a küldeménydarab két, egymással szemben lévő függőleges oldalára kell feltenni úgy, hogy a nyilak függőlegesen a helyes irányba mutassanak. A jelölésnek négyzetes alakúnak és a küldeménydarab méretéhez képest jól látható nagyságúnak kell lennie. A nyilak körüli négyzetes keret feltüntetése tetszőleges.



Két, felfelé mutató fekete vagy vörös nyíl fehér vagy más, kellően elütő színű alapon.

A négyzetes keret feltüntetése tetszőleges.

##### 5.2.1.9.2 Az álló helyzetet jelző nyilakat nem szükséges feltenni

- a nyomástartó tartályokra, kivéve a mélyhűtő tartályokat;
- azokra a küldeménydarabokra, amelyekben legfeljebb 120 ml-es belső csomagolás(ok)ban van a veszélyes áru, és a belső és a külső csomagolóeszköz között a teljes folyékony anyag mennyisége felszívására elegendő felszívóképes anyag van;
- azokra a küldeménydarabokra, amelyekben a 6.2 osztályba tartozó fertőző anyag van legfeljebb 50 ml-es elsődleges tartály(ok)ban;
- a 7 osztályba tartozó radioaktív anyagot tartalmazó *IP-2*, *IP-3*, *A*, *B(U)*, *B(M)* és *C* típusú küldeménydarabokra; és

- e) azokra a küldeménydarabokra, amelyekben olyan tárgyak vannak, amelyek bármely irányban elhelyezve szivárgásmentesek (pl. alkoholos vagy higanyos hőmérő, aeroszol stb.).

**5.2.1.9.3** Az e bekezdés szerint megjelölt küldeménydarabokon nyilak csak a küldeménydarab helyzetének jelzése céljából alkalmazhatók.

## **5.2.2 A küldeménydarabok bárcázása**

### **5.2.2.1 Bárcázási előírások**

**5.2.2.1.1** A 3.2 fejezet „A” táblázatában felsorolt minden anyagnál vagy tárgynál az 5 oszlopban megadott bárcá(ka)t kell elhelyezni, kivéve, ha a 6 oszlopban valamely különleges előírás másként rendelkezik.

**5.2.2.1.2** Az előírt mintáknak pontosan megfelelő, letörölhetetlen veszélyességi jelölések is alkalmazhatók a veszélyességi bárcák helyett.

**5.2.2.1.3 –  
5.2.2.1.5**

(fenntartva)

**5.2.2.1.6** Az 5.2.2.2.1.2 pontban előírtak kivételével minden bárcát

- a) a küldeménydarab egyazon felületére kell elhelyezni, ha ezt a küldeménydarab méretei lehetővé teszik; az 1 és a 7 osztály anyagait tartalmazó küldeménydaraboknál a helyes szállítási megnevezés közelében;
- b) úgy kell a küldeménydarabra elhelyezni, hogy sem a csomagolás valamely része, vagy tartozéka, sem másik bárca vagy jelölés ne takarja vagy ne fedje el;
- c) egymás mellé kell elhelyezni, ha egynél több bárca van előírva.

Ha a küldeménydarab alakja szabálytalan vagy a küldeménydarab túl kicsi ahhoz, hogy a bárca megfelelően elhelyezhető legyen, a bárca egy biztonságosan rögzített függőcímkére is ragasztható, vagy más alkalmas módon a küldeménydarabhoz erősíthető.

**5.2.2.1.7** A 450 liternél nagyobb űrtartalmú IBC-eket és a nagycsomagolásokat két, egymással szemben levő oldalukon kell bárcával ellátni.

**5.2.2.1.8** (fenntartva)

### **5.2.2.1.9 Különleges előírások az önreaktív anyagok és a szerves peroxidok bárcázására**

- a) Mivel a 4.1 számú bárca arra is utal, hogy a termék gyúlékony lehet, ezért 3 számú bárca nem szükséges. A B típusú önreaktív anyagok esetében kiegészítésképpen 1 számú bárcát is el kell helyezni, kivéve, ha az illetékes hatóság engedélyezte ezen bárca elhagyását kifejezetten az alkalmazott csomagolásra, mivel a vizsgálatok eredményei bizonyították, hogy az önreaktív anyag ebben a csomagolásban nem robbanásveszélyes;
- b) Mivel az 5.2 számú bárca arra is utal, hogy a termék gyúlékony lehet, ezért 3 számú -bárca nem szükséges. Kiegészítésképpen a következő bárcákat kell elhelyezni:
  - i) a B típusú szerves peroxidok esetében kiegészítésképpen 1 számú bárcát is el kell helyezni, kivéve, ha az illetékes hatóság engedélyezte ezen bárca elhagyását kifejezetten az alkalmazott csomagolásra, mivel a vizsgálatok eredményei bizonyították, hogy a szerves peroxid ebben a csomagolásban nem robbanásveszélyes;
  - ii) 8 számú veszélyességi bárcát, ha a szerves peroxid a 8 osztály I vagy II csomagolási csoportja kritériumainak megfelel.

A név szerint említett önreaktív anyagokhoz és szerves peroxidokhoz az elhelyezendő bárcákat a 2.2.41.4 illetve a 2.2.52.4 bekezdés felsorolása tartalmazza.

**5.2.2.1.10** *Különleges előírások a fertőző anyagokat tartalmazó küldeménydarabok bárcázására*

A fertőző anyagokat tartalmazó küldeménydarabokon a 6.2 számú bárcán kívül mindazon veszélyességi bárcákat el kell helyezni, amelyek a tartalom tulajdonságai miatt szükségesek.

**5.2.2.1.11** *Különleges előírások a radioaktív anyagok bárcázására*

**5.2.2.1.11.1** Kivéve, ha az 5.3.1.1.3 pontban előírtak szerint felnagyított bárcákat alkalmaznak, minden radioaktív anyagot tartalmazó küldeménydarabra, konténerre és egyesítőcsomagolásra legalább két, a kategóriájának megfelelő (lásd az 5.1.5.3.4 pontot) 7A, 7B vagy 7C számú bárcát kell elhelyezni. A bárcákat a küldeménydarabok külsejének két, egymással szemben levő oldalára, ill. a nagykonténer mind a négy oldalára kell elhelyezni. Minden, radioaktív anyagot tartalmazó egyesítőcsomagolást legalább két, egymással szemben levő külső oldalán kell bárcával megjelölni. Ezenkívül minden hasadóanyagot tartalmazó küldeménydarabra, egyesítőcsomagolásra és konténerre, kivéve a 6.4.11.2 bekezdés szerinti mentesített hasadóanyagokat tartalmazókat, a 7E számú bárcákat is el kell helyezni; ezeket a bárcákat közvetlenül a radioaktív anyagra utaló bárcák mellé kell helyezni. A bárcák nem takarhatják az 5.2.1 szakaszban meghatározott jelöléseket. Azokat a bárcákat, amelyek nem felelnek meg a tartalomnak, el kell távolítani vagy le kell takarni.

**5.2.2.1.11.2** A 7A, 7B és 7C számú minta szerinti bárcákon a következő információkat kell feltüntetni:

a) Tartalom:

- i) Az *LSA-I* anyagokat kivéve a radionuklidok nevét a 2.2.7.2.2.1 pont táblázata szerint, az ott található jellel. A radionuklid keverékekre a sugárzás szempontjából meghatározó nuklidokat kell megnevezni, amennyire a rovatban rendelkezésre álló hely ezt megengedi. Az *LSA-* vagy *SCO-*csoportot a radionuklid neve után kell írni. Ehhez az „*LSA-II*”, „*LSA-III*”, „*SCO-I*” és „*SCO-II*” kifejezéseket kell használni.
- ii) *LSA-I* anyagokhoz elegendő az „*LSA-I*” megjelölés, a radionuklid nevét nem kötelező feltüntetni.

b) Aktivitás:

A radioaktív tartalom szállítás alatti legnagyobb aktivitását becquerelben (Bq) kell megadni a hozzátartozó SI-prefixum jelével együtt (lásd az 1.2.2.1 bekezdést). Hasadóanyagoknál az aktivitás helyett a hasadóanyag összes mennyisége is megadható grammban (g) vagy annak többszörösében.

c) Egyesítőcsomagolásoknál és konténereknél a „tartalom”-ra és az „aktivitás”-ra vonatkozó beírás a bárcákon az előző a) és b) pont alatt előírt adatoknak megfelelően történjen, az egyesítőcsomagolások vagy konténerek teljes tartalmára vonatkoztatva. Ez nem vonatkozik azon egyesítőcsomagolások vagy konténerek bárcáira, amelyek különböző radionuklidokat tartalmazó küldeménydarabokat tartalmaznak együvé rakva; ilyen esetekben a „Lásd a fuvarokmányt” beírást lehet alkalmazni.

d) Szállítási mutatószám:

Az 5.1.5.3.1 és az 5.1.5.3.2 pont alapján meghatározott számot (az I-FEHÉR kategóriára nézve a szállítási mutatószám feltüntetése nem szükséges).

**5.2.2.1.11.3** Minden 7E számú bárcán fel kell tüntetni a kritikussági biztonsági mutatószámot (*CSI-t*), amint az a külön megegyezés vagy a küldeménydarab-minta engedély okiratában szerepel, amelyet az illetékes hatóság adott ki.

**5.2.2.1.11.4** Egyesítőcsomagolások és konténerek esetén az 5.2.2.1.11.3 pontban előírt kritikussági biztonsági mutatószámot (*CSI-t*) a bárcán az egyesítőcsomagolás, ill. a konténer teljes



hasadóanyag tartalmára összesítve kell feltüntetni.

- 5.2.2.1.11.5** Az illetékes hatóság gyártási minta engedélyéhez, ill. szállítási engedélyéhez kötött küldeménydarabok nemzetközi szállítása esetén, ha az érintett országokban különböző engedélytípusok szükségesek, a bárcákat a gyártási minta származási országában kiadott engedélynek megfelelően kell elhelyezni.

**5.2.2.2** *Előírások a bárcákra*

- 5.2.2.2.1** A bárcáknak a szín, a jelkép és a forma tekintetében az 5.2.2.2.2 pontban látható bárcákkal kell megegyezniük és a következő előírásoknak kell megfelelniük. Elfogadhatók azonban a többi közlekedési alágazatra előírt hasonló bárcák is, amelyeken csak olyan, apró eltérések vannak, amelyek a bárca nyilvánvaló jelentését nem befolyásolják.

*Megjegyzés: Az 5.2.2.2.2 pontban – ahol indokolt – a bárcák az 5.2.2.2.1.1 pontban előírtak szerint szaggatott külső határvonallal vannak ábrázolva. Ez nem szükséges akkor, ha a bárca elütő színű háttérrel van.*

- 5.2.2.2.1.1** A bárcák csúcsára állított négyzet (rombusz) alakúak, legalább 100 x 100 mm nagyságúak. A szélekkel párhuzamosan, azoktól 5 mm távolságra egy vonal fut körbe. A vonal a bárca felső felén a jelképpel azonos színű, az alsó felén az alsó sarokban feltüntetett számmal azonos színű. A bárcákat elütő színű háttérrel kell feltenni vagy pedig a külső szélét szaggatott vagy folytonos határvonallal kell jelölni. Ha a küldeménydarab mérete úgy kívánja, a bárcák méretei csökkenthetők, feltéve, hogy jól láthatók maradnak.

- 5.2.2.2.1.2** A 2 osztály gázait tartalmazó palackokhoz alakjuk, helyzetük és a szállításhoz szükséges rögzítés módja miatt az e szakaszban előírt, de az ISO 7225:2005 (Gázpalackok - Figyelmeztető bárcák) szabvány szerinti, csökkentett méretű bárcák is használhatók, hogy a gázpalackok nem hengeres részére (vállrészére) elhelyezhetők legyenek.

Az 5.2.2.1.6 pont előírásaitól eltérően a bárcák az ISO 7225:2005 szabvány szerinti mértékben fedhetik egymást. A főveszélyre utaló bárcának és az összes bárcán levő számnak mindig, teljes mértékben láthatónak, ill. a jelképeknek felismerhetőnek kell lenniük.

A 2 osztály gázaihoz használt, üres, tisztítatlan nyomástartó tartályok újratöltés, vizsgálat, az érvényes előírásoknak megfelelő, új bárcával való ellátás vagy a nyomástartó tartály ártalmatlanítása céljából úgy is szállíthatók, ha elavult vagy sérült bárcákkal vannak jelölve.

- 5.2.2.2.1.3** Az 1 osztály 1.4, 1.5 és 1.6 alosztályának bárcája kivételével a bárcák felső felén a jelkép, az alsó felén a következők vannak feltüntetve:

- a) az 1, a 2, a 3, az 5.1, az 5.2, a 7, a 8 és a 9 osztály bárcáinál az osztály száma;
- b) a 4.1, a 4.2 és a 4.3 osztály bárcáinál a „4” számjegy;
- c) a 6.1 és a 6.2 osztály bárcáinál a „6” számjegy.

A bárcákon az 5.2.2.2.1.5 pont szerint szöveg is feltüntethető, pl. az UN szám, vagy a veszély jellegét leíró szavak (pl. „gyúlékony”), feltéve, hogy a szöveg nem takarja el, ill. nem zavarja a bárcára előírt egyéb elemeket.

- 5.2.2.2.1.4** Ezen kívül az 1 osztály bárcáinak – az 1.4, 1.5 és 1.6 alosztály kivételével – az alsó felén az anyagra vagy tárgyra vonatkozó alosztály száma és összeférhetőségi csoport betűje van az osztály száma fölött. Az 1.4, 1.5 és 1.6 alosztály bárcáinak felső felén az alosztály száma, az alsó felén az osztály száma és az összeférhetőségi csoport betűje van.

- 5.2.2.2.1.5** A bárcákon – a 7 osztály anyagaira utaló bárcák kivételével – a jelkép alatti üres részen az osztály számán kívüli egyéb szöveg is feltüntethető, de csak ha a veszély természetére vagy kezelési óvintézkedésre utal.



**5.2.2.2.1.6** A jelképeknek, szövegeknek és számoknak jól olvashatónak és tartósnak és minden bárcán fekete színűnek kell lenniük, kivéve:

- a) a 8 osztály bárcáját, ahol a szöveget (ha van) és az osztály számát fehérrel kell felírni;
- b) a teljesen zöld, vörös vagy kék hátterű bárcákat, ahol fehér színűek is lehetnek;
- c) az 5.2 osztály bárcáját, ahol a jelkép fehér is lehet; és
- d) az UN 1011, 1075, 1965 és 1978 számú anyagokat tartalmazó palackokon és gázpatronokon elhelyezett 2.1 számú bárcát, ahol megegyezhet a tartály színével, ha az kellően elüt a bárca hátterétől.

**5.2.2.2.1.7** A bárcák felismerhetősége az időjárás hatására lényegesen nem csökkenhet.

**5.2.2.2.2** *Bárca minták*

**1 osztály veszélye**  
**Robbanóanyagok és -tárgyak**



(1 sz. bárca)

1.1, 1.2 és 1.3 alosztály

A jelkép (felrobbanó bomba): fekete;

a háttér: narancssárga;

‘1’ számjegy az alsó sarokban



(1.4 sz. bárca)

1.4 alosztály



(1.5 sz. bárca)

1.5 alosztály



(1.6 sz. bárca)

1.6 alosztály

A háttér: narancssárga; a számok: feketék;

a számjegyek kb. 30 mm magasak és kb. 5 mm vastagságúak (100 x 100 mm-es bárcáknál);

‘1’ számjegy az alsó sarokban

\*\* Az alosztály számának helye – üresen kell hagyni, ha a robbanásveszély járulékos veszély.

\* Az összeférhetőségi csoport helye – üresen kell hagyni, ha a robbanásveszély járulékos veszély

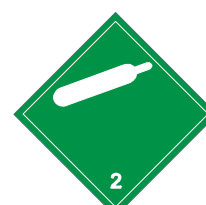
**2 osztály veszélye**  
**Gázok**

(2.1 sz. bárca)

Gyúlékony gázok

A jelkép (láng): fekete vagy fehér  
(kivéve, ha az 5.2.2.2.1.6 d) pont szerinti);  
a háttér: vörös;

‘2’ számjegy az alsó sarokban



(2.2 sz. bárca)

Nem gyúlékony, nem mérgező gázok

A jelkép (gázpalack): fekete vagy fehér;  
a háttér: zöld;

‘2’ számjegy az alsó sarokban



(2.3 sz. bárca)

Mérgező gázok

A jelkép (halálfej): fekete;  
a háttér: fehér;

‘2’ számjegy az alsó sarokban

**3 osztály veszélye**  
**Gyúlékony folyékony anyagok**

(3 sz. bárca)

A jelkép (láng): fekete vagy fehér;  
a háttér: vörös;

‘3’ számjegy az alsó sarokban

**4.1 osztály veszélye**  
**Gyúlékony szilárd anyagok,**  
**önreaktív anyagok és**  
**szilárd, érzéketlenített**  
**robbanóanyagok**



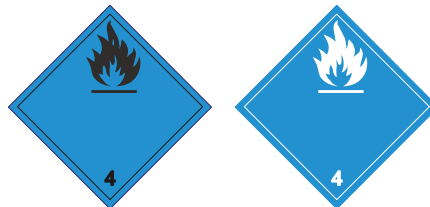
(4.1 sz. bárca)  
 A jelkép (láng): fekete;  
 a háttér: fehér  
 hét függőleges vörös csíkkal;  
 '4' számjegy az alsó  
 sarokban

**4.2 osztály veszélye**  
**Öngyulladásra hajlamos**  
**anyagok**



(4.2 sz. bárca)  
 A jelkép (láng): fekete;  
 a háttér: felső fél fehér;  
 alsó fél vörös;  
 '4' számjegy az alsó  
 sarokban

**4.3 osztály veszélye**  
**Vízzel érintkezve gyúlékony gázokat**  
**fejlesztő anyagok**



(4.3 sz. bárca)  
 A jelkép (láng): fekete vagy fehér;  
 a háttér: kék;  
 '4' számjegy az alsó sarokban

**5.1 osztály veszélye**  
**Gyújtó hatású (oxidáló) anyagok**



(5.1 sz. bárca)  
 A jelkép (kör feletti láng): fekete;  
 a háttér sárga;  
 '5.1' számjegyek az alsó sarokban

**5.2 osztály veszélye**  
**Szerves peroxidok**



(5.2 sz. bárca)  
 A jelkép (láng): fekete vagy fehér;  
 a háttér: felső fél vörös, alsó fél sárga;  
 '5.2' számjegyek az alsó sarokban

**6.1 osztály veszélye**  
**Mérgező anyagok**



(6.1 sz. bárca)  
 A jelkép (halálfej): fekete;  
 a háttér: fehér;  
 '6' számjegy az alsó sarokban

## 6.2 osztály veszélye Fertőző anyagok



(6.2 sz. bárca)

A bárca alsó felén feltüntethető a „FERTŐZŐ ANYAG” és a „Sérülés vagy szabaddá válás esetén azonnal értesíteni kell az egészségügyi hatóságokat” felirat.  
A jelkép (kör, amelyen három félhold van) és a felirat: fekete;  
a háttér: fehér;  
‘6’ számjegy az alsó sarokban

## 7 osztály veszélye Radioaktív anyagok



(7A sz. bárca)

I – FEHÉR kategória

A jelkép (stilizált lóhere): fekete;  
a háttér: fehér.

Kötelező szöveg a bárca  
alsó felén: fekete  
‘RADIOACTIVE’,  
‘CONTENTS .....’,  
‘ACTIVITY .....’;

a ‘RADIOACTIVE’ szó után  
egy függőleges vörös csík;  
‘7’ számjegy az alsó sarokban



(7B sz. bárca)

II – SÁRGA kategória

A jelkép (stilizált lóhere): fekete;  
a háttér: felső fél sárga, fehér  
szegéllyel, alsó fél fehér.

Kötelező szöveg a bárca alsó  
felén: fekete  
‘RADIOACTIVE’,  
‘CONTENTS .....’,  
‘ACTIVITY .....’.

Fekete keretben:  
‘TRANSPORT INDEX’;  
a ‘RADIOACTIVE’ szó után  
két függőleges vörös csík;  
‘7’ számjegy az alsó sarokban



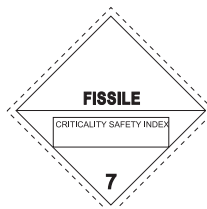
(7C sz. bárca)

III – SÁRGA kategória

A jelkép (stilizált lóhere): fekete;  
a háttér: felső fél sárga, fehér  
szegéllyel, alsó fél fehér.

Kötelező szöveg a bárca  
alsó felén: fekete  
‘RADIOACTIVE’,  
‘CONTENTS .....’,  
‘ACTIVITY .....’.

Fekete keretben:  
‘TRANSPORT INDEX’;  
a ‘RADIOACTIVE’ szó után  
három függőleges vörös csík;  
‘7’ számjegy az alsó sarokban



(7E sz. bárca)

7 osztályba tartozó hasadóanyag

A háttér: fehér.

Kötelező szöveg: fekete - a bárca felső felén: ‘FISSILE’,  
a bárca alsó felén fekete keretben: ‘CRITICALITY SAFETY INDEX’;  
‘7’ számjegy az alsó sarokban

**8 osztály veszélye**  
**Maró anyagok**

(8 sz. bárca)

A jelkép (két üveg kémcsőből csepegő,  
egy kezet és egy fémdarabot megtámadó  
folyadék): fekete;  
a háttér: felső fél fehér,  
alsó fél fekete, fehér szegéllyel;  
‘8’ számjegy az alsó sarokban

**9 osztály veszélye**  
**Különféle veszélyes anyagok és tárgyak**

(9 sz. bárca)

A jelkép (hét függőleges csík a  
felső részen): fekete;  
a háttér: fehér;  
‘9’ számjegy aláhúzva az alsó sarokban

### 5.3 FEJEZET

## A KONTÉNEREK, MEG-KONTÉNEREK, MEMU-k TANKKONTÉNEREK, MOBIL TARTÁNYOK ÉS JÁRMŰVEK NAGYBÁRCÁVAL ÉS NARANCSSÁRGA TÁBLÁVAL VALÓ MEGJELÖLÉSE

**Megjegyzés:** A konténerek, MEG-konténerek, tankkonténerek és mobil tartányok jelölésére és nagybárcával való ellátására tengeri szállítást is magában foglaló szállítási láncban lásd az 1.1.4.2.1 pontot. Ha az 1.1.4.2.1 c) pont előírásait alkalmazzák, akkor csak a jelen fejezet 5.3.1.3 bekezdését és 5.3.2.1.1 pontját kell alkalmazni.

#### 5.3.1 Nagybárcák elhelyezése

##### 5.3.1.1 Általános előírások

**5.3.1.1.1** Amikor és ahogyan ebben a szakaszban elő van írva, a konténerek, MEG-konténerek, MEMU-k, tankkonténerek, mobil tartányok és járművek külső felületére nagybárcákat kell erősíteni. A nagybárcáknak meg kell egyezniük a konténerben, MEG-konténerben, MEMU-ban, tankkonténerben, mobil tartányban vagy a járműben levő árura, a 3.2 fejezet „A” táblázat 5, esetleg 6 oszlopában előírt bárcákkal, és meg kell felelniük az 5.3.1.7 bekezdésben található leírásnak. A nagybárcákat elütő színű háttérre kell feltenni vagy pedig a külső szélét szaggatott vagy folytonos határvonallal kell jelölni.

**5.3.1.1.2** Az 1 osztálynál az összeférhetőségi csoportot nem kell a nagybárcákon feltüntetni, ha a jármű, a konténer vagy a MEMU különleges raktere több összeférhetőségi csoport anyagait szállítja. A különböző alosztályokba tartozó anyagokat vagy tárgyakat szállító járművet, konténert, ill. a MEMU különleges rakterét csak a legveszélyesebb alosztály szerinti nagybárcával kell ellátni a következő sorrendnek megfelelően:

1.1 (legveszélyesebb), 1.5, 1.2, 1.3, 1.6, 1.4 (legkevésbé veszélyes).

Amennyiben az 1.5D osztályozási kód alá tartozó anyagokat az 1.2 alosztály anyagaival vagy tárgyaival együtt szállítják, úgy a járművet, ill. a konténert az 1.1 alosztálynak megfelelően kell nagybárcával ellátni. Az 1.4 alosztály S összeférhetőségi csoportjába tartozó robbanóanyagok és -tárgyak szállítása esetén nincs szükség nagybárcára.

**5.3.1.1.3** A 7 osztálynál a fő veszélyre utaló nagybárcának meg kell egyeznie az 5.3.1.7.2 pontban leírt 7D mintával. Erre a nagybárcára nincs szükség azoknál a járműveknél és konténereknél, amelyekben engedményes küldeménydarabokat szállítanak, és a kiskonténereknél. Amennyiben a járműre, konténerre, MEG-konténerre, tankkonténerre vagy mobil tartányra a 7 osztály veszélyességi bárcája és nagybarca is elő van írva, akkor a 7D számú nagybarca helyett az előírt veszélyességi barca felnagyított változata is elhelyezhető, amely mindkét célnak megfelel.

**5.3.1.1.4** A több osztályba tartozó árukat tartalmazó konténerekre, MEG-konténerekre, MEMU-kra, tankkonténerekre, mobil tartányokra vagy járművekre nem szükséges a járulékos veszélyre utaló nagybarca elhelyezése, ha az ezen nagybárcának megfelelő veszélyt már egy fő vagy járulékos veszélyre utaló nagybarca jelöli.

**5.3.1.1.5** Azokat a nagybárcákat, amelyek nem a szállított veszélyes árukra vagy azok maradékára utalnak, el kell távolítani vagy le kell takarni.

**5.3.1.1.6** Ha a nagybarca összehajtható tartóra van rögzítve, akkor azt úgy kell kialakítani és rögzíteni, hogy a szállítás közben ne csukódjon be, ill. ne nyíljon ki és ne lazuljon meg (különösen ütközés vagy véletlen folytán).

**5.3.1.2** *Konténerek, MEG-konténerek, tankkonténerek és mobil tartányok nagybárcával való megjelölése*

**Megjegyzés:** Ez a bekezdés nem vonatkozik a cserefelépítményekre, kivéve a tartányos cserefelépítményeket és a kombinált közúti/vasúti szállításban használt cserefelépítményeket.

A nagybárcákat a konténerek, MEG-konténerek, mobil tartányok és tankkonténerek mindkét oldalára és mindkét végére el kell helyezni.

Ha egy többkamrás tankkonténer, ill. többkamrás mobil tartány két- vagy többfajta veszélyes árut tartalmaz, a tartánykamrában levő anyagra utaló nagybárcá(ka)t mindkét oldalon a megfelelő tartánykamránál kell elhelyezni, a tankkonténer, ill. a mobil tartány két végére pedig az oldalt levő mindegyik fajta bárcából egyet-egyet kell elhelyezni.

**5.3.1.3** *A konténereket, MEG-konténereket, tankkonténereket és mobil tartányokat szállító járművek nagybárcával való megjelölése*

**Megjegyzés:** Ez a bekezdés nem vonatkozik a tartányos cserefelépítményeken és kombinált közúti/vasúti szállításban használt cserefelépítményeken kívül más cserefelépítményeket szállító járművek nagybárcával való megjelölésére; az ilyen járművekre lásd az 5.3.1.5 bekezdést.

Ha a szállító járművön levő konténerekre, MEG-konténerekre, tankkonténerekre vagy mobil tartányokra erősített nagybárcák kívülről nem láthatók, akkor ugyanolyan nagybárcákat kell elhelyezni a járművek mindkét oldalára és hátuljára. Egyébként a járműveket nem kell nagybárcával megjelölni.

**5.3.1.4** *Ömlesztett árut szállító járművek, tartányjárművek, battériás járművek, MEMU-k és leszerelhető tartányos járművek nagybárcával való megjelölése***5.3.1.4.1** A nagybárcákat a jármű mindkét oldalára és hátuljára el kell helyezni.

Ha egy többkamrás tartányjármű, ill. a járművön levő többkamrás leszerelhető tartány két- vagy többfajta veszélyes árut tartalmaz, a tartánykamrában levő anyagra utaló nagybárcá(ka)t mindkét oldalon a megfelelő tartánykamránál kell elhelyezni, a jármű hátulján pedig az oldalt levő mindegyik fajta nagybárcából egyet-egyet kell elhelyezni. Ha viszont minden tartánykamrán ugyanolyan nagybárcáknak kell lenniük, akkor ezekből a jármű mindkét oldalára és hátuljára csak egyet kell elhelyezni.

Ha ugyanahhoz a tartánykamrához több nagybárca van előírva, akkor a nagybárcákat egymás mellé kell elhelyezni.

**Megjegyzés:** Ha egy ADR szerinti szállítás során vagy végén a tartányos félpótkocsit tengerjáró hajóra vagy belvízi hajóra rakásakor lekapcsolják a vontató járműről, akkor a nagybárcákat a félpótkocsi elejére is el kell helyezni.

**5.3.1.4.2** A tartánnyal vagy ömlesztettáru-konténerrel rendelkező MEMU-n a bennük lévő anyagra vonatkozóan az 5.3.1.4.1 pont szerint kell nagybárcával ellátni. Ha a tartány 1000 liternél kisebb befogadóképességű, a nagybárcák az 5.2.2.2 szerinti bárcákkal helyettesíthetők.**5.3.1.4.3** Az 1.4 alosztály S összeférhetőségi csoportjába tartozók kivételével az 1 osztály anyagait és tárgyait tartalmazó küldeménydarabokat szállító MEMU-knál a nagybárcákat a MEMU mindkét oldalára és hátuljára kell elhelyezni.

A robbanóanyag szállítására szolgáló különleges rakteret az 5.3.1.1.2 pont szerint kell nagybárcával ellátni. Az 5.3.1.1.2 pont utolsó mondata azonban erre az esetre nem érvényes.

**5.3.1.5 A kizárólag küldeménydarabokat szállító járművek nagybárcával való megjelölése**

**Megjegyzés:** Ez a bekezdés a küldeménydarabokat tartalmazó cserefelépítményeket szállító járművekre is vonatkozik, kivéve a kombinált közúti/vasúti szállítás esetét, amire lásd az 5.3.1.2 és az 5.3.1.3 bekezdést.

**5.3.1.5.1** Az 1.4 alosztály S összeférhetőségi csoportjába tartozók kivételével az 1 osztály anyagait és tárgyait tartalmazó küldeménydarabokat szállító járműveknél a nagybárcákat a járművek mindkét oldalára és hátuljára kell elhelyezni.

**5.3.1.5.2** A 7 osztály radioaktív anyagait csomagolóeszközökben vagy IBC-kben (az engedélyezett küldeménydarabok kivételével) szállító járműveknél a nagybárcákat a járművek mindkét oldalára és hátuljára kell elhelyezni.

**5.3.1.6 Üres tartányjárművek, battériás járművek, MEG-konténerek, MEMU-k, tankkonténerek, mobil tartányok és előzőleg ömlesztett szállításra használt, üres járművek és konténerek nagybárcával való megjelölése**

**5.3.1.6.1** Az üres, tisztítatlan és nem gáztalanított tartányjárműveken, leszerelhető tartányos járműveken, battériás járműveken, MEG-konténereken, MEMU-kon, tankkonténereken, mobil tartányokon és az ömlesztett szállításra használt, üres, tisztítatlan járműveken és konténereken az előző rakomány esetében előírt nagybárcáknak kell lenniük.

**5.3.1.7 A nagybárcák leírása**

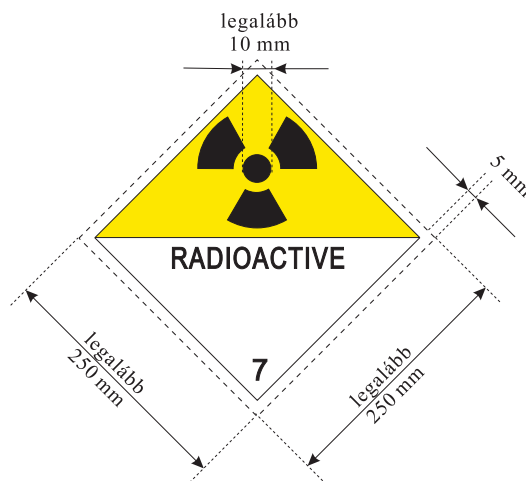
**5.3.1.7.1** A nagybárcáknak – az 5.3.1.7.2 pontban a 7 osztály nagybárcáira előírtak kivételével – a következőknek kell megfelelniük:

- a) a méretük legalább 250 x 250 mm, a szélekkel párhuzamosan, azoktól 12,5 mm-re a egy vonal fut körbe, ami a nagybarca felső felén a jelképpel azonos színű, az alsó felén az alsó sarokban feltüntetett számmal azonos színű;
- b) a színnek és a jelképnek meg kell egyeznie az adott veszélyes árura előírt bárcával (lásd az 5.2.2.2 bekezdést); és
- c) tartalmazniuk kell az adott veszélyes árura az 5.2.2.2 bekezdésben a megfelelő bárcára előírt számokat (és az 1 osztályba tartozó áruknál az összeférhetőségi csoport betűjét) legalább 25 mm magas írásjegyekkel.

**5.3.1.7.2** A 7 osztályra utaló nagybárcák mérete legalább 250 x 250 mm, a szélekkel párhuzamosan, azoktól 5 mm-re fekete vonal fut körbe, egyébként a következő ábrának megfelelő kivitellel (7D sz.). A '7' számjegy nem lehet 25 mm-nél kisebb. A nagybarca felső fele sárga, az alsó fele fehér, a stilizált lóhere és a feliratok feketék. Az alsó felén a „RADIOACTIVE” szó feltüntetése tetszőleges, azért, hogy a nagybárcán a küldemény UN száma feltüntethető legyen.



7D sz. nagybárca a 7 osztály radioaktív anyagaihoz



Jelkép (stilizált lóhere): fekete; háttér: felső fél sárga, fehér szegéllyel, alsó fél fehér;  
 Az alsó félen a „RADIOACTIVE” szó látható, vagy – szükség esetén –  
 a megfelelő UN szám (lásd az 5.3.2.1.2 pontot) és  
 az alsó sarokban a ‘7’ számjegy.

**5.3.1.7.3** A legfeljebb 3 m<sup>3</sup> befogadóképességű tartányoknál és a kiskonténereknél a nagybárcák helyettesíthetők az 5.2.2.2 bekezdésnek megfelelő bárcákkal.

**5.3.1.7.4** Az 1 és a 7 osztály esetében, ha a jármű mérete és kialakítása olyan, hogy a rendelkezésre álló felület nem elegendő az előírt nagybárcák elhelyezéséhez, ezek mérete 100 mm oldalhosszáig csökkenthető.

## **5.3.2 Narancssárga tábla**

### **5.3.2.1 A narancssárga táblára vonatkozó általános előírások**

**5.3.2.1.1** A veszélyes árut szállító szállítóegységekre két, függőleges síkban elhelyezett, narancssárga, téglalap alakú táblát kell elhelyezni, amelyek megfelelnek az 5.3.2.2.1 pontnak. Az egyik táblát a szállítóegység elejére, a másikat a hátuljára, a jármű hossz tengelyére merőlegesen kell rögzíteni. A tábláknak jól láthatóknak kell lenniük.

**5.3.2.1.2** Ha a 3.2 fejezet „A” táblázatának 20 oszlopában van feltüntetve veszélyt jelölő szám, akkor a tartányjárműveken, battériás járműveken és szállítóegységeken, amelyek egy vagy több tartányukban veszélyes árut szállítanak, ezenkívül mindegyik tartány, mindegyik tartánykamra vagy a battériás jármű mindegyik elemének mindkét oldalán jól látható módon, a jármű hossz tengelyével párhuzamosan az 5.3.2.1.1 pontban előírtakkal azonos narancssárga táblákat kell elhelyezni. Ezek a narancssárga táblák fel kell tüntetni az abban a tartányban, tartánykamrában, ill. battériás jármű elemében szállított anyagra a 3.2 fejezet „A” táblázat 20 oszlopában előírt veszélyt jelölő és 1 oszlopában előírt UN számot. Ezeket a követelményeket MEMU-knál csak az 1000 liter vagy annál nagyobb befogadóképességű tartányokra és az ömlesztettáru-konténerekre kell alkalmazni.

**5.3.2.1.3** Az olyan tartányjárműveknél és szállítóegységeknél, amelyek egy vagy több tartányukban az UN 1202, 1203 vagy 1223 szám alá tartozó anyagokat, ill. az UN 1268 vagy 1863 alá tartozó repülőgép turbinamotorokhoz való tüzelőanyagot szállítanak, de más veszélyes anyagot nem, az 5.3.2.1.2 pontban előírt narancssárga táblákat nem szükséges elhelyezni, ha az 5.3.2.1.1 pont szerint elől és hátul elhelyezett táblákon a szállított legveszélyesebb anyagra, azaz a

legalacsonyabb lobbanáspontú anyagra vonatkozó veszélyt jelölő szám és UN szám fel van tüntetve.

**5.3.2.1.4** Ha a 3.2 fejezet „A” táblázatának 20 oszlopában van feltüntetve veszélyt jelölő szám, a csomagolás nélküli szilárd anyagokat, ill. tárgyakat, vagy az egyetlen UN szám alá tartozó radioaktív anyagot küldeménydarabokban, kizárólagos használat mellett szállító, de más veszélyes árut nem tartalmazó szállítóegységeket és konténereket az egyes szállítóegységek vagy konténerek oldalain jól látható módon, a jármű hossz tengelyével párhuzamosan az 5.3.2.1.1 pontban előírtakkal azonos narancssárga táblákkal kell ellátni. Ezek a táblák fel kell tüntetni a szállítóegységben vagy a konténerben ömlesztve szállított minden egyes anyagra vagy a szállítóegységben vagy a konténerben kizárólagos használat mellett, küldeménydarabokban szállított radioaktív anyagra a 3.2 fejezet „A” táblázat 20 oszlopában előírt veszélyt jelölő és 1 oszlopában előírt UN számot.

**5.3.2.1.5** Ha a szállító járművön levő konténerre, MEG-konténerre, tankkonténerre vagy mobil tartányra erősített, az 5.3.2.1.2, ill. az 5.3.2.1.4 pontban előírt narancssárga táblák kívülről nem láthatók tisztán, akkor ugyanolyan táblákat kell elhelyezni a jármű mindkét oldalára.

*Megjegyzés: Azokat a fedett, ill. ponyvás járműveket, amelyek legfeljebb 3000 liter befogadóképességű tartány(oka)t szállítanak, nem kell narancssárga táblával megjelölni.*

**5.3.2.1.6** Az olyan szállítóegységen, amelyben csak egy veszélyes anyagot szállítanak és azon kívül még nem-veszélyes anyagot sem, az 5.3.2.1.2, az 5.3.2.1.4 és az 5.3.2.1.5 pontban előírt narancssárga táblákra nincs szükség, ha az 5.3.2.1.1 pont szerinti, elöl és hátul elhelyezett táblákon a szállított anyagra a 3.2 fejezet „A” táblázat 20 oszlopában előírt veszélyt jelölő és 1 oszlopában előírt UN szám fel van tüntetve.

**5.3.2.1.7** Az 5.3.2.1.1 – 5.3.2.1.5 pont előírásai érvényesek az üres, tisztítatlan és nem gáztalanított, ill. nem fertőtlenített rögzített vagy leszerelhető tartányokra, tankkonténerekre, MEG-konténerekre, mobil tartányokra és battériás járművekre, üres, tisztítatlan MEMUK-ra, valamint az ömlesztett áru szállítására használt, üres, tisztítatlan vagy nem fertőtlenített járművekre és konténerekre is.

**5.3.2.1.8** A nem a szállított veszélyes árura vagy árumaradékra utaló narancssárga táblát el kell távolítani vagy le kell takarni. Ha a táblákat letakarják, a letakarásnak teljesnek kell lennie, és 15 percig tartó égés után is takarnia kell a táblát.

## **5.3.2.2 A narancssárga tábla leírása**

**5.3.2.2.1** A narancssárga táblának fényvisszaverőnek kell lennie, az alapja 40 cm, a magassága 30 cm legyen. A táblán 15 mm széles fekete szegélynek kell lenni. A táblát az időjárás viszontagságainak ellenálló és a jelölés tartósságát biztosító anyagból kell készíteni. A tábla 15 percig tartó égés esetén sem válhat le a tartójáról. A táblának rögzítve kell maradnia, bármilyen helyzetben van is a jármű. A narancssárga tábla közepén egy 15 mm széles, vízszintes, fekete vonallal megosztható.

Ha a jármű mérete és kialakítása olyan, hogy a rendelkezésre álló felület nem elegendő a narancssárga tábla rögzítéséhez, annak mérete 300 mm szélességig és 120 mm magasságig, a fekete keret 10 mm szélességig csökkenthető. Ebben az esetben radioaktív anyag küldeménydarabokban, kizárólagos használat mellett történő szállításánál csak az UN számot kell feltüntetni, a számok 5.3.2.2.2 pontban előírt magassága 65 mm-ig, vonalvastagsága 10 mm-ig csökkenthető.

A szilárd veszélyes anyag ömlesztett szállítására használt konténereknél, a tankkonténereknél, a MEG-konténereknél és a mobil tartányoknál az 5.3.2.1.2, az 5.3.2.1.4 és az 5.3.2.1.5 pontban előírt táblákat öntapadó fóliával, festéssel vagy bármely más, egyenértékű megoldással lehet helyettesíteni.

Ennek az alternatív jelölésnek meg kell felelnie az ebben a bekezdésben felsorolt feltételeknek, kivéve az 5.3.2.2.1 és az 5.3.2.2.2 pontban említett, tűzállóságra vonatkozó előírásokat.

**Megjegyzés:** A narancssárga tábla színárnyalatának normál használati körülmények között a színdiagramon a következő koordináták összekötésével kapott területre eső színkoordinátákkal kell rendelkeznie:

| A terület sarokpontjainak színkoordinátái a színdiagramon |      |      |       |       |
|---|------|------|-------|-------|
| x   | 0,52 | 0,52 | 0,578 | 0,618 |
| y   | 0,38 | 0,40 | 0,422 | 0,38  |

Fényerő tényező a fényvisszaverő színnél:  $\beta > 0,12$ .

Referencia középpont E, C normálfény típus, normál beesési szög  $45^\circ$ ,  $0^\circ$  irányából mérve.

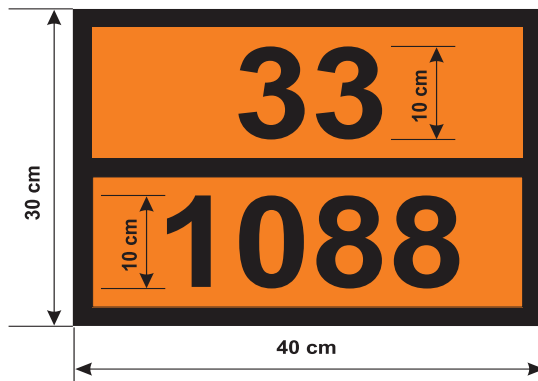
A visszavert fényerősségi együttható  $5^\circ$ -os beesési szögnél  $0,2^\circ$ -nál mérve legalább  $20 \text{ kandela}/(\text{lux} \cdot \text{m}^2)$ .

#### 5.3.2.2.2

A veszélyt jelölő és az UN számoknak 100 mm magas és 15 mm vonalvastagságú fekete számjegyekből kell állniuk. A veszélyt jelölő számnak a tábla felső részén, az UN számnak a tábla alsó részén kell lennie, a két számot a tábla fél magasságában 15 mm széles, fekete, vízszintes vonallal kell a tábla teljes szélességében elválasztani (lásd az 5.3.2.2.3 pontot). A veszélyt jelölő és az UN számoknak kitörölhetetlennek kell lenniük, és 15 percig tartó égés után is olvashatóknak kell maradniuk. Ha a táblán a veszélyt jelölő és az UN számok cserélhetőek, a cserélhető számoknak, betűknek a szállítás során nem szabad elmozdulniuk, bármilyen helyzetben van is a jármű.

#### 5.3.2.2.3

A veszélyt jelölő és az UN számot feltüntető narancssárga tábla mintája



Veszélyt jelölő szám (2 vagy három számjegy, adott esetben előtte egy X betű; lásd az 5.3.2.3 bekezdést)

UN szám (4 számjegy)

A háttér narancssárga. A keret, a vízszintes vonal és a számjegyek feketék, 15 mm vastagok

#### 5.3.2.2.4

Az ebben a bekezdésben megadott méretek megengedett tűrése  $\pm 10\%$ .

#### 5.3.2.2.5

Ha a narancssárga tábla összehajtható tartóra van rögzítve, akkor azt úgy kell kialakítani és rögzíteni, hogy a szállítás közben ne csukódjon be, ill. ne nyíljon ki és ne lazuljon meg (különösen ütközés vagy véletlen folytán).

#### 5.3.2.3

A veszélyt jelölő számok jelentése

##### 5.3.2.3.1

A veszélyt jelölő szám két vagy három számjegyből áll. A számok általában a következő veszélyekre utalnak:

- 2 nyomás vagy vegyi reakció révén gáz kiszabadulása
- 3 folyékony anyagok (gőzök) és gázok gyúlékonysága vagy önmelegedő folyékony anyag
- 4 szilárd anyagok gyúlékonysága vagy önmelegedő szilárd anyag
- 5 gyújtó (égést tápláló) hatás
- 6 mérgezőképesség vagy fertőzésveszély

- 7 radioaktivitás  
 8 maró hatás  
 9 spontán heves reakció veszélye.

**Megjegyzés:** A 9 számjegy alkalmazásának szempontjából a spontán heves reakció veszélye kiterjed az anyag természetéből adódó robbanásveszélyre, bomlási vagy polimerizációs reakció lehetőségére és az ezzel együtt járó jelentős hő vagy gyúlékony és/vagy mérgező gázok fejlődésére.

Valamely számjegy megkettőzése az illető veszély fokozott mértékére utal.

Ha valamely anyag veszélyessége egyetlen számjeggyel megjelölhető, akkor ezt a számjegyet második számként egy nulla követi.

A következő számjegy kombinációknak azonban különleges jelentésük van: 22, 323, 333, 362, 382, 423, 44, 446, 462, 482, 539, 606, 623, 642, 823, 842, 90 és 99, lásd a következő 5.3.2.3.2 pontot.

Ha a veszélyt jelölő szám előtt „X” betű áll, ez azt jelzi, hogy az anyag a vízzel veszélyesen reagál. Ilyen anyagoknál víz csak szakértő jóváhagyásával használható.

Az 1 osztály anyagaihoz és tárgyaihoz veszélyt jelölő számként a 3.2 fejezet „A” táblázat 3b oszlopa szerinti osztályozási kódot kell használni. Az osztályozási kód

- a 2.2.1.1.5 pont szerinti alosztály számából; és
- a 2.2.1.1.6 pont szerinti összeférhetőségi csoport betűjéből áll.

#### 5.3.2.3.2

A 3.2 fejezet „A” táblázatának 20 oszlopában feltüntetett veszélyt jelölő számok jelentése a következő:

- 20 fojtó hatású gáz vagy más járulékos veszéllyel nem járó gáz  
 22 mélyhűtött, cseppfolyósított, fojtó gáz  
 223 mélyhűtött, cseppfolyósított, gyúlékony gáz  
 225 mélyhűtött, cseppfolyósított, gyújtó hatású (égést tápláló) gáz  
 23 gyúlékony gáz  
 239 gyúlékony gáz, amely spontán heves reakciót okozhat  
 25 gyújtó hatású (égést tápláló) gáz  
 26 mérgező gáz  
 263 mérgező, gyúlékony gáz  
 265 mérgező, gyújtó hatású (égést tápláló) gáz  
 268 mérgező, maró gáz  
 30 – gyúlékony (lobbanáspont 23...60 °C) folyékony anyag; vagy  
 – 60 °C feletti lobbanáspontú gyúlékony folyékony anyag vagy olvasztott szilárd anyag lobbanáspontjával egyenlő vagy annál magasabb hőmérsékleten; vagy  
 – önmelegedő folyékony anyag  
 323 gyúlékony folyékony anyag amely vízzel reagálva gyúlékony gázokat fejleszt  
 X323 gyúlékony folyékony anyag, amely vízzel veszélyesen reagálva\* gyúlékony gázokat fejleszt  
 33 könnyen gyúló (lobbanáspont 23 °C alatt) folyékony anyag  
 333 piroforos folyékony anyag  
 X333 piroforos folyékony anyag, amely a vízzel veszélyesen reagál\*  
 336 könnyen gyúló, mérgező folyékony anyag  
 338 könnyen gyúló, maró folyékony anyag  
 X338 könnyen gyúló, maró folyékony anyag, amely a vízzel veszélyesen reagál\*  
 339 könnyen gyúló folyékony anyag, amely spontán heves reakciót okozhat  
 36 gyúlékony (lobbanáspont 23...60 °C), enyhén mérgező folyékony anyag vagy önmelegedő, mérgező folyékony anyag  
 362 gyúlékony, mérgező folyékony anyag, amely vízzel reagálva gyúlékony gázokat

- fejleszt
- X362 gyúlékony, mérgező folyékony anyag, amely vízzel veszélyesen reagálva\* gyúlékony gázokat fejleszt
- 368 gyúlékony, mérgező, maró folyékony anyag
- 38 gyúlékony (lobbanáspont 23...60 °C) folyékony anyag, amely gyengén maró vagy önmelegedő, maró folyékony anyag
- 382 gyúlékony folyékony, maró anyag, amely vízzel reagálva gyúlékony gázokat fejleszt
- X382 gyúlékony folyékony, maró anyag, amely vízzel veszélyesen reagálva\* gyúlékony gázokat fejleszt
- 39 gyúlékony folyékony anyag, amely spontán heves reakciót okozhat
- 40 gyúlékony szilárd anyag, vagy önmelegedő anyag, vagy önreaktív anyag
- 423 szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt, vagy gyúlékony szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt, vagy önmelegedő szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt
- X423 szilárd anyag, amely vízzel veszélyesen reagálva\* gyúlékony gázokat fejleszt, vagy gyúlékony szilárd anyag, amely vízzel veszélyesen reagálva\* gyúlékony gázokat fejleszt, vagy önmelegedő szilárd anyag, amely vízzel veszélyesen reagálva\* gyúlékony gázokat fejleszt
- 43 öngyulladó (piroforos) szilárd anyag
- X432 öngyulladó (piroforos) szilárd anyag, amely vízzel veszélyesen reagálva\* gyúlékony gázokat fejleszt
- 44 gyúlékony szilárd anyag, amely magasabb hőmérsékleten olvasztott állapotban van
- 446 gyúlékony, mérgező szilárd anyag, amely magasabb hőmérsékleten olvasztott állapotban van
- 46 gyúlékony vagy önmelegedő, mérgező szilárd anyag
- 462 mérgező szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt
- X462 szilárd anyag, amely vízzel veszélyesen reagálva\* mérgező gázokat fejleszt
- 48 gyúlékony vagy önmelegedő, maró szilárd anyag
- 482 maró szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt
- X482 szilárd anyag, amely vízzel veszélyesen reagálva\* maró gázokat fejleszt
- 50 gyújtó hatású (égést tápláló) anyag
- 539 gyúlékony szerves peroxid
- 55 erősen gyújtó hatású (égést tápláló) anyag
- 556 erősen gyújtó hatású (égést tápláló), mérgező anyag
- 558 erősen gyújtó hatású (égést tápláló), maró anyag
- 559 erősen gyújtó hatású (égést tápláló) anyag, amely spontán heves reakciót okozhat
- 56 gyújtó hatású (égést tápláló), mérgező anyag
- 568 gyújtó hatású (égést tápláló), mérgező, maró anyag
- 58 gyújtó hatású (égést tápláló), maró anyag
- 59 gyújtó hatású (égést tápláló) anyag, amely spontán heves reakciót okozhat
- 60 mérgező vagy enyhén mérgező anyag
- 606 fertőző anyag
- 623 mérgező folyékony anyag, amely vízzel reagálva gyúlékony gázokat fejleszt
- 63 mérgező, gyúlékony (lobbanáspont 23...60 °C) folyékony anyag
- 638 mérgező, gyúlékony (lobbanáspont 23...60 °C), maró folyékony anyag
- 639 mérgező, gyúlékony (lobbanáspont legfeljebb 60 °C) folyékony anyag, amely spontán heves reakciót okozhat
- 64 mérgező, gyúlékony vagy önmelegedő szilárd anyag
- 642 mérgező szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt
- 65 mérgező, gyújtó hatású (égést tápláló) anyag
- 66 nagyon mérgező anyag
- 663 nagyon mérgező, gyúlékony (lobbanáspont legfeljebb 60 °C) folyékony anyag
- 664 nagyon mérgező, gyúlékony vagy önmelegedő szilárd anyag

|      |   |
|------|---|
| 665  | nagyon mérgező, gyújtó hatású (égést tápláló) anyag   |
| 668  | nagyon mérgező, maró anyag  |
| 669  | nagyon mérgező anyag, amely spontán heves reakciót okozhat  |
| 68   | mérgező, maró anyag   |
| 69   | mérgező vagy enyhén mérgező anyag, amely spontán heves reakciót okozhat   |
| 70   | radioaktív anyag  |
| 78   | radioaktív, maró anyag  |
| 80   | maró vagy gyengén maró anyag  |
| X80  | maró vagy gyengén maró anyag, amely vízzel veszélyesen reagál*  |
| 823  | maró folyékony anyag, amely vízzel reagálva gyúlékony gázokat fejleszt  |
| 83   | maró vagy gyengén maró, gyúlékony (lobbanáspont 23...60 °C) folyékony anyag   |
| X83  | maró vagy gyengén maró, gyúlékony (lobbanáspont 23...60 °C) folyékony anyag, amely vízzel veszélyesen reagál*                                   |
| 839  | maró vagy gyengén maró, gyúlékony (lobbanáspont 23...60 °C) folyékony anyag, amely spontán heves reakciót okozhat                               |
| X839 | maró vagy gyengén maró, gyúlékony (lobbanáspont 23...60 °C) folyékony anyag, amely spontán heves reakciót okozhat és vízzel veszélyesen reagál* |
| 84   | maró, gyúlékony vagy önmelegedő szilárd anyag   |
| 842  | maró szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt  |
| 85   | maró vagy gyengén maró, gyújtó hatású (égést tápláló) anyag   |
| 856  | maró vagy gyengén maró, gyújtó hatású (égést tápláló), mérgező anyag  |
| 86   | maró vagy gyengén maró, mérgező anyag   |
| 88   | erősen maró anyag   |
| X88  | erősen maró anyag, amely a vízzel veszélyesen reagál*   |
| 883  | erősen maró, gyúlékony (lobbanáspont 23...60 °C) folyékony anyag  |
| 884  | gyúlékony vagy önmelegedő, erősen maró, szilárd anyag   |
| 885  | erősen maró és gyújtó hatású (égést tápláló) anyag  |
| 886  | erősen maró és mérgező anyag  |
| X886 | erősen maró és mérgező anyag, amely vízzel veszélyesen reagál*  |
| 89   | maró vagy gyengén maró anyag, amely spontán heves reakciót okozhat  |
| 90   | környezetre veszélyes anyag vagy különféle veszélyes anyagok  |
| 99   | különféle veszélyes anyagok magas hőmérsékleten szállítva   |

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\* Víz csak szakértő jóváhagyásával használható.

**5.3.3 Magas hőmérsékletű anyagok jelölése**

Azokat a tartányjárműveket, tankkonténereket, mobil tartányokat, különleges járműveket és konténereket, ill. különlegesen felszerelt járműveket és konténereket, amelyeknél a 3.2 fejezet „A” táblázat 6 oszlopában az 580 különleges előírás szerint a magas hőmérsékletű anyag jelölése szükséges, a járművek mindkét oldalán és hátulján és a konténerek, tankkonténerek és mobil tartányok mindkét oldalán és mindkét végén a következő ábra szerinti háromszög alakú, vörös színű jelöléssel kell ellátni, amelynek oldalhosszúsága legalább 250 mm.



**5.3.4** (fenntartva)

**5.3.5** (fenntartva)

**5.3.6 A környezetre veszélyes anyagok különleges jelölése**

Ha az 5.3.1 szakasz előírásai szerint nagybárcát kell alkalmazni, a 2.2.9.1.10 pont kritériumai szerint környezetre veszélyes anyagot tartalmazó konténereket, MEG-konténereket, tankkonténereket, mobil tartányokat és járműveket az 5.2.1.8.3 pont szerinti, „környezetre veszélyes anyag” jelöléssel is el kell látni. Az 5.3.1 szakasz nagybárcákra vonatkozó előírásait erre a jelölésre értelemszerűen alkalmazni kell.



## 5.4 FEJEZET

### OKMÁNYOK

- 5.4.0** Az ADR által szabályozott minden szállításnál az árut az ebben a fejezetben előírt okmányoknak kell kísérniük, kivéve, ha az 1.1.3.1 – 1.1.3.5 bekezdésben ez alól felmentés van adva.

**Megjegyzés:** 1. A szállítóegységen tartandó okmányok felsorolására lásd a 8.1.2 szakaszt.

2. Elektronikus adatfeldolgozási (EDP) vagy elektronikus adatátviteli (EDI) technikák használata az írásos dokumentáció kiegészítéseként vagy helyette megengedett, amennyiben az elektronikus adatok fogadására, tárolására és feldolgozására használt eljárások a bizonyító erőre és a szállítás alatti hozzáférhetőségre vonatkozó jogi követelményeknek legalább annyira megfelelnek, mint az írásos dokumentáció.

**5.4.1** Veszélyes áru szállítási okmányok és az azokkal összefüggő információk

**5.4.1.1** Általános információk, amelyeket a fuvarokmányoknak tartalmaznia kell

**5.4.1.1.1** A fuvarokmány(ok)nak minden szállítandó anyagra vagy tárgyra vonatkozóan a következő információkat kell tartalmazniuk:

- a) az UN számot, amely elé az „UN” betűket kell írni;
- b) a helyes szállítási megnevezést, amint azt a 3.1.2 szakasz meghatározza, szükség esetén (lásd a 3.1.2.8.1 pontot) a zárójelbe tett műszaki megnevezéssel kiegészítve (lásd a 3.1.2.8.1.1 pontot);
- c) – az 1 osztály anyagai és tárgyai esetén a 3.2 fejezet „A” táblázat 3b oszlopában található osztályozási kódot.

Ha a 3.2 fejezet „A” táblázat 5 oszlopában az 1, 1.4, 1.5, ill. 1.6 számú bárcán kívül más bárca száma is fel van tüntetve, akkor az osztályozási kód után zárójelben azt a bárcaszámot is fel kell tüntetni;

- a 7 osztály radioaktív anyagai esetén az osztály számát: „7”;

**Megjegyzés:** A járulékos veszélyekkel rendelkező radioaktív anyagokra lásd a 3.3 fejezetben a 172 különleges előírást.

- a többi osztály anyagai és tárgyai esetén a 3.2 fejezet „A” táblázat 5 oszlopában feltüntetett, ill. 6 oszlopában feltüntetett különleges előírás alapján szükséges bárca számát. Ha egynél több bárca van megadva, akkor az elsőt követő többi bárca számát zárójelbe kell tenni. Olyan anyagok és tárgyak esetén, amelyeknél a 3.2 fejezet „A” táblázat 5 oszlopában nincs bárca szám feltüntetve, e helyett a 3a oszlopban feltüntetett osztály számát;
- d) ahol van, az anyagra vonatkozó csomagolási csoportot, ami elé a „PG” betűk (pl. „PG II”) vagy az 5.4.1.4.1 pont szerinti nyelven a „csomagolási csoport” kezdőbetűi írhatók;

**Megjegyzés:** A 7 osztály járulékos veszélyekkel rendelkező radioaktív anyagaina lásd a 3.3 fejezetben a 172 különleges előírás b) bekezdését.

- e) küldeménydarabok szállítása esetén a küldeménydarabok számát és fajtáját. A csomagolóeszköz UN kódjelét csak a küldeménydarab-fajta leírásának kiegészítéseként lehet használni [pl. egy láda (4G)];



- f) a veszélyes árukénti összes mennyiséget (térfogatban, bruttó vagy nettó tömegben) az azonos UN számhoz, helyes szállítási megnevezéshez és – ha van – csomagolási csoporthoz tartozó áruként;

**Megjegyzés:** 1. Amennyiben az 1.1.3.6 bekezdést kívánják alkalmazni, a szállított veszélyes áru összmennyiségét szállítási kategóriánként kell megadni a fuvarokmányban az 1.1.3.6.3 pont szerint.

2. Az e Mellékletben szereplő gépek és készülékek esetén a bennük lévő veszélyes áru összes mennyiségét kell feltüntetni, liteben vagy kg-ban.

- g) a feladó nevét és címét;
- h) a címzett(ek) nevét és címét. Ehelyett, ha a veszélyes árut több, olyan címzethez szállítják, akik a szállítás megkezdésekor még nem ismertek, a szállításban érintett országok illetékes hatóságainak hozzájárulásával a „járműről történő értékesítés” szavakat lehet beírni;
- i) az esetleges külön megállapodás rendelkezéseinek megfelelő nyilatkozatot.
- j) (fenntartva)
- k) a 3.2 fejezet „A” táblázat 15 oszlopában feltüntetett alagútkorlátozási kódot – ha van – nagybetűvel, zárójelben feltüntetve. Az alagútkorlátozási kódot nem kell a fuvarokmányban feltüntetni, ha előzetesen ismert, hogy a szállítás nem halad át olyan alagúton, amelyben a veszélyes áru szállítására korlátozás van.

Az egyes információk helye és sorrendje a fuvarokmányban tetszőleges, kivéve, hogy az a), b), c), d) és k) pont szerinti adatokat ebben a sorrendben [azaz a), b), c), d), k) sorrendben] kell beírni, minden más információ közbeszúrása nélkül, kivéve, amit az ADR előír. Ilyen megengedett veszélyes áru leírás például

„UN 1098 ALLIL- ALKOHOL, 6.1 (3), I, (C/D)” vagy

„UN 1098 ALLIL- ALKOHOL, 6.1 (3), PG I, (C/D)”.

#### 5.4.1.1.2

A fuvarokmányban az előírt információknak jól olvashatónak kell lenniük.

Bár a 3.1 fejezetben és a 3.2 fejezet „A” táblázatában a helyes szállítási megnevezés részét képező elemek nagybetűvel vannak feltüntetve, ill. ebben a fejezetben a fuvarokmányban feltüntetendő információk vegyesen kis- és nagybetűvel vannak írva, az információt a fuvarokmányba kis- vagy nagybetűvel egyaránt be lehet írni, kivéve az 5.4.1.1.1 k) pontban előírtakat.

#### 5.4.1.1.3

*Hulladékokra vonatkozó különleges előírások*

Amennyiben veszélyes árut tartalmazó hulladékot szállítanak (a radioaktív hulladékok kivételével), az UN szám és a helyes szállítási megnevezés elé kell írni a „HULLADÉK” szót, kivéve, ha ez része a helyes szállítási megnevezésnek, pl.:

„HULLADÉK, UN 1230 METANOL, 3 (6.1), II, (D/E)” vagy

„HULLADÉK, UN 1230 METANOL, 3 (6.1), PG II, (D/E)” vagy

„HULLADÉK, UN 1993 GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (toluol és etil-alkohol), 3, II, (D/E)” vagy

„HULLADÉK, UN 1993 GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (toluol és etil-alkohol), 3, PG II, (D/E)”.

Ha a hulladékokra a 2.1.3.5.5 pont előírásait alkalmazzák, akkor a helyes szállítási megnevezést a következőkkel kell kiegészíteni:

„A 2.1.3.5.5 PONT SZERINTI HULLADÉK”

(pl.: „UN 3264 MARÓ, FOLYÉKONY, SAVAS, SZERVETLEN ANYAG, M.N.N. 8, II,

(E), A 2.1.3.5.5 PONT SZERINTI HULLADÉK”).

Ilyen esetben a 3.3 fejezet 274 különleges előírása által előírt műszaki megnevezést nem kell beírni.

**5.4.1.1.4** *A korlátozott mennyiségben csomagolt veszélyes árukra vonatkozó különleges előírások*

Ha a 3.4 fejezet szerinti, korlátozott mennyiségben csomagolt veszélyes árut szállítanak, ha van is fuvarokmány, nem szükséges ezt bejegyezni.

**5.4.1.1.5** *A kármentő csomagolásokra vonatkozó különleges előírások*

Ha veszélyes árut kármentő csomagolásban szállítanak, a fuvarokmányba az áru megnevezése után a „KÁRMENTŐ CSOMAGOLÁS” bejegyzést kell tenni.

**5.4.1.1.6** *Az üres, tisztítatlan eszközökre vonatkozó különleges előírások*

**5.4.1.1.6.1** A 7 osztály kivételével a többi osztály veszélyes áruinak maradékát tartalmazó, üres, tisztítatlan eszközök esetében a fuvarokmányban az 5.4.1.1.1 b) pontban előírt helyes szállítási megnevezés előtt vagy után az „ÜRES, TISZTÍTATLAN” vagy az „UTOLSÓ RAKOMÁNY MARADÉKA” szavakat kell feltüntetni. Emellett az 5.4.1.1.1 f) pont előírásait nem kell alkalmazni.

**5.4.1.1.6.2** Az 5.4.1.1.6.1 pont különleges előírása helyett az 5.4.1.1.6.2.1, az 5.4.1.1.6.2.2, ill. az 5.4.1.1.6.2.3 pont előírásai értelemszerűen alkalmazhatók.

**5.4.1.1.6.2.1** A 7 osztály kivételével a többi osztály veszélyes áruinak maradékát tartalmazó, üres, tisztítatlan csomagolóeszközök esetében, beleértve a legfeljebb 1000 l űrtartalmú, üres, tisztítatlan gáztartályokat is, a fuvarokmányban az 5.4.1.1.1 a), b) c) d), e) és f) pont szerinti adatok helyett értelemszerűen az „ÜRES CSOMAGOLÓESZKÖZ”, „ÜRES TARTÁLY”, „ÜRES IBC”, ill. „ÜRES NAGYCSOMAGOLÁS” bejegyzés valamelyike szerepel, amit az utolsó berakott árura az 5.4.1.1.1 c) pontban meghatározott információ követ. Lásd a következő példát:

„ÜRES CSOMAGOLÓESZKÖZ, 6.1 (3)”.

Ha az utolsó berakott veszélyes áru a 2 osztályba tartozó áru volt, akkor az 5.4.1.1.1 c) pontban meghatározott információ helyett az osztály száma: „2” is bejegyezhető.

**5.4.1.1.6.2.2** A 7 osztály kivételével a többi osztály veszélyes áruinak maradékát tartalmazó, üres, tisztítatlan eszközök – a csomagolóeszközök kivételével –, és az 1000 l-nél nagyobb űrtartalmú, üres, tisztítatlan gáztartályok esetében a fuvarokmányban az 5.4.1.1.1 a) – d) és a k) pont szerinti adatok előtt értelemszerűen az „ÜRES TARTÁNYJÁRMŰ”, „ÜRES LESZERELHETŐ TARTÁNY”, „ÜRES TANKKONTÉNER”, „ÜRES MOBIL TARTÁNY”, „ÜRES BATTÉRIÁS JÁRMŰ”, „ÜRES MEG-KONTÉNER”, „ÜRES MEMU”, „ÜRES JÁRMŰ”, „ÜRES KONTÉNER”, ill. „ÜRES TARTÁLY” bejegyzés valamelyike szerepel, amit az „UTOLSÓ RAKOMÁNY:” szavak követnek. Emellett az 5.4.1.1.1. f) pont előírásait nem kell alkalmazni. Lásd a következő példát:

„ÜRES TARTÁNYJÁRMŰ, UTOLSÓ RAKOMÁNY: UN 1098 ALLIL-ALKOHOL, 6.1 (3), I, (C/D)” vagy

„ÜRES TARTÁNYJÁRMŰ, UTOLSÓ RAKOMÁNY: UN 1098 ALLIL-ALKOHOL, 6.1 (3), PG I, (C/D)”.

**5.4.1.1.6.2.3** A 7 osztály kivételével a többi osztály veszélyes áruinak maradékát tartalmazó, üres, tisztítatlan eszközöknek a feladóhoz történő visszaszállítása esetén az a fuvarokmány is használható, amellyel a veszélyes árut szállították. Ilyen esetben a mennyiség feltüntetését érvényteleníteni kell (áthúzással, törléssel vagy más módon) és helyette az „**üres, tisztítatlan vissza**” szavakat kell beírni.

**5.4.1.1.6.3** a) Ha az üres, tisztítatlan tartányokat, battériás járműveket vagy MEG-konténereket a 4.3.2.4.3 pont szerint a legközelebbi olyan helyre szállítják, ahol a tisztítás vagy javítás

elvégezhető, a következő kiegészítő bejegyzést kell a fuvarokmányba tenni: „**A 4.3.2.4.3 pont szerinti szállítás**”.

- b) Ha az üres, tisztítatlan járműveket vagy konténereket a 7.5.8.1 bekezdés szerint a legközelebbi olyan helyre szállítják, ahol a tisztítás vagy javítás elvégezhető, a következő kiegészítő bejegyzést kell a fuvarokmányba tenni: „**A 7.5.8.1 bekezdés szerinti szállítás**”.

**5.4.1.1.6.4** Ha rögzített tartányokat (tartányjárműveket), leszerelhető tartányokat, battériás járműveket, tankkonténereket vagy MEG-konténereket a 4.3.2.4.4 pont szerint szállítanak, a következő kiegészítő bejegyzést kell a fuvarokmányba tenni: „**A 4.3.2.4.4 pont szerinti szállítás**”.

**5.4.1.1.7** *A tengeri vagy légi szállítást is magában foglaló szállítási láncra vonatkozó különleges előírások*

Az 1.1.4.2.1 pont szerinti szállításnál a következő bejegyzést kell a fuvarokmányba tenni: „**Az 1.1.4.2.1 pont szerinti szállítás**”.

**5.4.1.1.8–**

**5.4.1.1.9** (fenntartva)

**5.4.1.1.10** (törölve)

**5.4.1.1.11** *Az IBC-k és mobil tartányok utolsó időszakos vizsgálat érvényességének lejárta utáni szállítására vonatkozó különleges előírások*

A 4.1.2.2 bekezdés b) pontja, a 6.7.2.19.6 pont b) alpontja, a 6.7.3.15.6 pont b) alpontja és a 6.7.4.14.6 pont b) alpontja szerinti szállításnál ezt a tényt a fuvarokmányban a következő formában kell feltüntetni : „**A 4.1.2.2 b) pont szerinti szállítás**”; „**A 6.7.2.19.6 b) pont szerinti szállítás**”; „**A 6.7.3.15.6 b) pont szerinti szállítás**”; „**A 6.7.4.14.6 b) pont szerinti szállítás**”.

**5.4.1.1.12** (fenntartva)

**5.4.1.1.13** *A többkamrás tartányjárművekben vagy egynél több tartánnyal rendelkező szállítóegységekben történő szállításra vonatkozó különleges előírások*

Ha egy többkamrás tartányjárművet vagy egynél több tartánnyal rendelkező szállítóegységet az 5.3.2.1.2 ponttól eltérően az 5.3.2.1.3 pont szerinti jelöléssel látnak el, akkor a fuvarokmányban minden egyes tartányban vagy a tartány minden egyes kamrájában levő anyagot külön fel kell tüntetni.

**5.4.1.1.14** *A magas hőmérsékleten szállított anyagokra vonatkozó különleges előírások*

Ha egy folyékony anyagot 100 °C-on vagy annál magasabb hőmérsékleten, ill. egy szilárd anyagot 240 °C-on vagy annál magasabb hőmérsékleten szállítanak vagy adnak fel szállításra és a helyes szállítási megnevezés nem utal a magas hőmérsékletre (pl. a helyes szállítási megnevezésben nem szerepel az „OLVASZTOTT” vagy „MAGAS HŐMÉRSÉKLETŰ” kifejezés), akkor a helyes szállítási megnevezés elé közvetlenül a „**FORRÓ**” szót kell írni.

**5.4.1.1.15** *A hőmérséklet-szabályozással stabilizált anyagok szállítására vonatkozó különleges előírások*

Ha a „STABILIZÁLT” kifejezés a helyes szállítási megnevezés része (lásd a 3.1.2.6 bekezdést is), és a stabilizálás hőmérséklet-szabályozással történik, a fuvarokmányban fel kell tüntetni a szabályozási és a vészhőmérsékletet (lásd a 2.2.41.1.17 pontot) a következők szerint:

„**Szabályozási hőmérséklet: ... °C, vészhőmérséklet: ... °C**”.

**5.4.1.1.16** *A 3.3 fejezet 640 különleges utasítása szerint szükséges információ feltüntetése*

Ha a 3.3 fejezet 640 különleges előírása megköveteli, a fuvarokmányba a „**640X különleges előírás**” bejegyzést kell tenni, ahol „X” a 3.2 fejezet „A” táblázat 6 oszlopában a 640 különleges előírás után szereplő nagybetű.

**5.4.1.1.17** *A szilárd anyagoknak a 6.11.4 szakasz szerinti ömlesztettáru-konténerben történő szállítására vonatkozó különleges előírások*

Ha szilárd anyagot a 6.11.4 szakasz szerinti ömlesztettáru-konténerben szállítanak, a fuvarokmányba a következő bejegyzést kell tenni (lásd a 6.11.4 szakasz címéhez fűzött megjegyzést):

„... **illetékes hatósága által jóváhagyott BK(x) ömlesztettáru-konténer**”.

**5.4.1.2** *Az egyes osztályoknál szükséges különleges vagy kiegészítő információk***5.4.1.2.1** *Különleges előírások az 1 osztályra*

- a) Az 5.4.1.1.1. f) pontban előírtakon kívül a következőket kell a fuvarokmányban feltüntetni:
  - az összes robbanóanyag-tartalom<sup>3)</sup> nettó tömegét (kg-ban) az eltérő UN számú anyagoként vagy tárgyanként;
  - az összes robbanóanyag-tartalom<sup>3)</sup> nettó tömegét (kg-ban) a fuvarokmányban szereplő összes anyagra vagy tárgyra.
- b) Két különböző áru egybecsomagolása esetén a fuvarokmányba az áru megjelöléseként mindkét anyag vagy tárgy 3.2 fejezet „A” táblázat 1, illetve 2 oszlopában szereplő UN számát és nagybetűvel szedett helyes szállítási megnevezését be kell írni. Amennyiben a 4.1.10 szakasz MP1, MP2, MP20 – MP24 egybecsomagolásra vonatkozó különleges előírása szerint kettőnél több különböző áru van egy küldeménydarabból egyesítve, úgy a fuvarokmányban az áru megnevezése alatt a küldeménydarabban levő minden anyag és tárgy UN számát „UN... számú áru” formában kell feltüntetni.
- c) A valamely m.n.n. tétel vagy az „UN 0190 ROBBANÓANYAG MINTA” alá besorolt, illetve az 4.1.4.1 bekezdés P101 csomagolási utasítása szerint csomagolt anyagok és tárgyak szállításánál a fuvarokmányhoz mellékelni kell az illetékes hatóság engedélyének egy példányát a szállítási feltételekkel. Ezt a feladási ország valamely hivatalos nyelvén és ezenkívül, ha ez a nyelv nem az angol, a francia, vagy a német, akkor angol, francia vagy német nyelven kell szövegezni, kivéve, ha a szállítás által érintett országok közötti megállapodások, ha ilyenek vannak, másként rendelkeznek.
- d) Ha a B és a D összeférhetőségi csoport anyagait és tárgyait tartalmazó küldeménydarabokat a 7.5.2.2 bekezdés előírásai szerint ugyanabba a járműbe együtvé rakják, a 7.5.2.2 bekezdés táblázatához fűzött a) lábjegyzet szerinti elválasztott rekeszekre vagy különleges védőburkolat-rendszerre vonatkozóan az illetékes hatóság jóváhagyásának másolatát a fuvarokmányhoz kell csatolni. Ezt a feladási ország valamelyik hivatalos nyelvén és ezenkívül, ha ez a nyelv nem az angol, a francia vagy a német, akkor angol, francia vagy német nyelven kell szövegezni, kivéve, ha a szállítás által érintett országok közötti megállapodások, ha ilyenek vannak, másként rendelkeznek.
- e) Ha a robbanóanyagokat vagy robbanótárgyakat a P101 csomagolási utasítás szerinti csomagolásban szállítják, a fuvarokmányba a következő bejegyzést kell tenni: „... **illetékes hatósága által engedélyezett csomagolás**” (lásd a 4.1.4.1 bekezdés P101 csomagolási utasítását).

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3) Tárgyak esetében a robbanóanyag-tartalom a tárgyban levő robbanóanyagot jelenti.

- f) (fenntartva).
- g) Az UN 0333, 0334, 0335, 0336 és 0337 alá tartozó tűzijáték testek szállításánál a fuvarokmányba a következő bejegyzést kell tenni: „... (a 3.3.1 szakasz 645 különleges előírásában hivatkozott ország) **illetékes hatósága által elismert besorolás**”.

**Megjegyzés:** A helyes szállítási megnevezés kiegészítéseként a fuvarokmányban az áru kereskedelmi vagy műszaki megnevezése is megadható.

#### 5.4.1.2.2 Kiegészítő előírások a 2 osztályra

- a) A keverékek (lásd a 2.2.2.1.1 pontot) rögzített és leszerelhető tartányokban, mobil tartányokban, tankkonténerekben, battériás jármű vagy MEG-konténerek elemeiben történő szállításánál a keverék összetételét térf.%-ban vagy tömeg%-ban meg kell adni. Az 1%-nál kevesebb alkotórészeket nem kell feltüntetni (lásd még a 3.1.2.8.1.2 pontot is). Nem szükséges megadni a keverék összetételét, ha az 581, 582 vagy 583 különleges előírás által engedélyezett műszaki megnevezést használják a helyes szállítási megnevezés kiegészítéseként.
- b) Palackok, nagypalackok, gázhordók, mélyhűtő tartályok és palackkötegek 4.1.6.10 bekezdés feltételei szerinti szállításánál a fuvarokmányba a következő bejegyzést kell tenni:

**„A 4.1.6.10 bekezdés szerinti szállítás”.**

#### 5.4.1.2.3 Kiegészítő előírások a 4.1 osztály önreaktív anyagaira és az 5.2 osztály szerves peroxidjaira

##### 5.4.1.2.3.1 A 4.1 osztály önreaktív anyagainál és az 5.2 osztály szerves peroxidjainál, amelyek a szállítás alatt hőmérséklet-szabályozást igényelnek (önreaktív anyagokra lásd a 2.2.41.1.17 pontot; szerves peroxidokra lásd a 2.2.52.1.15 - 2.2.52.1.17 pontot), a szabályozási és a vész hőmérsékleteket fel kell tüntetni a fuvarokmányban a következők szerint:

**„Szabályozási hőmérséklet: ... °C, Vész hőmérséklet: ... °C”.**

##### 5.4.1.2.3.2 A 4.1 osztály egyes önreaktív anyagaihoz és az 5.2 osztály egyes szerves peroxidjaihoz, amelyeknél meghatározott csomagolás esetén az illetékes hatóság engedélye alapján 1 számú bárca nem szükséges (lásd az 5.2.2.1.9 pontot), a fuvarokmányba a következő bejegyzést kell tenni:

**„1 számú veszélyességi bárca nem szükséges”.**

##### 5.4.1.2.3.3 Ha az önreaktív anyagokat és a szerves peroxidokat olyan feltételek mellett szállítják, amelyekhez jóváhagyás szükséges (az önreaktív anyagokra lásd a 2.2.41.1.13 és a 4.1.7.2.2 pontot; a szerves peroxidokra lásd a 2.2.52.1.8 és a 4.1.7.2.2 pontot, valamint a 6.8.4 szakasz TA2 különleges előírását), a fuvarokmányba erre utaló bejegyzést kell tenni, pl.:

**„A 2.2.52.1.8 pont szerinti szállítás”.**

Az illetékes hatóság szállítási feltételeket tartalmazó jóváhagyásának másolatát a fuvarokmányhoz kell csatolni. Ezt a feladási ország valamelyik hivatalos nyelvén és ezenkívül, ha ez a nyelv nem az angol, a francia vagy a német, akkor angol, francia vagy német nyelven kell szövegezni, kivéve, ha a szállítás által érintett országok közötti megállapodások, ha ilyenek vannak, másként rendelkeznek.

##### 5.4.1.2.3.4 Szerves peroxid minta (lásd a 2.2.52.1.9 pontot) vagy önreaktív anyag minta (lásd a 2.2.41.1.15 pontot) szállításánál erre a tényre utaló nyilatkozatot kell a fuvarokmányba bejegyezni, pl.:

**„A 2.2.52.1.9 pont szerinti szállítás”.**

##### 5.4.1.2.3.5 G típusú önreaktív anyag szállításánál [lásd a „Vizsgálatok és kritériumok kézikönyv” II. Rész, 20.4.2.g) bekezdését] a következő nyilatkozat tehető a fuvarokmányba:

**„Nem a 4.1 osztály önreaktív anyaga”.**

G típusú szerves peroxid szállításánál [lásd a „Vizsgálatok és kritériumok kézikönyv” II. Rész, 20.4.3.g) bekezdését] a következő nyilatkozat tehető a fuvarokmányba:

**„Nem az 5.2 osztály anyaga”.****5.4.1.2.4** *Kiegészítő előírások a 6.2 osztályra*

A címzettre vonatkozó információ [lásd az 5.4.1.1.1 h) pontot] kívül egy felelős személy nevét és telefonszámát is meg kell adni.

**5.4.1.2.5** *Kiegészítő előírások a 7 osztályra***5.4.1.2.5.1** Minden, a 7 osztály anyagát tartalmazó küldemény esetében a fuvarokmányban – értelemszerűen – a következő információt kell a megadott sorrendben, közvetlenül az 5.4.1.1.1 a) – c) és k) pontban előírt információkat követően feltüntetni:

- a) az egyes radionuklidok nevét vagy jelét, vagy radionuklidok keveréke esetében a megfelelő általános leírást vagy a sugárzás szempontjából meghatározó nuklidok felsorolását;
- b) az anyagok fizikai és kémiai állapotának leírását vagy annak közlését, hogy különleges formájú radioaktív anyagról vagy kis mértékben diszpergálódó radioaktív anyagról van szó. A kémiai alakot illetően a fajtamegnevezés elegendő. A járulékos veszéllyel rendelkező radioaktív anyagra lásd a 3.3 fejezet 172 különleges előírása utolsó mondatát;
- c) a radioaktív tartalom maximális aktivitását a szállítás során becquerelben (Bq) a megfelelő SI-prefixum jelével együtt (lásd az 1.2.2.1 bekezdést). Hasadóanyagok esetén az aktivitás helyett megadható az összes mennyiség is grammal (g) vagy annak többszörösében;
- d) a küldeménydarab kategóriáját, azaz I-FEHÉR, II-SÁRGA, III-SÁRGA;
- e) a szállítási mutatószámot (csak a II-SÁRGA és a III-SÁRGA kategóriánál);
- f) hasadóanyagot tartalmazó küldeménynél, kivéve a 6.4.11.2 bekezdés értelmében engedélyezett küldeményeket, a kritikussági biztonsági mutatószámot;
- g) amennyiben a feladáshoz szükséges, akkor az illetékes hatóság minden engedélyének (különleges formájú radioaktív anyagokra, kis mértékben diszpergálódó radioaktív anyagokra, külön megegyezésre, küldeménydarab-mintára vagy szállításra vonatkozó engedélyek) jelölő számát;
- h) az olyan küldeményeknél, amelyek egynél több küldeménydarabból állnak, az 5.4.1.1.1 pontban és az előző a) – g) pontban előírt információkat minden egyes küldeménydarabra meg kell adni. Részletesen meg kell adni az egyesítőcsomagolásban, konténerben, ill. járműben levő minden egyes küldeménydarab, ill. minden egyes egyesítőcsomagolás, konténer, ill. jármű tartalmát. Amennyiben az egyesítőcsomagolásból, konténerből, ill. járműből egyes küldeménydarabokat útközben kiraknak, a hozzájuk tartozó fuvarokmányokat mellékelni kell;
- i) amennyiben egy küldeményt kizárólagos használat mellett szállítanak, kiegészítésképpen a „szállítás kizárólagos használat mellett” megjegyzést;
- j) *LSA-II* vagy *LSA-III* anyagoknál és *SCO-I* vagy *SCO-II* tárgyknál a küldeménydarab összes aktivitását az  $A_2$ -érték többszörösében.

**5.4.1.2.5.2** A feladónak a fuvarokmányban nyilatkoznia kell azokról az intézkedésekről, amelyeket esetleg a fuvarozónak kell megtennie. Ezt a nyilatkozatot olyan nyelven kell szövegezni,



amelyet a fuvarozó vagy az illetékes hatóság szükségesnek tart, és a nyilatkozatnak legalább a következő információkat kell tartalmaznia:

- a) kiegészítő követelményeket a küldeménydarabok, egyesítőcsomagolások, konténerek, tartányok berakása, tárolása, szállítása, kezelése, kirakása során, beleértve a hőelvezetésre vonatkozó különleges tárolási előírásokat [lásd a 7.5.11 szakasz CV33 3.2) különleges előírását] vagy utalást, amelynek értelmében ilyen intézkedések nem szükségesek;
- b) a szállítási módra vagy a járműre vonatkozó korlátozásokat, és a szállítási útvonalra vonatkozó szükséges adatokat;
- c) a küldeményre vonatkozó veszélyhelyzeti utasításokat.

**5.4.1.2.5.3** Az illetékes hatóság gyártási minta engedélyéhez, ill. szállítási engedélyéhez kötött küldeménydarabok nemzetközi szállítása esetén, ha az érintett országokban különböző engedélytípusok szükségesek, az 5.4.1.1.1 pontban előírt UN számot és helyes szállítási megnevezést a gyártási minta származási országában kiadott engedélynek megfelelően kell megadni.

**5.4.1.2.5.4** Az illetékes hatóság engedélyét nem kell feltétlenül a küldeményhez mellékelni. A feladónak azonban berakás és kirakás előtt a fuvarozó rendelkezésére kell bocsátania.

**5.4.1.3** (fenntartva)

#### **5.4.1.4** *Az okmányok nyelvezte és formája*

**5.4.1.4.1** Más szállítási módra érvényes egyéb előírások által megkövetelt okmány is elfogadható, ha az 5.4.1.1 és az 5.4.1.2 bekezdésben előírt adatokat tartalmazza. Több címzett esetén a címzettek nevét, címét és a továbbított mennyiségeket a jármű vezetőfülkéjében tartandó más, használatos vagy speciális szabályzatok által megkövetelt okmányokba is be lehet jegyezni, ha ez lehetővé teszi a szállított áruk természetének és mennyiségének megállapítását bármely időpontban.

A fuvarokmányba bevezetendő bejegyzéseket a feladási ország valamelyik hivatalos nyelvén, és ezenkívül, ha ez a nyelv nem az angol, a francia vagy a német, akkor angol, francia vagy német nyelven kell szövegezni, kivéve, ha a közúti szállításra vonatkozó nemzetközi díjszabások, ha vannak ilyenek, vagy a szállítás által érintett országok közötti megállapodások másként rendelkeznek.

**5.4.1.4.2** Ha valamely rakomány a nagysága következtében egy szállítóegységbe teljes egészében nem rakható be, legalább annyi külön fuvarokmányt vagy egyetlen fuvarokmánynak annyi másolatát kell kiállítani, ahány szállítóegységbe rakták a rakományt. Ezenfelül minden esetben külön fuvarokmányt kell kiállítani azokra a küldeményekre vagy küldeményrészekre, amelyeket a 7.5.2 szakasz tiltó rendelkezései miatt nem szabad ugyanazon járműbe együvé rakni.

A szállítandó áru veszélyeire vonatkozó információkat (mint azt az 5.4.1.1 bekezdés tartalmazza) egyéb szokásos fuvarokmányba vagy árukísérő okmányba is be lehet jegyezni, vagy ezekkel kombinálni lehet. Az információ elrendezésének az okmányban (vagy elektronikus adatfeldolgozási (EDP) vagy elektronikus adatátviteli (EDI) technikák esetén a megfelelő adatok átviteli sorrendjének) meg kell felelnie az 5.4.1.1.1 pontban előírtaknak.

Ha a szokásos fuvarokmány vagy árukísérő okmány nem használható multimodális szállításnál veszélyes áru okmányként, akkor célszerű az 5.4.4 szakaszban példaként bemutatott okmány használata<sup>4)</sup>.

#### 5.4.1.5 *Nem veszélyes áruk*

Ha a 3.2 fejezet „A” táblázatában név szerint említett áru nem esik az ADR hatálya alá, mivel a 2. rész értelmében nem tekinthető veszélyesnek, a feladó bejegyezheti a fuvarokmányba: „**Nem a(z) ... osztályba tartozó áru**”.

*Megjegyzés:* Ez az előírás különösen akkor alkalmazható, ha a feladó úgy gondolja, hogy a szállítmányt útközben ellenőrizhetik a szállított áru (pl. oldat vagy keverék) kémiai tulajdonságai miatt, vagy amiatt, hogy az áru egyéb szabályok szerint veszélyesnek minősül.

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4) Amennyiben ezt használják, az ENSZ EGB-hez (UNECE) tartozó Elektronikus Kereskedelmi és Kereskedelem könnyítési Központ (UN/CEFACT) vonatkozó ajánlásai alkalmazhatók, különösen az 1. sz. Ajánlás (ENSZ kereskedelem okmányok mintája) (ECE/TRADE/137, 81.3 kiadás), Az ENSZ kereskedelmi okmányok mintája – Alkalmazási útmutató (ECE/TRADE/270, 2002. évi kiadás) a 11. sz. Ajánlás (a veszélyes áruk nemzetközi szállítási okmányai) (ECE/TRADE/204, 96.1 kiadás – átdolgozás alatt) és a 22. sz. Ajánlás (A standard küldemény utasítások mintája) (ECE/TRADE/168, 1989. évi kiadás). Lásd még az UN/CEFACT A kereskedelem megkönnyítésére vonatkozó ajánlások összefoglalóját (ECE/TRADE/346, 2006. évi kiadás) és a ENSZ Kereskedelmi adat elemek jegyzékét (UNTDED) (ECE/TRADE/362, 2005. évi kiadás).



#### 5.4.2 Konténer megrakási bizonyítvány

Ha a veszélyes áru nagykonténerben történő szállítását tengeri szállítás követi, a fuvarokmányhoz csatolni kell az IMDG Kódex<sup>5)</sup> 5.4.2 szakasza szerinti konténer megrakási bizonyítványt<sup>6)</sup>.

Az 5.4.1 szakaszban előírt fuvarokmány és az előzőekben említett konténer megrakási bizonyítvány funkcióit egyetlen okmány is betöltheti. Ha több okmány van, egymáshoz kell azokat csatolni. Ha ezeket a funkciókat egyetlen okmány látja el, elegendő a fuvarokmányba tett azon nyilatkozat, hogy a konténer megrakása az alkalmazható alágazati előírások szerint történt, valamint a konténer megrakási bizonyítványért felelős személy megnevezése.

**Megjegyzés:** Mobil tartányokhoz, tankkonténerekhez és MEG- konténerekhez nem szükséges konténer megrakási bizonyítvány.

- 
- 5) Az áruk szállítóegységbe történő rakodásához gyakorlati és oktatási irányelveket a Nemzetközi Tengerészeti Szervezet (IMO), a Nemzetközi Munkaügyi Szervezet (ILO) és az ENSZ Európai Gazdasági Bizottsága (UNECE) is kialakított, amelyeket az IMO jelentetett meg – (IMO/ILO/UNECE Guidelines for packing of cargo transport units (CTUs)).

- 6) Az IMDG Kódex 5.4.2 szakasza a következőket írja elő:

**„5.4.2 Konténer/jármű megrakási bizonyítvány**

5.4.2.1 Ha a veszélyes árut bármilyen konténerbe vagy járműbe rakják, a konténer vagy a jármű berakásáért felelősnek „konténer/jármű megrakási bizonyítvány”-t kell kiállítania, amely tartalmazza a konténer/jármű azonosító számát (számait) és tanúsítja, hogy az eljárást a következő feltételek szerint hajtották végre:

- .1 A konténer/jármű tiszta, száraz és az áru befogadására alkalmas volt;
- .2 Az együvé rakási szabályok szerint együvé nem rakható küldeménydarabokat nem rakták ugyanabba a konténerbe, járműbe, ill. járműre (kivéve, ha az érintett illetékes hatóság az (IMDG Kódex) 7.2.2.3 bekezdése alapján azt engedélyezte);
- .3 Minden küldeménydarabot külsőleg megvizsgáltak sérülés szempontjából, és csak hibátlan küldeménydarabokat raktak be;
- .4 A hordókat állítva rakták be, kivéve, ha az illetékes hatóság másként engedélyezte, és minden árut megfelelően raktak be, ill. szükség esetén a tervezett szállítás mód(ok)nak megfelelően rögzítő-eszközökkel rögzítettek;
- .5 Ha a veszélyes árut ömlesztve szállítják, az ömlesztve berakott áru egyenletesen el van terítve a konténerben/járműben;
- .6 Ha a küldemény az 1.4. osztály kivételével 1. osztályba tartozó árut is tartalmaz, a konténer/jármű (az IMDG Kódex) 7.4.6 bekezdése értelmében szerkezetileg megfelelő;
- .7 A konténer/jármű és a benne levő küldeménydarabok megfelelően vannak feliratozva, bárcázva és nagybárcával jelölve;
- .8 Ha hűtés céljára szilárd szén-dioxidot (CO<sub>2</sub> - szárazjeget) használnak, a konténer/jármű szembetűnő helyen, pl. az ajtó felőli végén kívülről meg van jelölve vagy bárcázva a következő felirattal: „VESZÉLYES CO<sub>2</sub> GÁZT (SZÁRAZJEGET) TARTALMAZ, BELÉPÉS ELŐTT ALAPOSAN KI KELL SZELLŐZTETNI”; és
- .9 Az (IMDG Kódex) 5.4.1 szakaszában előírt veszélyes áru fuvarokmányokat a konténerbe/járműbe rakott minden egyes veszélyes áru küldeményre áadták.

**Megjegyzés:** A konténer/jármű megrakási bizonyítvány tartányokhoz nem szükséges.

5.4.2.2 A fuvarokmányban és a konténer/jármű megrakási bizonyítványban feltüntetendő információkat egyetlen okmányban is fel lehet tüntetni; ellenkező esetben az okmányokat egymáshoz kell csatolni. Ha az információkat egyetlen okmány tartalmazza, akkor az okmányban aláírt nyilatkozatnak kell szerepelnie, miszerint „Kijelentem, hogy az áruk berakása a konténerbe/járműbe az alkalmazandó előírások szerint történt”. A nyilatkozatot dátummal kell ellátni és az okmányban az aláíró személyét is fel kell tüntetni. Sokszorosított (facsimile) aláírás is elfogadható, ha a vonatkozó jogszabályok, illetve előírások jogilag érvényesnek ismerik el sokszorosított aláírást.

5.4.2.3 Ha a veszélyes áru okmányokat a fuvarozó részére elektronikus adatfeldolgozási (EDP) vagy elektronikus adatátviteli (EDI) technikák használatával adják, az aláírás helyett megfelelő az aláírásra jogosult személy(ek) neve, nagybetűkkel feltüntetve.”











**5.4.3      Írásbeli utasítás**












- 5.4.3.1**      A szállítás során – esetlegesen – bekövetkező baleset vagy más veszélyhelyzet esetén teendőkhöz segítségként a jármű vezetőfülkéjében, könnyen elérhető helyen az 5.4.3.4 bekezdésben meghatározott formájú írásbeli utasítást kell tartani.
- 5.4.3.2**      Az írásbeli utasítást a szállítónak (fuvarozónak) az indulás előtt kell biztosítani a járműszemélyzet számára. Az írásbeli utasításnak olyan nyelve(ke)n kell készülnie, hogy a jármű személyzet minden tagja képes legyen elolvasni és megérteni. A szállítónak (fuvarozónak) gondoskodnia kell arról, hogy az érintett személyzet minden tagja megértse az utasítást és képes legyen az abban foglaltakat megfelelően végrehajtani.
- 5.4.3.3**      Indulás előtt a jármű személyzetének tájékozódnia kell a berakott veszélyes árurol és tanulmányoznia kell az írásbeli utasítást, hogy tudja, mi a teendője baleset vagy más veszélyhelyzet esetén.
- 5.4.3.4**      Az utasításnak a következő, négyoldalas mintának kell tartalmilag és formailag teljes mértékben megfelelnie.

**ÍR Á S B E L I   U T A S Í T Á S**Teendők baleset vagy más veszélyhelyzet esetén

A jármű személyzetének a szállítás során – esetlegesen – bekövetkező baleset vagy más veszélyhelyzet esetén – ha lehetséges és biztonságosan végrehajtható – a következőket kell tennie:

- Álljon meg a járművel, állítsa le a motort, ha van akkumulátortelep-főkapcsoló, áramtalanítson!
- Kerüljön minden gyújtóforrást, főleg ne dohányozzon és ne kapcsoljon be semmilyen elektromos berendezést!
- Értesítse a megfelelő beavatkozó, kárelhárító szolgálato(ka)t, adjon meg minden lehetséges felvilágosítást a balesetről, illetve a rendkívüli eseményről és az érintett veszélyes anyagról!
- Vegye fel a fényvisszaverő mellényt (ruházatot), és a megfelelő helyre állítsa fel a figyelmeztető jelzőket!
- Készítse elő a fuvarokmány(oka)t, hogy a beavatkozóknak azonnal átadhassa, ha megérkeznek!
- A kifolyt, kiszóródott anyagba ne lépjen bele és ne nyúljon hozzá, tartózkodjon a szél felőli oldalon, nehogy a füstöt, a port, a gőzt vagy a párákat belélegezze!
- Ha a gumiabroncsnál, a fékberendezésnél vagy a motortérben kezdődő, kis mértékű tüzet észlel, kísérelje meg eloltani a tűzoltó készülékkel, de csak ha biztonságosan meg tudja tenni!
- A rakománytérben keletkező tűz oltását a jármű személyzetének tilos megkísérelnie!
- Ha biztonságosan megoldható, a járművön található eszközökkel próbálja megakadályozni, hogy az anyag a felszíni vizekbe, a talajba vagy a csatorna-hálózatba szivároгjon, illetve a kiömlött, kiszóródott anyagot próbálja felfogni!
- Húzódjon távolabbra a baleset vagy veszély helyszínétől, figyelmeztessen másokat is, hogy maradjanak távol, kövesse a beavatkozó, kárelhárító szolgálat(ok) utasításait, illetve tanácsait!
- Ha szennyeződött a ruhája, vesse le, és a szennyeződött védőeszközökkel együtt biztonságosan helyezze el!

| Kiegészítő útmutatás a járműszemélyzet részére a veszélyes anyagok veszélyeinek jellemzőiről osztályonként, az adott körülményektől függő teendőkről   |   |  |
|--|---|--|
| Veszélyességi bárca, nagybárca   | A veszély jellemzői   | Kiegészítő útmutatás   |
| (1)  | (2)   | (3)  |
| Robbanóanyagok és -tárgyak<br> <br>1.5 1.6 | Többféle tulajdonság és hatás lehetséges, például:<br>az egész tömeg felrobbanása;<br>repeszdarabok kivetődése, szétröpülése;<br>erőteljes égés vagy hőfejlődés;<br>erős fény- vagy hanghatás;<br>füst képződés.<br>Rázkódásra, ütődésre, hőre érzékeny.  | Húzódjon fedezékbe, de ablak közelébe ne menjen!   |
| Robbanóanyagok és -tárgyak<br><br>1.4   | Csekély tűz- és robbanásveszély.  | Húzódjon fedezékbe!  |
| Gyúlékony gázok<br><br>2.1  | Tűzveszély.<br>Robbanásveszély.<br>A szállító edényzetben nagy nyomás lehet.<br>Fulladás veszélye.<br>Égési, fagyási sérülést okozhat.<br>Hő hatására a szállító edényzet szétrobbánhat.  | Húzódjon fedezékbe!<br>Kerülje a mélyebben fekvő területeket!  |
| Nem gyúlékony, nem mérgező gázok<br><br>2.2   | Fulladás veszélye.<br>A szállító edényzetben nagy nyomás lehet.<br>Fagyási sérülést okozhat.<br>Hő hatására a szállító edényzet szétrobbánhat.  | Húzódjon fedezékbe!<br>Kerülje a mélyebben fekvő területeket!  |
| Mérgező gázok<br><br>2.3  | Mérgezésveszély.<br>A szállító edényzetben nagy nyomás lehet.<br>Égési, fagyási sérülést okozhat.<br>Hő hatására a szállító edényzet szétrobbánhat.   | Használjon légzésvédő maszkot, (menekülőkármzsát!)<br>Húzódjon fedezékbe!<br>Kerülje a mélyebben fekvő területeket!  |
| Gyúlékony folyékony anyagok<br><br>3  | Tűzveszély.<br>Robbanásveszély.<br>Hő hatására a szállító edényzet szétrobbánhat.   | Húzódjon fedezékbe!<br>Kerülje a mélyebben fekvő területeket!<br>Meg kell akadályozni, hogy a szivárgó anyag a felszíni vizekbe, a talajba vagy a csatorna-hálózatba jusson! |
| Gyúlékony szilárd anyagok, önreaktív anyagok és szilárd, érzéketlenített robbanóanyagok<br><br>4.1                        | Tűzveszély. Gyúlékony vagy éghető; hő, szikra vagy láng hatására meggyulladhat.<br>Önreaktív anyagot tartalmazhat, ami hő hatására vagy más anyagokkal (pl. savakkal, nehézfém vegyületekkel, aminosavakkal) érintkezve, vagy sűrűlódás vagy rázkódás hatására hőfejlődéssel járó bomlásra hajlamos. Ilyenkor egészségre ártalmas vagy gyúlékony gázok, gőzök keletkezhetnek.<br>Hő hatására a szállító edényzet szétrobbánhat. | Meg kell akadályozni, hogy a szivárgó anyag a felszíni vizekbe, a talajba vagy a csatorna-hálózatba jusson!  |
| Öngyulladásra hajlamos anyagok<br><br>4.2   | Öngyulladás veszélye áll fenn, ha a szállító edényzet megsérül vagy ha a tartalma kiömlik.<br>Vízzel hevesen reagálhat.   |  |
| Vízzel érintkezve gyúlékony gázokat fejlesztő anyagok<br><br>4.3  | Ha vízzel érintkezik, tűz- és robbanásveszélyes.  | A kiömlött, kiszóródott anyagot le kell takarni, hogy óvjuk a nedvességtől!  |

| Veszélyességi bárca,<br>nagybárca   | A veszély jellemzői   | Kiegészítő útmutatás  |
|---|---|---|
| (1)   | (2)   | (3)   |
| <p>Gyújtó hatású (oxidáló) anyagok</p>  <p>5.1</p>   | <p>Gyulladás- és robbanásveszély.</p> <p>Ha gyúlékony anyaggal érintkezik, heves reakció veszélye.</p>  | <p>Ne keveredjen gyúlékony vagy éghető anyaggal (pl. fűrészporral)!</p>   |
| <p>Szerves peroxidok</p>  <p>5.2</p>   | <p>Magas hőmérsékleten vagy más anyagokkal (pl. savakkal, nehézfém vegyületekkel, aminosavakkal) érintkezve, vagy sűrűdés vagy rázkódás hatására hőfejlődéssel járó bomlás veszélye áll fenn.</p> <p>Ilyenkor egészségre ártalmas vagy gyúlékony gázok, gőzök keletkezhetnek.</p> | <p>Ne keveredjen gyúlékony vagy éghető anyaggal (pl. fűrészporral)!</p>   |
| <p>Mérgező anyagok</p>  <p>6.1</p>   | <p>Mérgezésveszély.</p> <p>Veszélyezteteti a vízi környezetet (felszíni vizeket, talajt) és a csatornahálózatot.</p>  | <p>Használjon légzésvédő maszkot, (menekülőkármzsát)!</p>   |
| <p>Fertőző anyagok</p>  <p>6.2</p>   | <p>Fertőzés veszélye.</p> <p>Veszélyezteteti a vízi környezetet (a felszíni vizeket, a talajt) és a csatornahálózatot.</p>  |   |
| <p>Radioaktív anyagok</p>  <p>7A</p>  <p>7B</p>  <p>7C</p>  <p>7D</p> | <p>Külső és belső sugárterhelés veszélye.</p>   | <p>A lehető legrövidebb ideig tartózkodjon a sugárzó anyagot tartalmazó rakomány közelében!</p>                   |
| <p>Hasadó anyagok</p>  <p>7E</p>   | <p>Nukleáris láncreakció bekövetkezésének veszélye.</p>   |   |
| <p>Maró anyagok</p>  <p>8</p>  | <p>Égési sérülést okozhat.</p> <p>Az ilyen anyagok egymással, vízzel vagy más anyagokkal hevesen reagálhatnak.</p> <p>Veszélyezteteti a vízi környezetet (a felszíni vizeket, a talajt) és a csatornahálózatot.</p>   | <p>Meg kell akadályozni, hogy a szivárgó anyag a felszíni vizekbe, a talajba vagy a csatornahálózatba jusson!</p> |
| <p>Különféle veszélyes anyagok és tárgyak</p>  <p>9</p>  | <p>Égési sérülést okozhat.</p> <p>Tűz- és robbanásveszélyes.</p> <p>Veszélyezteteti a vízi környezetet (a felszíni vizeket, a talajt) és a csatornahálózatot.</p>   | <p>Meg kell akadályozni, hogy a szivárgó anyag a felszíni vizekbe, a talajba vagy a csatornahálózatba jusson!</p> |

**1. megjegyzés:** Ha többféle veszélye van az anyagnak, vagy többféle anyag van a rakományban az összes rájuk vonatkozó leírást figyelembe kell venni.

**2. megjegyzés:** A táblázatban feltüntetett kiegészítő útmutatás a szállított anyag osztályának és a szállítóeszköznek megfelelően adaptálható.

**Személyi védőeszközök és egyéb felszerelések**  
**az általános tennivalók és az egyes veszélyek fennállása esetén teendők végrehajtásához, melyeket az**  
**ADR 8.1.5 szakasza szerint a szállítóegységen kell tartani**

A következő felszerelést mindig a szállítóegységen kell tartani, bármelyik veszélyességi bárca, illetve nagybárca használata esetén:

- minden járműre egy, a jármű legnagyobb megengedett össztömegének és a kerekek átmérőjének megfelelő méretű kerék kitámasztó éket;
- két, önmagában megálló figyelmeztető jelzőt;
- szemöblítő folyadékot<sup>a)</sup>; valamint

a járműszemélyzet minden tagja részére:

- fényvisszaverő mellényt (ruházatot) (pl. az EN 471 szabványnak megfelelőt vagy azzal egyenértékűt);
- hordozható világítókészüléket;
- egy pár védőkesztyűt; valamint
- a szem védelmére alkalmas eszközt (pl. védőszemüveget).

Bizonyos osztályokhoz a következő kiegészítő felszerelés szükséges:

- a 2.3 vagy a 6.1 veszélyességi bárca, illetve nagybárca használata esetén a járműszemélyzet minden tagja részére légzésvédő maszk<sup>b)</sup> (menekülő-kámzsa);
- lapát<sup>c)</sup>;
- csatornanyílás lefedésére alkalmas eszköz<sup>c)</sup>;
- műanyag gyűjtőedény<sup>c)</sup>.

- a) Nem szükséges az 1, 1.4, 1.5, 1.6, 2.1, 2.2 vagy 2.3 számú veszélyességi bárca, illetve nagybárca használata esetén.
- b) Például az EN 141 szabványnak megfelelő vagy azzal egyenértékű, A1B1E1K1-P1 vagy A2B2E2K2-P2 típusú, kombinált (gáz és részecske) szűrővel ellátott légzésvédő maszk (menekülőkámzsa).
- c) Csak a 3, 4.1, 4.3, 8 és 9 veszélyességi bárca, illetve nagybárca használata esetén szükséges.

**5.4.4      Multimodális veszélyes áru nyomtatvány minta**

Nyomtatvány minta, amely a veszélyes áruk multimodális szállításánál egyesített veszélyes áru nyilatkozatként és konténer megrakási bizonyítványként használható.

## MULTIMODÁLIS VESZÉLYES ÁRU NYOMTATVÁNY

|   |                            |  |                             |  |                              |
|---|----------------------------|--|-----------------------------|--|------------------------------|
| 1. Feladó   |                            | 2. Fuvarokmány száma   |                             |  |                              |
|   |                            | 3. 1/ oldal  | 4. Feladó hivatkozási száma |  |                              |
| 6. Címzett  |                            |  |                             | 5. Szállítmányozó hivatkozási száma  |                              |
|   |                            | 7. Fuvarozó (a fuvarozónak kell kitölteni)   |                             |  |                              |
|   |                            | <b>FELADÓI NYILATKOZAT</b><br>Kijelentem, hogy ezen küldemény tartalma teljes egészében és pontosan megfelel az alábbiakban megadott helyes szállítási megnevezésnek, helyesen van besorolva, csomagolva, jelöléssel, bárcával, illetve nagybárcával ellátva és a vonatkozó nemzetközi és belföldi előírások szerint minden tekintetben szállításra alkalmas |                             |  |                              |
| 8. Ez a küldemény megfelel az alábbiakra előírt határértékeknek: (a nemkívánt szöveg törlendő)  |                            | 9. Kiegészítő kezelési információ  |                             |  |                              |
| SZEMÉLYSZÁLLÍTÓ ÉS TEHERSZÁLLÍTÓ REPÜLŐGÉP  |                            |  |                             |  | CSAK TEHERSZÁLLÍTÓ REPÜLŐGÉP |
| 10. Hajó / repülőgép járatszáma és dátum  | 11. Kikötő / berakás helye |  |                             |  |                              |
| 12. Kikötő / kirakás helye  | 13. Rendeltetési hely      |  |                             |  |                              |
| 14. A küldemény jelölése *A küldeménydarabok száma és fajtája; az áru megnevezése Bruttó tömeg (kg) Nettó tömeg Térfogat (m³)   |                            |  |                             |  |                              |
|   |                            |  |                             |  |                              |
| 15. Konténer azonosító szám/ jármű rendszám   | 16. Ólomzárak jele/száma   | 17. Konténer/jármű méret és típus  | 18. Tára (kg)               | 19. Összes tömeg (tárával együtt) (kg)   |                              |
| <b>KONTÉNER MEGRAKÁSI BIZONYÍTVÁNY</b><br>Kijelentem, hogy a fent leírt áruk a fent azonosított járműbe/konténerbe a vonatkozó előírásoknak ** megfelelően kerültek berakásra.<br>A BERAKODÁSÉRT FELELŐS SZEMÉLYNEK MINDEN KONTÉNERRE/JÁRMŰRE KI KELL TÖLTENIE ÉS ALÁ KELL ÍRANIA |                            | <b>21. AZ ÁTVEVŐ SZERVEZET NYILATKOZATA</b><br>A fenti darabszámú küldeménydarabot / konténer/ pótkocsit szemmel láthatóan jó állapotban és rendben átvettük, a következő kivételekkel : AZ ÁTVEVŐ SZERVEZET MEGJEGYZÉSEI:   |                             |  |                              |
| 20. Vállalat neve   |                            | Fuvarozó   |                             | <b>22. (AZ OKMÁNYT KIÁLLÍTÓ FELADÓ ) Cég neve</b><br>A nyilatkozó neve/beosztása<br><br>Hely és dátum<br><br>A nyilatkozó aláírása |                              |
| A nyilatkozó neve / beosztása   |                            | Jármű rendszáma  |                             |  |                              |
| Hely és dátum   |                            | Aláírás és dátum   |                             |  |                              |
| A nyilatkozó aláírása   |                            | A JÁRMŰVEZETŐ ALÁÍRÁSA   |                             |  |                              |

\*\* Lásd az 5.4.2 szakaszt.



## MULTIMODÁLIS VESZÉLYES ÁRU NYOMTATVÁNY

(folytatólagos oldalak)

|  |                      |                                     |
|--|----------------------|-------------------------------------|
| 1. Feladó  | 2. Fuvarokmány száma |                                     |
|  | 3. / oldal           | 4. Feladó hivatkozási száma         |
|  |                      | 5. Szállítmányozó hivatkozási száma |
| 14. A küldemény jelölése *A küldeménydarabok száma és fajtája; az áru megnevezése Bruttó tömeg (kg) Nettó tömeg Térfogat (m <sup>3</sup> ) |                      |                                     |
|  |                      |                                     |

\* A VESZÉLYES ÁRUKNÁL fel kell tüntetni: az UN számot, a helyes szállítási megnevezést, a veszélyességi osztályt, a csomagolási csoportot (ha létezik) és a vonatkozó belföldi és nemzetközi szabályozások szerint szükséges minden más információt

FEKETE VONALKÁZÁS FEKETE VONALKÁZÁS FEKETE VONALKÁZÁS FEKETE VONALKÁZÁS FEKETE VONALKÁZÁS FEKETE VONALKÁZÁS

## 5.5 FEJEZET

### KÜLÖNLEGES ELŐÍRÁSOK

**5.5.1** (törölve)

**5.5.2** **A gázosítószerrel fertőtlenített járművekre, konténerekre és tartányokra vonatkozó különleges előírások**

**5.5.2.1** Az UN 3359 gázosítószer hatása alatt álló egység (jármű, konténer vagy tartány) szállításához a fuvarokmányoknak tartalmaznia kell az 5.4.1.1.1 pontban előírt adatokat, a gázosítás időpontját és a használt gázosítószer típusát és mennyiségét. Ezenkívül utasításokat kell adni az esetleges visszamaradó gázosítószer és a gázosítóeszköz (ha ilyen van) ártalmatlanítására vonatkozóan. Ezeket az adatokat a feladási ország valamelyik hivatalos nyelvén és ha ez a nyelv nem az angol, a német vagy a francia, akkor angol, német vagy francia nyelven is fel kell tüntetni, kivéve, ha a szállítás által érintett országok közötti megállapodások, ha ilyenek vannak, másként rendelkeznek.

**5.5.2.2** Az 5.5.2.3 bekezdésben meghatározott figyelmeztető jelölést minden gázosítószer hatása alatt álló járművön, konténeren, ill. tartányon olyan helyen kell elhelyezni, ahol azt a jármű, a konténer, ill. a tartány belsejébe a belépést megkísérlő személy jól láthatja. A figyelmeztető jelölésen levő szöveget a feladó által alkalmasnak tartott nyelven kell feltüntetni.

Az e bekezdés által előírt figyelmeztető jelölésnek mindaddig rajta kell maradnia a járművön, konténeren, ill. tartányon, amíg a következő előírások nem teljesülnek:

- a) a gázosítószerrel kezelt járművet, konténert, ill. tartányt addig szellőztették, hogy már nincs benne gázosítószer ártalmas koncentrációban; és
- b) a gázosítószerrel kezelt árut, ill. anyagot kirakodták.

**5.5.2.3** A gázosítószeres fertőtlenítésre figyelmeztető jelölésnek téglalap alakúnak kell lennie és szélessége 300 mm-nél, magassága 250 mm-nél nem lehet kisebb. A jelölést fehér háttérre feketével kell felvinni, a betűk magassága nem lehet 25 mm-nél kisebb. A jelölést a következő ábra mutatja be.



Gázosítószeres fertőtlenítésre figyelmeztető jelölés

**6. RÉSZ****A CSOMAGOLÓESZKÖZÖK, A NAGYMÉRETŰ  
CSOMAGOLÓESZKÖZÖK (IBC-k),  
A NAGYCSOMAGOLÁSOK, A TARTÁNYOK ÉS  
AZ ÖMLESZTETTÁRU-KONTÉNEREK  
GYÁRTÁSÁRA ÉS VIZSGÁLATÁRA  
VONATKOZÓ ELŐÍRÁSOK**

**6.1 FEJEZET****A CSOMAGOLÓESZKÖZÖK GYÁRTÁSÁRA ÉS  
VIZSGÁLATÁRA VONATKOZÓ ELŐÍRÁSOK****6.1.1      Általános előírások****6.1.1.1**      Ezen fejezet követelményeit nem kell alkalmazni:

- a)    a 7 osztály radioaktív anyagait tartalmazó küldeménydarabokra, hacsak nincs más előírva (lásd a 4.1.9 szakaszt);
- b)    a 6.2 osztály fertőző anyagait tartalmazó küldeménydarabokra, hacsak nincs más előírva (lásd a 6.3 fejezethez fűzött megjegyzést és a 4.1.4.1 bekezdés P621 csomagolási utasítását);
- c)    a 2 osztály gázait tartalmazó nyomástartó tartályokra;
- d)    azokra a küldeménydarabokra, amelyek nettó tömege meghaladja a 400 kg-ot;
- e)    azokra a csomagolóeszközökre, amelyek űrtartalma meghaladja a 450 litert.

**6.1.1.2**      A 6.1.4 szakaszban levő csomagolási előírások a jelenleg használt csomagolásokon alapulnak. A tudományos és műszaki haladás figyelembevételének érdekében a 6.1.4 szakaszban található csomagolóeszközöktől eltérő jellemzőjű csomagolóeszközök is használhatók, amennyiben ezek ugyanolyan hatékonyságúak, az illetékes hatóság által elfogadhatók és képesek sikeresen elviselni a 6.1.1.3 bekezdésben és a 6.1.5 szakaszban leírt próbákat. Az ebben a fejezetben leírtaktól eltérő vizsgálati módszerek is használhatók, amennyiben egyenértékűek és az illetékes hatóság elfogadja.

**6.1.1.3**      A folyékony anyagokhoz szánt minden csomagolóeszköznek sikeresen ki kell állnia a megfelelő tömörségi próbát, és a 6.1.5.4.3 pont szerinti megfelelő vizsgálati szintet teljesítenie kell a következők szerint:

- a)    a szállításhoz történő első használat előtt;
- b)    felújítás vagy átalakítás után, mielőtt szállításhoz újból felhasználnák.

Ehhez a vizsgálatához a csomagolóeszközt nem kell saját zárószerkezetével ellátni.

Az összetett csomagolóeszköz belső tartálya a külső csomagolóeszköz nélkül is vizsgálható, ha ez a vizsgálati eredményeket nem befolyásolja.

Erre a vizsgálatra nincs szükség:

- a kombinált csomagolások belső csomagolásainál;
- a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott, összetett (üveg, porcelán és kőagyag) csomagolóeszközök belső tartályainál;
- a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott, finomlemez csomagolóeszközöknél.

**6.1.1.4**      A csomagolóeszközöket az illetékes hatóság szerint megfelelő minőségbiztosítási program alapján kell gyártani, felújítani és vizsgálni annak biztosítására, hogy minden egyes csomagolóeszköz kielégítse a jelen fejezet követelményeit.

**Megjegyzés:** Az alkalmazható eljárás(ok)ra megfelelő útmutatást ad az ISO 16106:2006 szabvány: „Csomagolás. Veszélyes áruk szállítási csomagolása. Veszélyes áruk csomagolásai, közepes méretű szállítótartályok (IBC-k) és nagyméretű csomagolások. Útmutató az ISO 9001 alkalmazásához”.

**6.1.1.5**      A csomagolóeszköz gyártójának és forgalmazójának információt kell nyújtania a követendő eljárásokra és a zárószerkezetek (beleértve a szükséges tömítéseket) típusára és méreteire és minden más alkatrészre, ami annak biztosításához szükséges, hogy a szállításra előkészített

küldeménydarab képes legyen az e fejezet vonatkozó igénybevételi próbáinak elviselésére.

#### **6.1.2            A csomagolóeszközök típusát jelölő kód**

##### **6.1.2.1            A kód a következő elemekből áll:**

- a)    egy arab számjegy, amely a csomagolóeszköz fajtáját jelzi, pl. hordó, kanna stb.; ezt követi:
- b)    egy vagy több latin nagybetű, amely az anyagot jelzi, pl. acél, fa stb.; ezt követi szükség esetén:
- c)    egy arab számjegy, amely a csomagolóeszköz kategóriáját jelzi azon a típuson belül, amelyhez tartozik.

##### **6.1.2.2            Összetett csomagolóeszközök esetén a kódban a második helyen két latin nagybetűt kell használni. Az első jelzi a belső tartály anyagát, míg a második a külső csomagolóeszközét.**

##### **6.1.2.3            Kombinált csomagolások esetén csak a külső csomagolóeszköz kódszámát kell használni.**

##### **6.1.2.4            A csomagolási kódot egy „T”, „V” vagy „W” betű követheti. A „T” betű a 6.1.5.1.11 pont előírásainak megfelelő kármentő csomagolásra utal. A „V” betű a 6.1.5.1.7 pont előírásainak megfelelő különleges csomagolóeszközre utal. A „W” betű azt jelenti, hogy a csomagolóeszköz, bár a kód által jelzett típus alá tartozik, de a 6.1.4 szakaszban előírtaktól eltérően gyártották, és a 6.1.1.2 bekezdés előírásai értelmében egyenértékűnek tekinthető.**

##### **6.1.2.5            A következő számjegyek jelzik a csomagolóeszköz fajtáját:**

- 1     Hordó
- 2     (fenntartva)
- 3     Kanna
- 4     Láda
- 5     Zsák
- 6     Összetett csomagolóeszköz
- 7     (fenntartva)
- 0     Finomlemez csomagolóeszközök

##### **6.1.2.6            A következő nagybetűk jelzik az anyagot:**

- A     Acél (bármilyen minőségű vagy felületkezelésű)
- B     Alumínium
- C     Fa
- D     Rétegelt falemez
- F     Farostlemez
- G     Papírlémez
- H     Műanyag
- L     Textil
- M     Papír, többirétegű
- N     Fém (acélt és alumíniumot kivéve)
- P     Üveg, porcelán vagy kőagyag.

**Megjegyzés:** A „műanyag” az egyéb polimer anyagokat, mint pl. a gumit is jelenti.

**6.1.2.7**

A következő táblázat tartalmazza azokat a kódokat, amelyek az egyes csomagolóeszköz típusok jelölésére szolgálnak, a csomagolóeszköz fajtája, a gyártáshoz használt anyag és a kategória függvényében; utalás található a bekezdésre is, amelyben a megfelelő előírások találhatók:

| Fajta                                    | Anyag                | Kategória                                  | Kódjel  | Bekezdés |
|--|----------------------|--|---------|----------|
| 1 Hordó                                  | A Acél               | nem levehető tetővel                       | 1A1     | 6.1.4.1  |
|  |                      | levehető tetővel                           | 1A2     |          |
|  | B Alumínium          | nem levehető tetővel                       | 1B1     | 6.1.4.2  |
|  |                      | levehető tetővel                           | 1B2     |          |
|  | D Rétegelt falemez   |  | 1D      | 6.1.4.5  |
|  | G Papírlemez         |  | 1G      | 6.1.4.7  |
|  | H Műanyag            | nem levehető tetővel                       | 1H1     | 6.1.4.8  |
|  |                      | levehető tetővel                           | 1H2     |          |
| N Fém (acélt és alumí-<br>niumot kivéve) | nem levehető tetővel | 1N1  | 6.1.4.3 |          |
|  | levehető tetővel     | 1N2  |         |          |
| 2 (fenntartva)                           |                      |  |         |          |
| 3 Kanna                                  | A Acél               | nem levehető tetővel                       | 3A1     | 6.1.4.4  |
|  |                      | levehető tetővel                           | 3A2     |          |
|  | B Alumínium          | nem levehető tetővel                       | 3B1     | 6.1.4.4  |
|  |                      | levehető tetővel                           | 3B2     |          |
|  | H Műanyag            | nem levehető tetővel                       | 3H1     | 6.1.4.8  |
| levehető tetővel                         |                      | 3H2  |         |          |
| 4 Láda                                   | A Acél               |  | 4A      | 6.1.4.14 |
|  | B Alumínium          |  | 4B      | 6.1.4.14 |
|  | C Fa                 | közönséges faláda                          | 4C1     | 6.1.4.9  |
|  |                      | portömör faláda                            | 4C2     |          |
|  | D Rétegelt falemez   |  | 4D      | 6.1.4.10 |
|  | F Farostlemez        |  | 4F      | 6.1.4.11 |
|  | G Papírlemez         |  | 4G      | 6.1.4.12 |
|  | H Műanyag            | habosított                                 | 4H1     | 6.1.4.13 |
| tömör                                    |                      | 4H2  |         |          |
| 5 Zsák                                   | H Műanyagszövet      | belső zsák vagy bevonat nélkül             | 5H1     | 6.1.4.16 |
|  |                      | portömör                                   | 5H2     |          |
|  |                      | vízálló                                    | 5H3     |          |
|  | H Műanyagfólia       |  | 5H4     | 6.1.4.17 |
|  | L Textil             | belső zsák vagy bevonat nélkül             | 5L1     | 6.1.4.15 |
|  |                      | portömör                                   | 5L2     |          |
|  |                      | vízálló                                    | 5L3     |          |
|  | M Papír              | többrétegű                                 | 5M1     | 6.1.4.18 |
| többrétegű, vízálló                      |                      | 5M2  |         |          |
| 6 Összetett cso-<br>magolóeszköz         | H Műanyag tartály    | külső acélhordóval                         | 6HA1    | 6.1.4.19 |
|  |                      | külső acélládával vagy -rekesszel          | 6HA2    | 6.1.4.19 |
|  |                      | külső alumíniumhordóval                    | 6HB1    | 6.1.4.19 |
|  |                      | külső alumíniumládával vagy -<br>rekesszel | 6HB2    | 6.1.4.19 |
|  |                      | külső faládával                            | 6HC     | 6.1.4.19 |
|  |                      | külső rétegelt falemez hordóval            | 6HD1    | 6.1.4.19 |
|  |                      | külső rétegelt falemez ládával             | 6HD2    | 6.1.4.19 |
|  |                      | külső papírlemez hordóval                  | 6HG1    | 6.1.4.19 |
|  |                      | külső papírlemez ládával                   | 6HG2    | 6.1.4.19 |

| Fajta                                | Anyag                                 | Kategória                                   | Kódjel | Bekezdés |
|--------------------------------------|---------------------------------------|---|--------|----------|
| 6 Összetett csomagolóeszköz (folyt.) | H Műanyag tartály (folyt.)            | külső műanyag hordóval                      | 6HH1   | 6.1.4.19 |
|                                      |                                       | külső tömör műanyag ládával                 | 6HH2   | 6.1.4.19 |
|                                      | P Üveg, porcelán vagy kőanyag tartály | külső acélhordóval                          | 6PA1   | 6.1.4.20 |
|                                      |                                       | külső acélládával vagy -rekesszel           | 6PA2   | 6.1.4.20 |
|                                      |                                       | külső alumíniumhordóval                     | 6PB1   | 6.1.4.20 |
|                                      |                                       | külső alumíniumládával vagy -rekesszel      | 6PB2   | 6.1.4.20 |
|                                      |                                       | külső falárával                             | 6PC    | 6.1.4.20 |
|                                      |                                       | külső rétegelt falemez hordóval             | 6PD1   | 6.1.4.20 |
|                                      |                                       | külső vesszőkosárral                        | 6PD2   | 6.1.4.20 |
|                                      |                                       | külső papírlemez hordóval                   | 6PG1   | 6.1.4.20 |
|                                      |                                       | külső papírlemez ládával                    | 6PG2   | 6.1.4.20 |
|                                      |                                       | külső habosított műanyag csomagolóeszközzel | 6PH1   | 6.1.4.20 |
|                                      |                                       | külső tömör műanyag csomagolóeszközzel      | 6PH2   | 6.1.4.20 |
| 7 (fenntartva)                       |                                       |   |        |          |
| 0 Finomlemez csomagolóeszköz         | A Acél                                | nem levehető tetővel                        | 0A1    | 6.1.4.22 |
|                                      |                                       | levehető tetővel                            | 0A2    |          |

### 6.1.3 Jelölés

**Megjegyzés:** 1. A jelölés arra utal, hogy a csomagolóeszköz, amelyen a jelölés van, megfelel a sikeresen bevizsgált gyártási típusnak és megfelel a jelen fejezet előírásainak, amelyek a csomagolóeszköz gyártására, nem pedig annak használatára vonatkoznak. Ezért a jelölés önmagában nem szükségszerűen igazolja, hogy a csomagolóeszköz valamely anyaghoz használható; általában az egyes anyagokra nézve a csomagolóeszköz fajtája (pl. acélhordó), legnagyobb űrtartalma és/vagy tömege és az esetleges különleges előírások a 3.2 fejezet „A” táblázatában vannak meghatározva.

2. A jelölésnek az a célja, hogy megkönnyítse a csomagolóeszköz gyártók, felújítók és felhasználók, a szállítást/fuvarozást végzők és a szabályozó hatóságok feladatainak teljesítését. Valamely új csomagolóeszköz használatánál az eredeti jelölés eszköz a gyártó(k) részéről a típus azonosítására és a kiállt teljesítményvizsgálatok feltüntetésére.
3. A jelölés nem mindig ad teljes felvilágosítást a vizsgálati szintekről és egyéb részletekről, holott szükséges lehet ezek figyelembe vétele is, ezeknek a vizsgálati jegyzőkönyvben, jelentésekben vagy a vizsgálatokat sikeresen kiállt csomagolóeszközök nyilvántartásában kell utána nézni. Pl. egy X vagy Y jelű csomagolóeszköz nagyobb relatív sűrűség ( $d$ )<sup>1)</sup>, de kisebb veszélyességű csomagolási csoportba sorolt anyaghoz is használható, ha a legnagyobb megengedhető relatív sűrűségnél figyelembe veszik a csomagolóeszközök vizsgálatára vonatkozó 6.1.5 szakasz előírásai között jelzett 1,5-es és 2,25-os tényezőket. Tehát egy I csomagolási csoportban 1,2 relatív sűrűségű anyagra vizsgált csomagolóeszköz használható II csomagolási csoportba tartozó, 1,8 relatív sűrűségű anyaghoz, illetve III csomagolási csoportba tartozó, 2,7 relatív sűrűségű anyaghoz, feltéve, hogy minden kritérium teljesül a nagyobb sűrűségű anyaggal is.

1) A relatív sűrűség ( $d$ ) kifejezés a „sűrűség” szinonimájának tekinthető, a szövegezés végig ilyen értelemben használja.

## 6.1.3.1

Minden csomagolóeszközön, amelyet az ADR szerinti használatra szánnak, rajta kell lenni a jelölésnek, amelynek tartósnak, jól láthatónak és a csomagolóeszközhöz képest olyan méretűnek kell lennie, hogy könnyen olvasható legyen. A 30 kg bruttó tömeget meghaladó küldeménydaraboknál a jelölést vagy annak megismétlését a csomagolóeszköz tetejére vagy egyik oldalára kell felvinni. A betűknek, számoknak és szimbólumoknak legalább 12 mm magasnak kell lenniük, kivéve a 30 liter vagy 30 kg, ill. annál kisebb csomagolóeszközöket, amelyek legalább 6 mm magasnak kell lenniük és az 5 liter vagy 5 kg, ill. annál kisebb csomagolóeszközöket, ahol megfelelő méretűnek kell lenniük.

A jelölés a következőből áll:

- a) i) az Egyesült Nemzetek jele a csomagolóeszközön:  ;

Ezt a jelet csak annak tanúsítására szabad használni, hogy a csomagolóeszköz megfelel a 6.1, a 6.2, a 6.3, a 6.5, ill. a 6.6 fejezetben található vonatkozó előírásoknak. Ez a jel nem használható azokon a csomagolóeszközökön, amelyek a 6.1.1.3, 6.1.5.3.1 e), 6.1.5.3.5 c), 6.1.5.4, 6.1.5.5.1 és 6.1.5.6 bekezdés, ill. pont egyszerűsített feltételeinek felelnek meg [lásd a következő ii) alpontot is]. Amennyiben a jelölést beütéssel viszik fel a fém csomagolóeszközökre, e jel helyett az „UN” nagybetűk is használhatók;

- ii) „RID/ADR” jel az összetett (üveg, porcelán vagy kőagyag) csomagolóeszközökön és finomlemez csomagolóeszközökön, amelyek egyszerűsített feltételeknek felelnek meg [lásd a 6.1.1.3, 6.1.5.3.1 e), 6.1.5.3.5 c), 6.1.5.4, 6.1.5.5.1 és 6.1.5.6 bekezdést, ill. pontot];

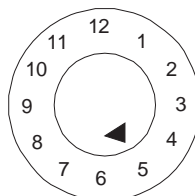
**Megjegyzés:** Az ilyen jellel ellátott csomagolóeszközök a RID, az ADR, ill. az ADN hatálya alá tartozó, vasúti, közúti, ill. belvízi szállításra vannak jóváhagyva. Használatuk a többi közlekedési alágazatra, ill. a más szabályzatok hatálya alá tartozó vasúti, közúti, ill. belvízi szállításra nem feltétlenül megengedett.

- b) a csomagolóeszköz típusát a 6.1.2 szakasz szerint jelölő kód;
- c) két részből álló kódszám:
- i) egy betű a csomagolási csoport(ok) jelölésére, amely(ek)re a gyártási típus kiállta a vizsgálatot:
- X az I, a II és a III csomagolási csoporthoz;
- Y a II és a III csomagolási csoporthoz;
- Z csak a III csomagolási csoporthoz;
- ii) belső csomagolóeszköz nélküli csomagolóeszközökön, amelyek folyékony anyagok szállítására szolgálnak és a folyadéknomás-próbát sikeresen kiállták, a relatív sűrűség megjelölése egy tizedesre kerekítve, amelyre a gyártási típust vizsgálták; ez a jelölés elhagyható, ha ez a relatív sűrűség 1,2-nél nem nagyobb. Szilárd anyagok szállítására szolgáló csomagolóeszközökön vagy belső csomagolóeszközöket tartalmazó csomagolóeszközökön a legnagyobb össztömeg megjelölése kg-ban;
- finomlemez csomagolóeszközöknél, amelyek a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel vannak ellátva és 23 °C-on 200 mm<sup>2</sup>/s-nál nagyobb viszkozitású anyagok befogadására szolgálnak, a legnagyobb össztömeg megjelölése kg-ban;
- d) vagy egy „S” betű, ha a csomagolóeszköz szilárd anyagok szállítására vagy belső csomagolások befogadására szolgál,
- vagy folyékony anyagok szállítására használt olyan csomagolóeszközre (kivéve a kombinált csomagolást), amely a folyadéknomás-próbát sikeresen kiállta, a próbanyomás értéke kPa-ban, a legközelebbi 10 kPa-ra lefelé kerekítve;



finomlemez csomagolóeszközöknél, amelyek a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel vannak ellátva és 23 °C-on 200 mm<sup>2</sup>/s-nál nagyobb viszkozitású anyagok befogadására szolgálnak, egy „S” betű;

- e) a csomagolóeszköz gyártási éve (az utolsó két számjegy). Az 1H és 3H típusú csomagolóeszközökön ezenkívül a gyártási hónap is, amelyet a többi megjelöléstől eltérő helyen is fel lehet tüntetni. Erre a célra használható a következő jel:



- f) annak az államnak a jele, amely a jelölés alkalmazását engedélyezte a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>2)</sup>;
- g) a gyártó neve vagy a csomagolóeszköznek az illetékes hatóság által megállapított egyéb azonosító jele.

**6.1.3.2** A 6.1.3.1 bekezdésben előírt tartós jelöléseken kívül minden, 100 liternél nagyobb űrtartalmú, új fémhordót el kell látni a fenekén a 6.1.3.1 a) – e) pont alatti jelölésekkel, feltüntetve legalább a palásthoz használt fém legkisebb névleges vastagságát is (mm-ben, 0,1 mm pontossággal) maradandóan (pl. beütéssel). Ha a fémhordó tetejének vagy fenekének névleges vastagsága kisebb, mint a palásté, akkor a tető, a palást és a fenék névleges vastagságát kell a fenéken maradandóan feltüntetni (pl. beütéssel), pl. „1.0-1.2-1.0” vagy „0.9-1.0-1.0”. A fém névleges vastagságát a megfelelő ISO szabvány (pl. ISO 3574:1999 acélra) szerint kell meghatározni. A 6.1.3.1 f) és g) pont alatti jelöléseket nem szabad maradandóan felvinni, kivéve, ha a 6.1.3.5 bekezdésben másként van előírva.

**6.1.3.3** Minden felújítható csomagolóeszköze, a 6.1.3.2 bekezdésben említettek kivételével, a 6.1.3.1 a) – e) bekezdésben meghatározott jelölést maradandóan kell felvinni. A jelölés akkor maradandó, ha képes elviselni a felújítási eljárást (pl. beütéssel felvitt jelölés). A 100 liternél nagyobb űrtartalmú fémhordók kivételével a többi csomagolóeszközönél ez a maradandó jelölés helyettesítheti a 6.1.3.1 bekezdésben előírt tartós jelöléseket.

**6.1.3.4** Az átalakított hordóknál, ha a csomagolóeszköz típusa nem változik és nem történik lényeges szerkezeti elem csere vagy eltávolítás, az előírt jelölésnek nem kell maradandónak lennie (pl. beütöttnek). Minden más átalakított fémhordót el kell látni a tetején vagy az oldalán maradandóan (pl. beütéssel) a 6.1.3.1 a) – e) pont szerinti jelölésekkel.

**6.1.3.5** Az ismételt újrahasználatra szánt anyagból (pl. rozsdamentes acélból) gyártott fémhordókon a 6.1.3.1 f) és g) pont szerinti jelölések maradandóan (pl. beütéssel) is felvihetők.

**6.1.3.6** A 6.1.3.1 bekezdés szerinti jelölés csak egy gyártási típusra vagy típusorozatra érvényes. Különböző felületi kezeléssel csomagolóeszközök ugyanazon gyártási típus alá tartozhatnak.

*Gyártási típus sorozaton* azonos szerkezetű, azonos falvastagságú, azonos anyagból gyártott és azonos keresztmetszetű csomagolóeszközöket kell érteni, amelyek a jóváhagyott gyártási típustól csak annyiban térnek el, hogy szerkezeti magasságuk kisebb.

A tartályok zárószervezetének olyannak kell lennie, hogy azt a vizsgálati jelentésben említettekkel azonosítani lehessen.

**6.1.3.7** A jelölést a 6.1.3.1 bekezdés pontjai szerinti sorrendben kell felvinni; az ezekben a pontokban és adott esetben a 6.1.3.8 bekezdés h) – j) pontjában előírt jelölés elemeket

2) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.

egyértelműen el kell választani egymástól, pl. ferde vonallal vagy szóközzel, hogy könnyen azonosíthatók legyenek. Példaként lásd a 6.1.3.11 bekezdést.

Az illetékes hatóság által engedélyezett kiegészítő jelölések nem zavarhatják a 6.1.3.1 bekezdés szerinti jelölés részek pontos azonosíthatóságát.






**6.1.3.8** Aki a csomagolóeszközt felújítja, köteles a felújítás után a csomagolóeszközt olyan jelet elhelyezni, amely sorrendben a következőket jelzi:

- h) az állam, amelyben a felújítást végezték, a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>2)</sup>;
- i) a felújítást végző neve vagy a csomagolóeszköz más azonosítója, amelyet az illetékes hatóság határozott meg;
- j) a felújítás éve, „R” betű és minden olyan csomagolóeszközt, amely sikeresen kiállta a 6.1.1.3 bekezdés szerinti tömörségi próbát, kiegészítésképpen az „L” betű.



**6.1.3.9** Ha a felújítás után a 6.1.3.1 a) – d) pontban előírt jelölések a fémhordó tetején vagy oldalán nem lennének láthatóak, a felújítást végzőnek azokat tartós formában fel kell vinni és azokat követően a 6.1.3.8 h), i) és j) pont szerinti jelöléseket is el kell helyezni. Ezek a jelölések nem utalhatnak nagyobb teljesítőképességre, mint amelyre az eredeti típusmintát bevizsgálták és jelölték.

**6.1.3.10** Az 1.2.1 szakaszban meghatározott, visszaforgatott műanyagból gyártott csomagolóeszközöket „REC” jelöléssel kell ellátni. Ezt a jelölést a 6.1.3.1 bekezdésben előírt jelölések közelében kell elhelyezni.

**6.1.3.11** *Példák az új csomagolóeszközök jelölésére*

|   |                                   |  |  |
|---|-----------------------------------|--|--|
|  | 4G/Y145/S/02<br>NL/VL823          | 6.1.3.1 a) i), b), c), d) és e) szerint<br>6.1.3.1 f) és g) szerint  | Új papírlemez ládára   |
|  | 1A1/Y1.4/150/<br>98 NL/VL824      | 6.1.3.1 a) i), b), c), d) és e) szerint<br>6.1.3.1 f) és g) szerint  | Folyékony anyagok szállítására szolgáló új acélhordóra   |
|  | 1A2/Y150/S/01<br>NL/VL825         | 6.1.3.1 a) i), b), c), d) és e) szerint<br>6.1.3.1 f) és g) szerint  | Szilárd anyagok szállítására vagy belső csomagolóeszközök befogadására szolgáló új acélhordóra   |
|  | 4HW/Y136/S/9<br>8 NL/VL826        | 6.1.3.1 a) i), b), c), d) és e) szerint<br>6.1.3.1 f) és g) szerint  | Egyenértékű specifikációjú új műanyag ládára   |
|  | 1A2/Y/100/01<br>USA/MM5           | 6.1.3.1 a) i), b), c), d) és e) szerint<br>6.1.3.1 f) és g) szerint  | Folyékony anyagok szállítására szolgáló, átalakított acélhordóra   |
|   | RID/ADR/0A1/100/89<br>NL/VL123    | 6.1.3.1 a) ii), b), c), d) és e) szerint<br>6.1.3.1 f) és g) szerint | Új finomlemez csomagolóeszközt nem levezető tetővel  |
|   | RID/ADR/0A2/Y20/S/<br>04/NL/VL124 | 6.1.3.1 a) ii), b), c), d) és e) szerint<br>6.1.3.1 f) és g) szerint | Új finomlemez csomagolóeszközt levezető tetővel szilárd anyagokhoz vagy olyan folyékony anyagokhoz, amelyek viszkozitása 23 °C-on legalább 200 mm <sup>2</sup> /s. |

**6.1.3.12** *Példák a felújított csomagolóeszközök jelölésére*

|   |                                 |   |
|---|---------------------------------|---|
|  | 1A1/Y1.4/150/9<br>7 NL/RB/01 RL | 6.1.3.1 a) i), b), c), d) és e) szerint<br>6.1.3.8 h), i) és j) szerint |
|  | 1A2/Y150/S/99<br>USA/RB/00 R    | 6.1.3.1 a) i), b), c), d) és e) szerint<br>6.1.3.8 h), i) és j) szerint |

**6.1.3.13 Példák a kármentő csomagolások jelölésére**

1A2T/Y300/S/0 6.1.3.1 a) i), b), c), d) és e) szerint  
1 USA/abc 6.1.3.1 f) és g) szerint

**Megjegyzés:** A jelölések, amelyekre a 6.1.3.11, a 6.1.3.12 és a 6.1.3.13 bekezdésben példák találhatók elhelyezhetők egyetlen sorban vagy több sorban, amennyiben a helyes sorrendet betartják.

**6.1.3.14 Tanúsítvány**

A 6.1.3.1 bekezdés szerinti jelölés tanúsítja, hogy a sorozatban gyártott csomagolóeszközök megfelelnek a jóváhagyott gyártási típusnak, és a jóváhagyásban szereplő feltételeket kielégítik.

**6.1.4 A csomagolóeszközökre vonatkozó követelmények****6.1.4.1 Acélhordó**

- 1A1 kódjelű acélhordó nem levehető tetővel  
1A2 kódjelű acélhordó levehető tetővel

**6.1.4.1.1** A palástot és a fenekeket megfelelő minőségű és a hordó űrtartalmának és rendeltetésének megfelelő vastagságú acéllemezről kell gyártani.

**Megjegyzés:** Szénacél hordók esetén „megfelelő” acél minőségek az ISO 3573:1999 („Melegen hengerelt, ötvöztelen lágyacél szalagok és lemezek”) és az ISO 3574:1999 („Hidegen hengerelt, ötvöztelen lágyacél szalagok és lemezek”) szabványban vannak megadva.

100 l-nél kisebb űrtartalmú, szénacél hordók esetén „megfelelő” acél minőségek az előzőeken kívül az ISO 11949:1995 („Elektrolitikusan ónozott, hidegen hengerelt finomlemez”) és az ISO 11950:1995 („Elektrolitikus króm/króm-oxid bevonatú, hidegen hengerelt finomlemez”) és az ISO 11951:1995 („Hidegen hengerelt finomlemez tekercs formában ónozott vagy elektrolitikus króm/króm-oxid bevonatú acéllemez előállításához”) szabványban vannak megadva.

**6.1.4.1.2** A 40 liternél nagyobb mennyiségű folyadék befogadására használt hordók palástját hegesztéssel kell egyesíteni. A szilárd anyagok vagy legfeljebb 40 liter folyadék befogadására használt hordók palástját korcolással vagy hegesztéssel kell egyesíteni.

**6.1.4.1.3** A fenekeket és a palástot ráperemezéssel vagy hegesztéssel kell egyesíteni. Különálló erősítő gyűrűk is alkalmazhatók.

**6.1.4.1.4** A 60 liternél nagyobb űrtartalmú hordók palástján általában legalább két, hengerléssel kiképzett gördítőbordának kell lenni, vagy helyett legalább két, különálló gördítőabroncsot kell alkalmazni. Ha a hordók gördítőabroncsokkal készülnek, azokat szorosan kell a palásthöz illeszteni, és úgy kell rögzíteni, hogy ne mozdulhassanak el. A gördítőabroncsokat nem szabad ponthegesztéssel felerősíteni.

**6.1.4.1.5** A nem levehető tetejű hordók (1A1) palástján és tetején a töltő-, ürítő- és szellőzőnyílások átmérője nem haladhatja meg a 7 cm-t. Az ennél nagyobb nyílású hordókat levehető tetejűnek (1A2) kell tekinteni. A hordók palástján és tetején levő zárószervezeteket úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak és szivárgásmentesek maradjanak. A zárószervezetek karimáit lehet mechanikusan felerősíteni vagy a helyükre lehet hegeszteni. A zárószervezeteket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni, kivéve, ha a zárószervezet eleve szivárgásmentes.

- 6.1.4.1.6** A levehető tetejű hordók (1A2) zárószervezetét úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjon, és a hordó szivárgásmentes maradjon. A levehető tetőket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni.
- 6.1.4.1.7** Amennyiben a palásthöz, a fenekekhez, a zárószervezetekhez és a szerelvényekhez használt anyagok önmagukban nem összeférhetők a szállítandó anyaggal, alkalmas belső védőbevonatot vagy felületkezelést kell alkalmazni. A bevonatnak, ill. kezeléseknak védő tulajdonságait normális szállítási körülmények között meg kell őriznie.
- 6.1.4.1.8** A hordók legnagyobb űrtartalma 450 liter.
- 6.1.4.1.9** A legnagyobb nettó tömeg 400 kg.
- 6.1.4.2** *Alumíniumhordó*
- 1B1 kódjelű alumíniumhordó nem levehető tetővel
- 1B2 kódjelű alumíniumhordó levehető tetővel
- 6.1.4.2.1** A palástot és a fenekeket 99%-os tisztaságú alumíniumból vagy alumíniumötvözetből kell gyártani. Az anyagnak megfelelő minőségűnek és a hordó űrtartalmának és rendeltetésének megfelelő vastagságúnak kell lennie.
- 6.1.4.2.2** Minden egyesítést hegesztéssel kell kialakítani. Ha van peremvarrat, azt külön erősítő gyűrű felhelyezésével kell megerősíteni.
- 6.1.4.2.3** A 60 liternél nagyobb űrtartalmú hordók palástján általában legalább két, hengerléssel kiképzett gördítőbordának kell lenni, vagy ehelyett legalább két, különálló gördítőabroncsot kell alkalmazni. Ha a hordók gördítőabroncsokkal készülnek, azokat szorosan kell a palásthöz illeszteni, és úgy kell rögzíteni, hogy ne mozdulhassanak el. A gördítőabroncsokat nem szabad ponthegeztéssel felerősíteni.
- 6.1.4.2.4** A nem levehető tetejű hordók (1B1) palástján és tetején a töltő-, ürítő- és szellőzőnyílások átmérője nem haladhatja meg a 7 cm-t. Az ennél nagyobb nyílású hordókat levehető tetejűnek (1B2) kell tekinteni. A hordók palástján és tetején levő zárószervezeteket úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak és szivárgásmentesek maradjanak. A zárószervezetek karimáit lehet mechanikusan felerősíteni vagy a helyükre lehet hegeszteni. A zárószervezeteket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni, kivéve, ha a zárószervezet eleve szivárgásmentes.
- 6.1.4.2.5** A levehető tetejű hordók (1B2) zárószervezetét úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjon, és a hordó szivárgásmentes maradjon. A levehető tetőket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni.
- 6.1.4.2.6** A hordók legnagyobb űrtartalma 450 liter.
- 6.1.4.2.7** A legnagyobb nettó tömeg 400 kg.
- 6.1.4.3** *Fémhordó (acélt és alumíniumot kivéve)*
- 1N1 kódjelű fémhordó nem levehető tetővel
- 1N2 kódjelű fémhordó levehető tetővel
- 6.1.4.3.1** A palástot és a fenekeket fémből vagy fém-ötvözetből kell gyártani, acélt és alumíniumot kivéve. Az anyagnak megfelelő minőségűnek és a hordó űrtartalmának és rendeltetésének megfelelő vastagságúnak kell lennie.
- 6.1.4.3.2** Ha van peremvarrat, azt külön erősítő gyűrű felhelyezésével kell megerősíteni. Minden egyesítést, (ha létezik) a felhasznált fémre vagy fém-ötvözetre jellemző műszaki gyakorlatnak megfelelően kell kialakítani (hegesztéssel, forrasztással stb.).

- 6.1.4.3.3** A 60 liternél nagyobb űrtartalmú hordók palástján általában legalább két, hengerléssel kiképzett gördítőbordának kell lenni, vagy ehelyett legalább két, különálló gördítőabroncsot kell alkalmazni. Ha a hordók gördítőabroncsokkal készülnek, azokat szorosan kell a palásthöz illeszteni, és úgy kell rögzíteni, hogy ne mozdulhassanak el. A gördítőabroncsokat nem szabad ponthegeesztéssel felerősíteni.
- 6.1.4.3.4** A nem levehető tetejű hordók (1N1) palástján és tetején a töltő-, ürítő- és szellőzőnyílások átmérője nem haladhatja meg a 7 cm-t. Az ennél nagyobb nyílású hordókat levehető tetejűnek (1N2) kell tekinteni. A hordók palástján és tetején levő zárószervezeteket úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak és szivárgásmentesek maradjanak. A zárószervezetek karimáit a felhasznált fémre vagy fém-ötvöztetire jellemző műszaki gyakorlatnak megfelelően (hegesztéssel, forrasztással stb.) oly módon kell a helyükre erősíteni, hogy az egyesítő varrat szivárgásmentes legyen. A zárószervezeteket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni, kivéve, ha a zárószervezet eleve szivárgásmentes.
- 6.1.4.3.5** A levehető tetejű hordók (1N2) zárószervezetét úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjon, és a hordó szivárgásmentes maradjon. A levehető tetőket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni.
- 6.1.4.3.6** A hordók legnagyobb űrtartalma 450 liter.
- 6.1.4.3.7** A legnagyobb nettó tömeg 400 kg.
- 6.1.4.4** *Acél-, ill. alumíniumkanna*
- 3A1 kódjelű acélkanna nem levehető tetővel
- 3A2 kódjelű acélkanna levehető tetővel
- 3B1 kódjelű alumíniumkanna nem levehető tetővel
- 3B2 kódjelű alumíniumkanna levehető tetővel
- 6.1.4.4.1** A palástot és a fenekeket acéllemezéből, ill. legalább 99%-os tisztaságú alumíniumból vagy alumíniumötvöztetből kell gyártani. Az anyagnak megfelelő minőségűnek és a kanna űrtartalmának és rendeltetésének megfelelő vastagságúnak kell lennie.
- 6.1.4.4.2** Az acélkannáknál a fenekeket és a palástot ráperemezéssel vagy hegesztéssel kell egyesíteni. A 40 liternél több folyadék befogadására használt acélkannák palástját hegesztéssel kell egyesíteni. A legfeljebb 40 liter folyadék szállítására használt kannák palástját korcolással vagy hegesztéssel kell egyesíteni. Az alumíniumkannáknál minden egyesítést hegesztéssel kell kialakítani. Ha van peremvarrat, azt külön erősítő gyűrű felhelyezésével kell megerősíteni.
- 6.1.4.4.3** A nem levehető tetejű kannák (3A1 és 3B1) nyílásainak átmérője nem lehet 7 cm-nél nagyobb. Az ennél nagyobb nyílású kannát levehető tetejűnek (3A2 és 3B2) kell tekinteni. A zárószervezeteket úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak és szivárgásmentesek maradjanak. A zárószervezeteket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni, kivéve, ha a zárószervezet eleve szivárgásmentes.
- 6.1.4.4.4** Amennyiben a palásthöz, a fenekekhez, zárószervezetekhez és szerelvényekhez használt anyagok önmagukban nem összeférhetők a szállítandó anyaggal, alkalmas belső védőbevonatot vagy felületkezelést kell alkalmazni. A bevonatnak, ill. kezelésnek védő tulajdonságait normális szállítási körülmények között meg kell őriznie.
- 6.1.4.4.5** A kannák legnagyobb űrtartalma 60 liter.
- 6.1.4.4.6** A legnagyobb nettó tömeg 120 kg.

**6.1.4.5 Rétegelt falemez hordó**

1D kódjelű rétegelt falemez hordó

**6.1.4.5.1** A felhasznált fának jól kiérleltnek, a kereskedelembe szokásos mértékben száraznak és minden olyan hibától mentesnek kell lennie, amely ártana a hordó rendeltetésszerű használatra való megfelelőségének. Amennyiben a fenekek gyártásához a rétegelt falemeztől eltérő anyagot használnak, ennek a rétegelt falemezzel azonos minőségűnek kell lennie.

**6.1.4.5.2** A felhasznált rétegelt falemeznek legalább kétrétegűnek kell lennie a hordó palástjánál és legalább háromrétegűnek a fenekeknél. A rétegeket erezzel egymásra merőlegesen vízálló ragasztóval kell szilárdan összeragasztani.

**6.1.4.5.3** A palástot és a fenekeket a hordó űrtartalmának és rendeltetésének megfelelően kell kialakítani.

**6.1.4.5.4** Az anyag kiszóródásának elkerülése érdekében a fedeleket nátronpapírral vagy más, egyenértékű anyaggal kell bélelni, amit a fedélhez szilárdan rögzíteni kell, és amelynek a fedél egész kerülete mentén túl kell nyúlnia.

**6.1.4.5.5** A hordók legnagyobb űrtartalma 250 liter.

**6.1.4.5.6** A legnagyobb nettó tömeg 400 kg.

**6.1.4.6** (törölve)

**6.1.4.7 Papírlemez hordó**

1G kódjelű papírlemez hordó

**6.1.4.7.1** A hordó palástját több réteg vastag papírból, vagy szilárdan összeragasztott, vagy rétegelt papírlemezből (nem hullámpapírlemezből) kell készíteni, amelyen egy vagy több bitumen, paraffinozott nátronpapír, fémfólia vagy műanyag stb. védőréteg lehet.

**6.1.4.7.2** A fenekeket fából, papírlemezből, fémből, rétegelt falemezből, műanyagból vagy más alkalmas anyagból kell gyártani, és egy vagy több bitumen, paraffinozott nátronpapír, fémfólia, műanyag stb. védőréteggel lehet bevonni.

**6.1.4.7.3** A hordó palástját, fenekeit és illesztéseit a hordó űrtartalmának és rendeltetésének megfelelően kell kialakítani.

**6.1.4.7.4** Az összeszerelt csomagolóeszköznek vízzel szemben kielégítő módon ellenállónak kell lennie, hogy a rétegek normális szállítási körülmények között szét ne váljanak.

**6.1.4.7.5** A hordó legnagyobb űrtartalma 450 liter.

**6.1.4.7.6** A legnagyobb nettó tömeg 400 kg.

**6.1.4.8 Műanyag hordó és kanna**

1H1 kódjelű műanyag hordó nem levehető tetővel

1H2 kódjelű műanyag hordó levehető tetővel

3H1 kódjelű műanyag kanna nem levehető tetővel

3H2 kódjelű műanyag kanna levehető tetővel

**6.1.4.8.1** A csomagolóeszközt megfelelő műanyagból kell gyártani, űrtartalmának és rendeltetésének megfelelő szilárdsággal kell rendelkeznie. Az 1.2.1 szakasz szerinti visszaforgatott műanyagok kivételével a gyártáshoz az ugyanazon sorozatból eredő gyártási maradékon vagy hulladékon kívül más használt anyagot nem szabad felhasználni. A csomagolóeszköznek megfelelően ellenállónak kell lennie az öregedéssel szemben, ill. a betöltött anyag



vagy az ultraibolya sugárzás gyengítő hatásával szemben. A szállított anyag esetleges átszivárgása még az új csomagolóeszköz gyártásához felhasznált visszaforgatott műanyag esetében sem okozhat veszélyt normális szállítási körülmények között.

- 6.1.4.8.2** Ha szükség van ultraibolya-sugárzás elleni védelemre, ezt korom vagy más, megfelelő pigment vagy inhibitor hozzáadásával kell biztosítani. Ezeknek az adalékanyagoknak összeférhetőeknek kell lenniük a tartalommal, és hatékonyságukat a csomagolóeszköz teljes használati időtartama alatt meg kell őrizniük. Amennyiben a jóváhagyott gyártási minta elkészítése során használttól eltérő kormot, pigmentet vagy inhibitor használnak, a vizsgálatok megismétlésétől el lehet tekinteni, ha a koromtartalom nem haladja meg a 2 tömeg%-ot vagy a pigmenttartalom a 3 tömeg%-ot; az ultraibolya-sugárzás elleni védelem inhibitortartalma nincs korlátozva.
- 6.1.4.8.3** Az ultraibolya-sugárzás elleni védelmen kívül más okból használt adalékanyagok is lehetnek a műanyagban, feltéve, hogy nem változtatják meg a csomagolóeszköz anyagának kémiai és fizikai tulajdonságait. Ilyen esetben a vizsgálatok megismétlésétől el lehet tekinteni.
- 6.1.4.8.4** A falvastagságnak a csomagolóeszköz minden részén az űrtartalomnak és a rendeltetésnek megfelelőnek kell lennie, figyelembe véve azokat az erőhatásokat is, amelyeknek az egyes részek ki lehetnek téve.
- 6.1.4.8.5** A nem levehető tetejű hordók (1H1) és kannák (3H1) palástján és tetején a töltő-, ürítő- és szellőzőnyílások átmérője nem haladhatja meg a 7 cm-t. Az ennél nagyobb nyílású hordókat és kannákat levehető tetejűnek (1H2 és 3H2) kell tekinteni. A hordók és kannák palástján, ill. tetején levő zárószerkezeteket úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak és szivárgásmentesek maradjanak. A zárószerkezeteket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni, kivéve, ha a zárószerkezet eleve szivárgásmentes.
- 6.1.4.8.6** A levehető tetejű hordók és kannák (1H2 és 3H2) zárószerkezeteit úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak, és szivárgásmentesek maradjanak. Minden levehető tetőnél tömítőgyűrűt kell alkalmazni, kivéve, ha a hordó, ill. kanna kialakítása olyan, hogy a levehető tető helyes rögzítése esetén a hordó, ill. kanna eleve szivárgásmentes.
- 6.1.4.8.7** A gyúlékony folyadékok esetében megengedett legnagyobb áteresztőképesség 23 °C-on 0,008 g/(l·h) (lásd a 6.1.5.7 bekezdést).
- 6.1.4.8.8** Amennyiben új csomagolóeszközök gyártásához visszaforgatott műanyagot használnak, a visszaforgatott műanyag jellemzőit az illetékes hatóság által jóváhagyott minőségbiztosítási program keretében szavatolni és rendszeresen dokumentálni kell. A minőségbiztosítási programnak ki kell terjednie a megfelelő előválogatás regisztrálására és annak felülvizsgálatára, hogy a visszaforgatott műanyag minden egyes tétele megfelelő olvadási tulajdonságokkal, sűrűséggel és folyáshatárral bír, ami megegyezik az ugyanilyen visszaforgatott műanyagból készült gyártási típusával. Ez szükségszerűen magában foglalja annak ismeretét, hogy milyen csomagolóeszközből származik a visszaforgatott anyag, illetve, ha a csomagolóeszközbe előzően csomagolt anyag csökkentheti a visszaforgatott anyagból gyártott új csomagolóeszköz alkalmasságát, akkor annak ismeretét is. Ezen túlmenően a csomagolóeszköz gyártó 6.1.1.4 bekezdés szerinti minőségbiztosítási programjának ki kell terjednie a 6.1.5 szakasz szerinti mechanikai gyártási típus vizsgálat végrehajtására minden egyes tétel visszaforgatott műanyagból gyártott csomagolóeszköz esetében. Ennek során a halmazolhatóság vizsgálatára a statikus terhelés helyett megfelelő dinamikus nyomáspróba is alkalmazható.

**Megjegyzés:** A „Csomagolás. Veszélyes áruk szállítási csomagolása. Anyagában használt (visszaforgatott) műanyag” c. ISO 16103:2005 szabvány további útmutatást ad a visszaforgatott műanyagok használatának engedélyezési eljárására.

- 6.1.4.8.9** A hordók és kannák legnagyobb űrtartalma: az 1H1 és az 1H2 kódjelűé 450 liter,  
a 3H1 és a 3H2 kódjelűé 60 liter.
- 6.1.4.8.10** A legnagyobb nettó tömeg: az 1H1 és az 1H2 kódjelűé 400 kg,  
a 3H1 és a 3H2 kódjelűé 120 kg.
- 6.1.4.9** *Faláda*
- 4C1 kódjelű közönséges faláda
- 4C2 kódjelű faláda portömör falakkal
- 6.1.4.9.1** A felhasznált fának jól kiérleltnek, a kereskedelemben szokásos mértékben száraznak és minden olyan hiányosságtól mentesnek kell lennie, ami jelentősen csökkenthetné a láda bármelyik szerkezeti elemének ellenálló képességét. A felhasznált anyag szilárdságának és a láda szerkezetének meg kell felelnie a láda űrtartalmának és rendeltetésének. A tetőt és a feneket vízálló, fűrészárut helyettesítő anyagból, pl. farostlemezről, faforgácslemezről vagy más hasonló alkalmas anyagból is lehet gyártani.
- 6.1.4.9.2** Az összeerősítéseknek ellen kell állni a rezgéseknek normális szállítási feltételek között. A deszkavégeken a rostirányú szögezést, ahol csak lehetséges, kerülni kell. A nagy igénybevételnek kitett egyesítéseket visszahajtásos szegezéssel, gyűrűs szeggel vagy azonos hatékonyságú módon kell kialakítani.
- 6.1.4.9.3** 4C2 típusú láda esetén a láda minden elemét egyetlen darabból vagy ezzel egyenértékű módon kell gyártani. Az egyetlen darabból álló elemmel egyenértékűnek számítanak azok az elemek, amelyeket a következő módszerek egyike szerint ragasztással állítottak össze: Lindermann-illesztés (fecskefarok), hornyolás, átlapolás vagy tompaillesztés, minden csatlakozásnál legalább két, hullámosított fém rögzítőelemmel.
- 6.1.4.9.4** A legnagyobb nettó tömeg 400 kg.
- 6.1.4.10** *Rétegelt falemez láda*
- 4D kódjelű rétegelt falemez láda
- 6.1.4.10.1** A felhasznált rétegelt falemeznek legalább háromrétegűnek kell lennie. Jól kiérlelt, hámozott, késelt vagy fűrészelt furnérből kell gyártani, amely a kereskedelemben szokásos mértékben száraz és minden olyan hibától mentes legyen, ami a láda szilárdságát csökkenthetné. A felhasznált anyag szilárdságát és a gyártás módját a láda űrtartalmának és rendeltetésének megfelelően kell megválasztani. Minden réteget vízálló ragasztóval kell összeragasztani. Más alkalmas anyagok is használhatók rétegelt falemezzel együtt a ládák gyártásához. A ládák lapjait a sarkoknál vagy illesztéseknél szilárdan össze kell szegezni vagy kapcsolni, vagy más, ugyancsak alkalmas eszközzel össze kell erősíteni.
- 6.1.4.10.2** A legnagyobb nettó tömeg 400 kg.
- 6.1.4.11** *Farostlemez láda*
- 4F kódjelű farostlemez láda
- 6.1.4.11.1** A ládák falait vízálló farostlemezről kell gyártani, pl. kemény farostlemezről, faforgácslemezről vagy más megfelelő típusból. A felhasznált anyag szilárdságát és a gyártás módját a láda űrtartalmának és rendeltetésének megfelelően kell megválasztani.
- 6.1.4.11.2** A láda egyéb részeit más alkalmas anyagból is lehet gyártani.
- 6.1.4.11.3** A ládákat megfelelő eszközökkel szilárdan össze kell erősíteni.
- 6.1.4.11.4** A legnagyobb nettó tömeg 400 kg.



**6.1.4.12 Papírlemez láda**

4G kódjelű papírlemez láda

**6.1.4.12.1** A ládát úrtartalmának és rendeltetésének megfelelő papírlemezből vagy kettős fedőrétegű (egy vagy több hullámosított réteggel) hullámpapírlemezből kell készíteni. A külső felületnek annyira kell vízállónak lennie, hogy a Cobb-módszer (az ISO 535:1991 sz. szabvány) szerinti harmincperces vízfelvételi vizsgálat során mért tömegnövekedése ne haladja meg a 155 g/m<sup>2</sup> értéket. A papírlemeznek megfelelő hajlítószilárdságúnak kell lennie és úgy kell kiszabni, átmetszés nélkül völgyelni és réselni, hogy a felállítás során ne törjön meg, felülete ne szakadjon be, és a ládának egyáltalán nem szabad kihasasodnia. A hullámosított réteget a fedőrétegekkel szilárdan kell összeragasztani.

**6.1.4.12.2** A ládák homlokoldalai lehetnek fakeretűek vagy teljesen fából vagy más alkalmas anyagból is készíthetők. Erősítésként faléceket vagy más alkalmas anyagot lehet használni.

**6.1.4.12.3** A ládák palástegyesítéseit ragasztószalaggal, vagy átlapolással és ragasztással vagy kapcsolással kell rögzíteni. Az átlapolt egyesítéseknél az átlapolásnak megfelelő méretűnek kell lennie.

**6.1.4.12.4** Ha a zárást ragasztószalaggal vagy ragasztással végzik, a ragasztónak vízállónak kell lennie.

**6.1.4.12.5** A láda méretei illeszkedjenek a tartalomhoz.

**6.1.4.12.6** A legnagyobb nettó tömege 400 kg.

**6.1.4.13 Műanyag láda**

4H1 kódjelű habosított műanyag láda

4H2 kódjelű tömör műanyag láda

**6.1.4.13.1** A ládát alkalmas műanyagból kell gyártani, úrtartalmának és rendeltetésének megfelelően szilárdnak kell lennie. Kielégítően ellenálló legyen az öregedéssel, a szállított anyag, illetve az ultraibolya-sugárzás okozta fokozatos gyengüléssel szemben.

**6.1.4.13.2** A habosított műanyag ládának két részből kell állnia, az alsó részből, amely a belső csomagolás befogadására alkalmas fészkekből áll és a felső részből, amely az alsó részt lefedi és abba illeszkedik. Az alsó és felső részt oly módon kell kialakítani, hogy a belső csomagolóeszközök szorosan beleilleszkedjenek. A belső csomagolóeszközök zárószerveinek nem szabad érintkezniük a láda felső részének belső felületével.

**6.1.4.13.3** Feladáshoz a habosított műanyag ládákat öntapadó szalaggal kell lezárni, amelynek elegendő szakítószilárdságúnak kell lennie ahhoz, hogy megakadályozza a láda kinyílását. Az öntapadó szalagnak ellenállónak kell lenni az időjárási hatásokkal szemben, és ragasztóanyagának összeférhetőnek kell lennie a láda habosított műanyagával. Egyéb zárószervek is használhatók, feltéve, hogy legalább azonos hatékonyságúak.

**6.1.4.13.4** A tömör műanyag ládáknál az ultraibolya-sugárzás elleni védelmet, ha szükséges, korommal vagy más pigmenttel vagy alkalmas inhibitorokkal kell biztosítani. Ezeknek az adalékanyagoknak összeférhetőnek kell lenniük a tartalommal, és hatékonyságukat a láda teljes használati ideje alatt meg kell őrizniük. Ha más kormot, pigmentet vagy inhibitorokat használnak, mint amilyeneket a jóváhagyott gyártási minta elkészítésekor használtak, a vizsgálatok megismétlésétől el lehet tekinteni, ha a koromtartalom nem haladja meg a 2 tömeg%-ot vagy a pigmenttartalom a 3 tömeg%-ot; az ultraibolya-sugárzás elleni védelemre használt inhibitor százalékos aránya nincs korlátozva.

**6.1.4.13.5** Az ultraibolya-sugárzás elleni védelmen kívül más okból használt adalékanyagok is lehetnek a műanyagban, feltéve, hogy nem változtatják meg a csomagolóeszköz anyagának kémiai és fizikai tulajdonságait. Ilyen esetben a vizsgálatok megismétlésétől el lehet tekinteni.

- 6.1.4.13.6** A tömör műanyag ládákat megfelelő szilárdságú, alkalmas anyagból készített zárószervezettel kell ellátni, amelyet úgy kell kialakítani, hogy a nem szándékos kinyitás megelőzhető legyen.
- 6.1.4.13.7** Amennyiben új csomagolóeszközök gyártásához visszaforgatott műanyagot használnak, a visszaforgatott műanyag jellemzőit az illetékes hatóság által jóváhagyott minőségbiztosítási program keretében szavatolni és rendszeresen dokumentálni kell. A minőségbiztosítási programnak ki kell terjednie a megfelelő előválogatás regisztrálására és annak felülvizsgálatára, hogy a visszaforgatott műanyag minden egyes tétele megfelelő olvadási tulajdonságokkal, sűrűséggel és folyáshatárral bír, ami megegyezik az ugyanilyen visszaforgatott műanyagból készült gyártási típusával. Ez szükségszerűen magában foglalja annak ismeretét, hogy milyen csomagolóeszközből származik a visszaforgatott anyag, illetve, ha a csomagolóeszközbe előzően csomagolt anyag csökkentheti a visszaforgatott anyagból gyártott új csomagolóeszköz alkalmasságát, akkor annak ismeretét is. Ezen túlmenően a csomagolóeszköz gyártó 6.1.1.4 bekezdés szerinti minőségbiztosítási programjának ki kell terjednie a 6.1.5 szakasz szerinti mechanikai gyártási típus vizsgálat végrehajtására minden egyes tétel visszaforgatott műanyagból gyártott csomagolóeszköz esetében. Ennek során a halmazolhatóság vizsgálatára a statikus terhelés helyett megfelelő dinamikus nyomáspróba is alkalmazható.
- 6.1.4.13.8** A legnagyobb nettó tömeg:
- |              |         |
|--------------|---------|
| 4H1 kódjelűé | 60 kg;  |
| 4H2 kódjelűé | 400 kg. |
- 6.1.4.14** *Acél-, ill. alumíniumláda*
- 4A kódjelű acélláda
- 4B kódjelű alumíniumláda
- 6.1.4.14.1** A fém szilárdságának és a láda szerkezetének a láda ürtartalmához és rendeltetéséhez kell igazodnia.
- 6.1.4.14.2** A ládákat szükség esetén papírlemez vagy nemez párnázattal kell bélelni, vagy alkalmas anyagból készült béléssel vagy bevonattal kell ellátni. Amennyiben kettős korcolású fémbélést használnak, gondoskodni kell annak megakadályozásáról, hogy az illesztések hézagaiba anyag hatolhasson be, különösen robbanóanyag esetén.
- 6.1.4.14.3** A zárószervezetek bármilyen alkalmas típusúak lehetnek, normális szállítási körülmények között jól kell zárniuk.
- 6.1.4.14.4** A legnagyobb nettó tömeg 400 kg.
- 6.1.4.15** *Textilzsák*
- 5L1 kódjelű, belső zsák vagy bevonat nélküli textilzsák
- 5L2 kódjelű portömör textilzsák
- 5L3 kódjelű vízálló textilzsák
- 6.1.4.15.1** A felhasznált textíliának jó minőségűnek kell lennie. A textília szilárdsága és a zsák kidolgozása feleljen meg a zsák ürtartalmának és rendeltetésének.
- 6.1.4.15.2** Portömör zsák (5L2): a zsákot pl. a következő módok valamelyikével kell portömörre tenni:
- a zsák belső felületére vízálló ragasztóval, pl. bitumennel ragasztott papírral; vagy
  - a zsák belső felületére ragasztott műanyag fóliával; vagy
  - egy vagy több papír vagy műanyag belső zsákkal.
- 6.1.4.15.3** Vízálló zsák (5L3): a nedvesség behatolásának megakadályozására a zsákot pl. a következő módok valamelyikével kell vízállóvá kell tenni:

- a) különálló, vízálló papír (pl. viasszal átitatott nátronpapír, bitumenes papír vagy műanyaggal bevont nátronpapír) belső zsákkal; vagy
- b) a zsák belső felületére ragasztott műanyagfóliával; vagy
- c) egy vagy több műanyag belső zsákkal.

**6.1.4.15.4** A legnagyobb nettó tömeg 50 kg.

**6.1.4.16** *Műanyagszövet zsák*

5H1 kódjelű, belső zsák vagy bevonat nélküli műanyagszövet zsák

5H2 kódjelű portömör műanyagszövet zsák

5H3 kódjelű vízálló műanyagszövet zsák

**6.1.4.16.1** A zsákot alkalmas, húzással nyújtott műanyag szalagokból vagy műanyag elemi szálakból kell gyártani. A felhasznált anyag szilárdsága és a zsák kidolgozása feleljen meg a zsák ürtartalmának és rendeltetésének.

**6.1.4.16.2** Ha a zsákot síkszövetből készítik, az oldalát és alját varrással vagy más módon kell összeerősíteni. Ha a zsákot cső alakú műanyagszövetből készítik, az alját össze kell varrni, szőni vagy egyéb, azonos szilárdságot nyújtó módon össze kell erősíteni.

**6.1.4.16.3** Portömör zsák (5H2): a zsákot pl. a következő módok valamelyikével kell portömörre tenni:

- a) a zsák belső felületére ragasztott papírral vagy műanyagfóliával; vagy
- b) egy vagy több, különálló papír vagy műanyag belső zsákkal.

**6.1.4.16.4** Vízálló zsák (5H3): a nedvesség behatolásának megakadályozására a zsákot pl. a következő módok valamelyikével kell vízállóvá tenni:

- a) különálló, vízálló papír (pl. viasszal átitatott nátronpapír, bitumenes papír vagy műanyaggal bevont nátronpapír) belső zsákkal; vagy
- b) a zsák belső felületére ragasztott műanyagfóliával; vagy
- c) egy vagy több műanyag belső zsákkal.

**6.1.4.16.5** A legnagyobb nettó tömeg 50 kg.

**6.1.4.17** *Műanyagfólia zsák*

5H4 kódjelű műanyagfólia zsák

**6.1.4.17.1** A zsákot megfelelő műanyagból kell gyártani. A felhasznált műanyag szilárdsága és a zsák kivitele feleljen meg a zsák ürtartalmának és rendeltetésének. A varratoknak a normális szállítási feltételek között fellépő nyomásnak és ütődéseknek ellen kell állniuk.

**6.1.4.17.2** A legnagyobb nettó tömeg 50 kg.

**6.1.4.18** *Papírsák*

5M1 kódjelű, többrétegű papírsák

5M2 kódjelű, többrétegű, vízálló papírsák

**6.1.4.18.1** A zsákot alkalmas nátronpapírból vagy azonos minőségű papírból, legalább három rétegűre kell kialakítani, ahol a középső réteg hálósövet is lehet, ami a külső papír réteghez hozzá van ragasztva. A papír szilárdságának és a zsák kidolgozásának meg kell felelnie a zsák ürtartalmának és rendeltetésének. A varratoknak és zárásoknak portömörnek kell lenniük.

**6.1.4.18.2** 5M2 kódjelű papírsák: A nedvesség behatolásának megakadályozására a négy vagy többrétegű zsákot oly módon kell vízállóvá tenni, hogy külső két réteg egyikét vízálló

anyagból készítik vagy megfelelő védő anyagból készített vízzáró réteget helyeznek a két legkülső réteg közé; a háromrétegű zsákokat oly módon kell vízállóvá tenni, hogy legkülső réteggént vízálló anyagot használnak. Amennyiben fennáll annak a veszélye, hogy a betöltött anyag a nedvességgel reakcióba lép, vagy az anyagot nedvesen csomagolják, vízálló réteget vagy víz átnemeresztő anyagot, például mindkét oldalán kátránnyal bevont nátronpapírt, műanyag bevonatú nátronpapírt, a zsák belső felületéhez ragasztott műanyagfóliát, vagy egy vagy több műanyag belső bélést kell az anyaggal érintkező módon legfelülre elhelyezni. A varratoknak és zárásoknak vízállónak kell lenniük.

**6.1.4.18.3** A legnagyobb nettó tömeg 50 kg.

**6.1.4.19** *Összetett (műanyag) csomagolóeszköz*

- 6HA1 kódjelű műanyag tartály külső acélhordóval
- 6HA2 kódjelű műanyag tartály külső acélládával vagy –rekesszel
- 6HB1 kódjelű műanyag tartály külső alumíniumhordóval
- 6HB2 kódjelű műanyag tartály külső alumíniumládával vagy –rekesszel
- 6HC kódjelű műanyag tartály külső faládával
- 6HD1 kódjelű műanyag tartály külső rétegelt falemez hordóval
- 6HD2 kódjelű műanyag tartály külső rétegelt falemez ládával
- 6HG1 kódjelű műanyag tartály külső papírlemez hordóval
- 6HG2 kódjelű műanyag tartály külső papírlemez ládával
- 6HH1 kódjelű műanyag tartály külső műanyag hordóval
- 6HH2 kódjelű műanyag tartály külső tömör műanyag ládával

**6.1.4.19.1** Belső tartály

**6.1.4.19.1.1** A műanyag belső tartálynak meg kell felelnie 6.1.4.8.1 és a 6.1.4.8.4 – 6.1.4.8.7 pont előírásainak.

**6.1.4.19.1.2** A műanyag belső tartálynak hézag nélkül kell beleilleszkednie a külső csomagolóeszközbe, amelyen nem lehetnek olyan felületi érdességek, amelyek a műanyag kidörzsölését okozhatják.

**6.1.4.19.1.3** A belső tartály legnagyobb űrtartalma: 6HA1, 6HB1, 6HD1, 6HG1 és 6HH1 250 liter,  
6HA2, 6HB2, 6HC, 6HD2, 6HG2 és 6HH2 60 liter.

**6.1.4.19.1.4** A legnagyobb nettó tömeg: 6HA1, 6HB1, 6HD1, 6HG1 és 6HH1 400 kg,  
6HA2, 6HB2, 6HC, 6HD2, 6HG2 és 6HH2 75 kg.

**6.1.4.19.2** Külső csomagolóeszköz

**6.1.4.19.2.1** Műanyag tartály külső acél – vagy alumíniumhordóval (6HA1 vagy 6HB1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.1, ill. a 6.1.4.2 bekezdés előírásainak.

**6.1.4.19.2.2** Műanyag tartály külső acél vagy alumínium rekesszel vagy ládával (6HA2 vagy 6HB2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.14 bekezdés előírásainak.

**6.1.4.19.2.3** Műanyag tartály külső faládával (6HC). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.9 bekezdés előírásainak.

**6.1.4.19.2.4** Műanyag tartály külső rétegelt falemez hordóval (6HD1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.5 bekezdés előírásainak.

**6.1.4.19.2.5** Műanyag tartály külső rétegelt falemez ládával (6HD2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.10 bekezdés előírásainak.

- 6.1.4.19.2.6** Műanyag tartály külső papírlemez hordóval (6HG1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.7.1 – 6.1.4.7.4 pont előírásainak.
- 6.1.4.19.2.7** Műanyag tartály külső papírlemez ládával (6HG2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.12 bekezdés előírásainak.
- 6.1.4.19.2.8** Műanyag tartály külső műanyag hordóval (6HH1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.8.1 – 6.1.4.8.6 pont előírásainak.
- 6.1.4.19.2.9** Műanyag tartály külső tömör műanyag ládával (beleértve a műanyag hullámlemez) (6HH2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.13.1 és a 6.1.4.13.4 – 6.1.4.13.6 pont előírásainak.

**6.1.4.20** *Összetett (üveg, porcelán, kőagyag) csomagolóeszköz*

- 6PA1 kódjelű tartály külső acélhordóval
- 6PA2 kódjelű tartály külső acéllárával vagy -rekesszel
- 6PB1 kódjelű tartály külső alumíniumhordóval
- 6PB2 kódjelű tartály külső alumíniumlárával vagy -rekesszel
- 6PC kódjelű tartály külső falárával
- 6PD1 kódjelű tartály külső rétegelt falemez hordóval
- 6PD2 kódjelű tartály külső vesszőkosárral
- 6PG1 kódjelű tartály külső papírlemez hordóval
- 6PG2 kódjelű tartály külső papírlemez lárával
- 6PH1 kódjelű tartály külső habosított műanyag csomagolóeszközzel
- 6PH2 kódjelű tartály külső tömör műanyag csomagolóeszközzel

**6.1.4.20.1** Belső tartály

- 6.1.4.20.1.1** A tartályoknak megfelelő alakúaknak kell lenniük (henger vagy körte alakú), és azokat jó minőségű, minden olyan hibától mentes anyagból kell gyártani, amely szilárdságukat csökkenthetné. A falaknak minden ponton elég vastagnak és belső feszültségektől mentesnek kell lenniük.

- 6.1.4.20.1.2** A tartályok zárószervezeteként használhatók csavarmenetes műanyag zárószervezetek, csiszolt üveg dugók vagy legalább ugyanilyen hatékonyságú zárószervezetek. A zárószervezet minden olyan részének, amely a tartály tartalmával érintkezésbe juthat, a tartalommal szemben ellenállónak kell lennie. Ügyelni kell arra, hogy a zárószervezeteket úgy szereljék fel, hogy azok szivárgásmentesek legyenek, és hogy úgy legyenek lezárva, hogy szállítás közben minden lazulás elkerülhető legyen. Ha szellőző-szerkezettel ellátott zárószervezetre van szükség, a 4.1.1.8 bekezdés előírásait kell betartani.

- 6.1.4.20.1.3** A tartályokat párnázóanyagok és/vagy felszívóképes anyagok használatával szilárdan be kell ágyazni a külső csomagolásba.

- 6.1.4.20.1.4** A tartály legnagyobb űrtartalma 60 liter.

- 6.1.4.20.1.5** A legnagyobb nettó tömeg 75 kg.

**6.1.4.20.2** Külső csomagolóeszköz

- 6.1.4.20.2.1** Tartály külső acélhordóval (6PA1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.1 bekezdés előírásainak. Az e csomagolástípushoz szükséges levehető tető süveg alakú is lehet.

- 6.1.4.20.2.2** Tartály külső acéllárával vagy -rekesszel (6PA2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.14 bekezdés előírásainak. Hengeres tartályoknál függőleges

helyzetben a külső védőcsomagolásnak felfelé túl kell nyúlni a tartályon és annak zárószervezetén. Amennyiben a rekesz körte alakú tartályt vesz körül és annak alakjához illeszkedik, a külső védőcsomagolást védőtetővel (süveggel) kell ellátni.

- 6.1.4.20.2.3** Tartály külső alumíniumhordóval (6PB1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.2 bekezdés előírásainak.
- 6.1.4.20.2.4** Tartály külső alumíniumládával vagy -rekesszel (6PB2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.14 bekezdés előírásainak.
- 6.1.4.20.2.5** Tartály külső faládával (6PC). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.9 bekezdés előírásainak.
- 6.1.4.20.2.6** Tartály külső rétegelt falemez hordóval (6PD1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.5 bekezdés előírásainak.
- 6.1.4.20.2.7** Tartály külső vesszőkosárral (6PD2). A vesszőkosarat jó minőségű anyagból, megfelelően kell elkészíteni. Védőtetővel (süveggel) úgy kell felszerelni, hogy a tartály sérülése elkerülhető legyen.
- 6.1.4.20.2.8** Tartály külső papírlemez hordóval (6PG1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.7.1 – 6.1.4.7.4 bekezdés előírásainak.
- 6.1.4.20.2.9** Tartály külső papírlemez ládával (6PG2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.12 bekezdés előírásainak.
- 6.1.4.20.2.10** Tartály külső habosított műanyag vagy tömör műanyag csomagolóeszközzel (6PH1 vagy 6PH2). E két külső csomagolóeszköz anyagának meg kell felelnie a 6.1.4.13 bekezdés előírásainak. A tömör műanyag csomagolóeszközt nagy sűrűségű polietilénből vagy más, ehhez hasonló műanyagból kell készíteni. Az e csomagolási típushoz tartozó levehető tető süveg alakú is lehet.

**6.1.4.21** *Kombinált csomagolások*

Csak a 6.1.4 szakasz megfelelő, a külső csomagolóeszközre vonatkozó előírásait kell figyelembe venni.

*Megjegyzés:* Az alkalmazandó külső és belső csomagolóeszközökre lásd a 4.1 fejezetben a megfelelő csomagolási utasításokat.

**6.1.4.22** *Finomlemez csomagolóeszköz*

0A1 kódjelű finomlemez csomagolóeszköz nem levehető tetővel

0A2 kódjelű finomlemez csomagolóeszköz levehető tetővel

- 6.1.4.22.1** A palásthöz és a fenekekhez megfelelő acélból készített lemezt kell használni és a lemez vastagságának meg kell felelnie a csomagolás úrtartalmának és rendeltetésének.
- 6.1.4.22.2** Az illesztéseket hegeszteni kell, vagy legalább kettős korcolással vagy hasonló szilárdságot és tömítettséget adó eljárással kell kialakítani.
- 6.1.4.22.3** A belső bevonatoknak, pl. cink-, ón-, zománc- vagy hasonló bevonatoknak ellenállóknak kell lenniük, és minden pontban, beleértve a zárószervezetet is, az acélhoz kell tapadniuk.
- 6.1.4.22.4** A nem levehető tetejű csomagolóeszközök (0A1) palástján és fenekein a töltő-, ürítő- és szellőzőnyílások átmérője nem haladhatja meg a 7 cm-t. A nagyobb nyílású csomagolóeszközöket levehető tetejűnek (0A2) kell tekinteni.
- 6.1.4.22.5** A nem levehető tetejű csomagolóeszközök (0A1) zárószervezetének csavarmentesnek kell lennie, vagy olyanak, amely csavarmentes szerkezettel vagy más, legalább azonos



hatékonyságú szerkezettel zárható. A levehető tetejű csomagolóeszközök (0A2) záró-szerkezetét úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak, ill. a hordók és kannák szivárgásmentesek maradjanak.

**6.1.4.22.6** A csomagolóeszköz legnagyobb úrtartalma 40 liter.

**6.1.4.22.7** A legnagyobb nettó tömeg 50 kg.

## **6.1.5 Előírások a csomagolóeszközök vizsgálatára**

### **6.1.5.1 A vizsgálatok végrehajtása és gyakorisága**

**6.1.5.1.1** Minden egyes csomagolóeszköz gyártási típusát a jelölés felvitelét engedélyező illetékes hatóság által meghatározott eljárás szerint, a 6.1.5 szakaszban előírt vizsgálatoknak kell alávetni, és ugyanennek az illetékes hatóságnak jóvá kell hagyni.

**6.1.5.1.2** A csomagolóeszközök gyártási típusának sikeresen ki kell állnia az e fejezetben előírt vizsgálatokat, mielőtt az adott típusú csomagolóeszközt használatba vennék. A csomagolóeszköz gyártási típusát a tervezési méret, az anyag és falvastagság, a gyártási és összeállítási mód határozza meg, de beleérthetők a különféle felületkezelések. Egy gyártási típus tartalmazza azokat a csomagolóeszközöket is, amelyek a gyártási típustól csupán kisebb szerkezeti magasságukban térnek el.

**6.1.5.1.3** A vizsgálatokat a gyártásból vett mintákon az illetékes hatóság által meghatározott időközönként meg kell ismételni. Az ilyen vizsgálatoknál papír vagy papírlemez csomagolóeszközök esetén a szobahőmérsékleten való előkészítés a 6.1.5.2.3 pont követelményeivel egyenértékűnek tekintendő.

**6.1.5.1.4** A vizsgálatokat minden olyan módosítás után is meg kell ismételni, ami megváltoztatja a csomagolóeszköz szerkezetét, anyagát vagy gyártási módját.

**6.1.5.1.5** Az illetékes hatóság engedélyezheti azon csomagolóeszközök szelektív vizsgálatát, amelyek csak kismértékben térnek el a már bevizsgálttól, pl. kisebb méretű belső csomagolásokat vagy kisebb nettó tömegű belső csomagolásokat tartalmaznak; vagy olyan hordók, zsákok és ládák, melyek a külső méret(ek)et tekintve valamivel kisebbek.

**6.1.5.1.6** (fenntartva)

**Megjegyzés:** *Különböző típusú belső csomagolóeszközök egy külső csomagolóeszközbe való helyezésére, ill. a belső csomagolóeszköz változatokra vonatkozóan lásd a 4.1.1.5.1 pontot.*

**6.1.5.1.7** Bármilyen, akár folyadékot, akár szilárd anyagot tartalmazó belső csomagolóeszközök, ill. tárgyak egy külső csomagolóeszközbe berakva szállíthatók anélkül, hogy a külső csomagolóeszközzel együtt vizsgálták volna, feltéve, ha:

- a külső csomagolóeszköz folyékony anyagot tartalmazó, törékeny (pl. üveg) belső csomagolóeszközökkel a 6.1.5.3 bekezdés szerinti ejtőpróbát az I csomagolási csoportnak megfelelő ejtési magassággal sikeresen kiállta;
- a belső csomagolóeszközök együttes össztömege nem haladhatja meg az előző a) pontban leírt ejtőpróbánál alkalmazott belső csomagolóeszközök össztömegének a felét;
- a belső csomagolóeszközök között, ill. a belső csomagolóeszközök és a csomagolás külseje között a párnázóanyag vastagsága nem lehet kisebb az eredetileg vizsgált csomagolásban alkalmazott vastagságnál; ha az eredeti vizsgálatnál csak egy belső csomagolóeszköz volt, akkor a belső csomagolóeszközök közötti párnázóanyag vastagsága az eredeti vizsgálatnál a belső csomagolóeszköz és a csomagolás külseje közötti vastagságnál nem lehet kisebb. Ha az ejtőpróbánál alkalmazott belső

csomagolóeszköz(ök)nél kevesebb vagy kisebb belső csomagolóeszköz(öke)t használnak, akkor az ebből adódó hézagokat ki kell tölteni elegendő mennyiségű párnázóanyaggal;

- d) a külső csomagolóeszköz – üres állapotban vizsgálva – sikeresen kiállta a 6.1.5.6 bekezdésben leírt halmazolási próbát. Az „azonos küldeménydarabok összömegét” az előző a) pontban az ejtőpróbánál alkalmazott belső csomagolóeszközök összömege alapján kell meghatározni;
- e) a folyadékot tartalmazó belső csomagolóeszközöket teljesen körül kell venni felszívóképes anyaggal, amely a belső csomagolóeszközök teljes folyadéktartalmának felszívására elegendő mennyiségű;
- f) ha a külső csomagolóeszközt folyadékot tartalmazó belső csomagolóeszközökhöz használják és nem szivárgásmentes, ill. szilárd anyagot tartalmazó belső csomagolóeszközökhöz használják és nem portömör, akkor szivárgásmentes bélés, műanyag zsák vagy egyéb azonos hatékonyságú eszköz alkalmazásával biztosítani kell, hogy a folyadékot, ill. szilárd anyagot szivárgás esetén is megtartsa. Folyadékot tartalmazó csomagolóeszközöknél az előző e) pont szerinti felszívóképes anyagot a folyadékot tartalmazó belső csomagolóeszközöket befogadó eszköz belsejébe kell helyezni.
- g) a csomagolóeszközt a 6.1.3 szakasz szerint úgy kell jelölni, mint az I csomagolási csoportra vizsgált kombinált csomagolásokat. A feltüntetett „legnagyobb összömeg kg-ban” a külső csomagolóeszköz tömegének és az előző a) pont szerinti ejtőpróbához használt belső csomagolóeszközök fele összömegének összege legyen. A csomagolóeszköz jelölésében a „V” betűt is fel kell tüntetni, mint azt a 6.1.2.4 bekezdés előírja.

**6.1.5.1.8** Az illetékes hatóság bármikor előírhatja, hogy a jelen szakasz előírásainak megfelelő próbákkal igazolják, hogy a sorozatban gyártott csomagolóeszközök megfelelnek a gyártási típus követelményeinek. A vizsgálatok jegyzőkönyvét ellenőrzés céljából meg kell őrizni.

**6.1.5.1.9** Amennyiben biztonsági okokból valamilyen belső felületkezelés vagy bevonat szükséges, annak védő tulajdonságait a vizsgálatok után is meg kell őriznie.

**6.1.5.1.10** Amennyiben a vizsgálat eredményeinek érvényességét nem befolyásolja és az illetékes hatóság hozzájárul, ugyanazon a mintadarabon több vizsgálat is végezhető.

**6.1.5.1.11** *Kármentő csomagolások*

A kármentő csomagolásokat (lásd az 1.2.1 szakaszt) a szilárd anyagok vagy belső csomagolások szállítására használt, II csomagolási csoportba tartozó csomagolóeszközökre vonatkozó előírások szerint kell vizsgálni és jelölni, a következő eltérésekkel:

- a) a vizsgálatok végrehajtásához töltőanyagként vizet kell használni és a csomagolóeszközöket ürtartalmuk legalább 98%-áig kell megtölteni. Abból a célból, hogy elérjék a küldeménydarab megkövetelt összömegét, kiegészítő terhek is használhatók, pl. ólomszemcsét tartalmazó zsákok, feltéve, hogy ezeket oly módon helyezik el, hogy nem hamisítják meg a próbák eredményét. Ennek alternatívájaként az ejtőpróba végrehajtásánál az ejtési magasság a 6.1.5.3.5 b) ponttal összhangban változtatható;
- b) ezenkívül a csomagolóeszközöknek sikeresen ki kell állniuk a 30 kPa-lal végrehajtott tömörségi próbát, a próba eredményét a 6.1.5.8 bekezdésben előírt vizsgálati jegyzőkönyvben rögzíteni kell; és
- c) a csomagolóeszközöket „T” betűvel kell jelölni, mint azt a 6.1.2.4 bekezdés előírja.

**6.1.5.2** *A csomagolóeszközök előkészítése a próbákhoz*

**6.1.5.2.1** A próbákat szállításra kész csomagolásokon kell végrehajtani, beleértve a kombinált



csomagolások esetén azok belső csomagolásait. A belső csomagolóeszközöket, a tartályokat, az önálló csomagolóeszközöket, a zsákok kivételével, folyadékok esetén ürtartalmuk legalább 98%-áig, szilárd anyag esetén legalább 95%-áig kell megtölteni. A zsákokat az engedélyezett legnagyobb tömegig kell megtölteni. A kombinált csomagolásoknál, ahol a belső csomagolóeszközök folyadékokat és szilárd anyagokat egyaránt tartalmaznak, külön vizsgálat szükséges a folyadék és külön a szilárd anyag tartalomra. A szállítandó anyag helyettesíthető más anyaggal, kivéve, ha ez meghamisítaná a próbák eredményét. Szilárd anyag esetén a helyettesítő anyagnak ugyanolyan fizikai jellemzői legyenek (tömeg, szemcseméret stb.), mint a szállítandó anyagnak. Abból a célból, hogy elérjék a küldeménydarab megkövetelt össztömegét, kiegészítő terhek is használhatók, pl. ólomszemcsét tartalmazó zsákok, feltéve, hogy ezeket oly módon helyezik el, hogy nem hamisítják meg a próbák eredményét.

**6.1.5.2.2** Folyadékokra vonatkozó ejtőpróbánál ha más anyagot használnak, ennek a szállítandó anyaggal azonos relatív sűrűségűnek és viszkozitásúnak kell lennie. A 6.1.5.3.5 pontban meghatározott feltételek között végzett ejtőpróbákhoz víz is használható.

**6.1.5.2.3** A papírból vagy papírlemezről készült csomagolóeszközöket legalább 24 órán át szabályozott hőmérsékletű és relatív páratartalmú levegőn kell tartani. Három megoldás közül lehet választani. Az ajánlott érték  $23\text{ °C} \pm 2\text{ °C}$  hőmérséklet és  $50\% \pm 2\%$  relatív páratartalom. A másik két lehetőség:  $20\text{ °C} \pm 2\text{ °C}$  hőmérséklet és  $65\% \pm 2\%$  relatív páratartalom, illetve  $27\text{ °C} \pm 2\text{ °C}$  hőmérséklet és  $65\% \pm 2\%$  relatív páratartalom.

***Megjegyzés:** Az átlagértékeknek e határok közé kell esni. A rövid idejű ingadozások és a mérési korlátok az egyedi mérésektől legfeljebb  $\pm 5\%$  relatív páratartalom eltérést eredményezhetnek a vizsgálatok reprodukálhatóságának észrevehető csökkenése nélkül.*

**6.1.5.2.4** (fenntartva)

**6.1.5.2.5** A 6.1.4.8 bekezdés szerinti műanyag hordókat, kannákat és – ha szükséges – a 6.1.4.19 bekezdés szerinti összetett (műanyag) csomagolóeszközöket abból a célból, hogy kipróbálják, hogy kémiai összeférhetőségük a folyadékokkal kielégítő-e, szobahőmérsékleten hat hónapig kell tárolni, ez idő alatt a mintadaraboknak azokkal az árukkal kell megtöltenie, amelyeket szállítani kívánnak bennük.

A tárolás első és utolsó 24 órája alatt a mintadarabokat zárószervezetükkel lefelé kell állítani. A szellőző-szerkezettel ellátott csomagolóeszközöket azonban egy-egy alkalommal csak öt percig kell ilyen helyzetben tartani. A tárolást követően a mintadarabokat a 6.1.5.3 – 6.1.5.6 bekezdésben előírt próbáknak kell alávetni.

Az összetett (műanyag) csomagolóeszközök belső tartályai esetén nem szükséges a kémiai összeférhetőséget bizonyítani, ha ismeretes, hogy a műanyag szilárdsági jellemzői a töltőanyag hatására lényegesen nem változnak meg.

A szilárdsági jellemzők lényeges változásán a következőket kell érteni:

- a) jelentős ridegedést; vagy
- b) a szakítószilárdság jelentős csökkenését, hacsak ez nem jár a szakadási nyúlás legalább arányos növekedésével.

Ha a műanyag viselkedését más módszerekkel megállapították, az előző összeférhetőségi vizsgálatról el lehet tekinteni. Az ilyen eljárásoknak azonban legalábbis azonos értékűnek kell lennie az előző összeférhetőségi vizsgálattal és azokat az illetékes hatóságnak el kell ismernie.

***Megjegyzés:** Az olyan műanyag hordókra és kannákra, valamint az összetett (műanyag) csomagolóeszközökre vonatkozóan, amelyek polietilénből készülnek, lásd a 6.1.5.2.6 pontot is.*

**6.1.5.2.6** A 6.1.4.8 bekezdés szerinti, polietilénből készült hordóknál és kannáknál, valamint – ha

szükséges – a 6.1.4.19 bekezdés szerinti, polietilénből készült összetett (műanyag) csomagolóeszközöknél a töltőanyaggal való kémiai összeférhetőség a 4.1.1.19 bekezdés alapján hozzárendelt standardfolyadék(ok)kal is bizonyítható a következők szerint (lásd a 6.1.6 szakaszt is).

A standardfolyadékok a polietilénnél fellépő károsító folyamatok (így a lágyulás duzzadás révén, a feszültségkorrózió, a molekula degradációs reakciók és ezek kombinációi) szempontjából reprezentálják a szállítandó anyagot. E csomagolóeszközök kielégítő kémiai összeférhetősége bizonyítható háromhetes 40 °C-on végzett tárolással a megfelelő standardfolyadékkal feltöltve; az ezen eljárással végzett tárolásra nincs szükség, ha standardfolyadékként víz van megadva. Ugyancsak nem szükséges tárolni a halmazolási próbához használt mintadarabokat, ha standardfolyadékként nedvesítőszer oldat vagy ecetsav van megadva.

A tárolás első és utolsó 24 órája alatt a mintadarabokat zárószervezetükkel lefelé kell állítani. A szellőző-szerkezettel ellátott csomagolóeszközöket azonban egy-egy alkalommal csak öt percig kell ilyen helyzetben tartani. A tárolás után a mintadarabokat a 6.1.5.3 – 6.1.5.6 bekezdésben előírt próbáknak kell alávetni.

Az 5.2 osztályba tartozó, 40%-nál nagyobb peroxid-tartalmú terc-butil-hidroperoxid és a peroxi-ecetsavak esetében az összeférhetőségi vizsgálat standardfolyadékkal nem végezhető el. Ezeknél az anyagoknál a kielégítő kémiai összeférhetőség bizonyításához a mintadarabot a szállítani kívánt anyaggal megtöltve hat hónapon keresztül kell szobahőmérsékleten tárolni.

A polietilénből készült csomagolóeszközökre e pont szerinti eljárás alapján kapott eredmények azokra a hasonló gyártási típusokra is elfogadhatók, amelyek belső felülete fluorozott.

**6.1.5.2.7** A 6.1.5.2.6 pont szerinti polietilénből készült csomagolóeszközök, ha kiállták a 6.1.5.2.6 pont szerinti próbát, más töltőanyagokra is jóváhagyhatók, mint amelyeket 4.1.1.19 bekezdés szerint helyettesítettek. Ennek a jóváhagyásnak laboratóriumi vizsgálatokon kell alapulnia, amelyeknek igazolniuk kell, hogy ezeknek az anyagoknak a hatása a mintadarabokra – a figyelembe veendő károsodási folyamatok szempontjából – gyengébb, mint a standardfolyadék(ok)é. A relatív sűrűsége és a gőznyomásra az előző 4.1.1.19.2 pont feltételei érvényesek.

**6.1.5.2.8** A kombinált csomagolások műanyag belső csomagolóeszközein nem szükséges a kémiai összeférhetőséget bizonyítani, ha ismeretes, hogy a műanyag szilárdsági jellemzői a betöltött anyag hatására lényegesen nem változnak.

A szilárdsági jellemzők lényeges változásán a következőket kell érteni:

- a) a jelentős ridegedést; vagy
- b) a rugalmasság jelentős csökkenését, hacsak ez nem jár a szakadási nyúlás legalább arányos növekedésével.

**6.1.5.3** *Ejtőpróba*<sup>3)</sup>

**6.1.5.3.1** A próbadarabok száma (gyártási típusonként és gyártónként) és a próbadarab helyzete az ejtőpróbához

A lapra való ejtéstől eltérő ejtőpróbánál a tömegközéppontnak függőlegesen a felütközési pont fölött kell lennie.

Amennyiben egynél több helyzet lehetséges egy adott ejtőpróbánál, azt a helyzetet kell választani, ami a legnagyobb valószínűséggel eredményezi a csomagolóeszköz sérülését.

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3) Lásd az ISO 2248 szabványt.

| Csomagolóeszköz  | A próbadarabok száma              | A próbadarabok helyzete az ejtőpróba  |
|--|-----------------------------------|---|
| a) Acélhordó<br>Alumíniumhordó<br>Fémhordó (acélt és alumíniumot kivéve)<br>Acélkanna<br>Alumíniumkanna<br>Rétegelt falemez hordó<br>Papírlemez hordó<br>Műanyag hordó és kanna<br>Hordó alakú összetett csomagolóeszköz<br>Finomlemez csomagolóeszköz | hat<br>(ejtőpróbanként három)     | <i>első próba</i> (három próbadarabbal): a csomagolásokat átlósan a fenék korcolására, vagy ha ilyen nincs, a körvarratra vagy az élre kell ejteni<br><i>második próba</i> (három másik próbadarabbal): a csomagolásokat a leggyengébb pontra kell ejteni, amely az első ejtés során nem került vizsgálatra, pl. az egyik záróelemre vagy egyes hengeres hordóknál a hordópalást hosszirányú hegesztési varratára |
| b) Faláda<br>Rétegelt falemez láda<br>Farostlemez láda<br>Papírlemez láda<br>Műanyag láda<br>Acél- vagy alumíniumláda<br>Láda alakú összetett csomagolóeszköz  | öt<br>(ejtőpróbanként egy)        | <i>első próba</i> : a fenéklapra<br><i>második próba</i> : a tetőlapra<br><i>harmadik próba</i> : a hosszabbik oldallapra<br><i>negyedik próba</i> : a rövidebbik oldallapra<br><i>ötödik próba</i> : az egyik sarokra  |
| c) Zsák – egyrétegű, oldalvarrattal  | három<br>(három ejtés zsákonként) | <i>első próba</i> : a zsák egyik széles oldallapjára<br><i>második próba</i> : a zsák egyik keskeny oldallapjára<br><i>harmadik próba</i> : a zsák végére   |
| d) Zsák – egyrétegű, oldalvarrat nélkül, vagy többretegű   | három<br>(két ejtés zsákonként)   | <i>első próba</i> : a zsák egyik széles oldallapjára<br><i>második próba</i> : a zsák végére  |
| e) Hordó vagy láda alakú összetett (üveg, porcelán, kőagyag) csomagolóeszköz, amely a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel van ellátva   | három<br>(ejtőpróbanként egy)     | átlós irányban a fenék peremére, ha ilyen nincs, a körvarratra vagy a fenékélre   |

A próbadarabok különleges előkészítése az ejtőpróbákhoz

A próbadarab és tartalmának hőmérsékletét  $-18\text{ }^{\circ}\text{C}$ -ra vagy az alá kell csökkenteni a következő csomagolásoknál:

- műanyag hordók (lásd a 6.1.4.8 bekezdést);
- műanyag kannák (lásd a 6.1.4.8 bekezdést);
- műanyag ládák a habosított műanyag ládák kivételével (lásd a 6.1.4.13 bekezdést);
- összetett (műanyag) csomagolóeszközök (lásd a 6.1.4.19 bekezdést); és
- kombinált csomagolások műanyag belső csomagolóeszközökkel, a szilárd anyagokhoz vagy tárgyakhoz használt műanyag zsákok kivételével.

Ha a próbadarabokat így módon készítették elő, a 6.1.5.2.3 pontban előírt kondicionálás elhagyható. A próbához használt folyadékokat szükség esetén fagyásgátló hozzáadásával kell folyékony állapotban tartani.

### 6.1.5.3.3

A folyékony anyagokhoz használt, levehető tetejű csomagolóeszközöknél csak a megtöltés

és lezárás után 24 óra múlva szabad az ejtőpróbát elvégezni, tekintettel a tömítés esetleges rugalmas alakváltozására.

#### 6.1.5.3.4 Ütközőlap

Az ütközőlap legyen rugalmatlan és vízszintes felületű, valamint:

- egy darabból álló és elég masszív, hogy ne mozdulhason el;
- sima felületű, amely mentes minden olyan helyi hibától, amely befolyásolhatná a vizsgálat eredményét;
- elég szilárd, hogy a vizsgálati körülmények között ne deformálódjon és ne sérülhessen meg a vizsgálat hatására;
- elég nagy, hogy a vizsgált küldeménydarab teljes egészében a felületére essék.

#### 6.1.5.3.5 Ejtési magasság

Szilárd és folyékony anyagoknál, ha a próbát a szállítandó szilárd vagy folyékony anyaggal vagy lényegében azonos fizikai jellemzőkkel bíró egyéb anyaggal végzik:

| I csomagolási csoport | II csomagolási csoport | III csomagolási csoport |
|-----------------------|------------------------|-------------------------|
| 1,8 m                 | 1,2 m                  | 0,8 m                   |

Önálló csomagolóeszközökben vagy kombinált csomagolások belső csomagolóeszközeiben levő folyékony anyagok esetén, ha a próbát vízzel hajtják végre:

**Megjegyzés:** A víz alatt értendők a  $-18\text{ °C}$ -on végzett vizsgálatokhoz használt, legalább 0,95 relatív sűrűségű víz/fagyásgátló oldatok is.

- a) olyan szállítandó anyagoknál, amelyeknek relatív sűrűsége nem haladja meg az 1,2 értéket:

| I csomagolási csoport | II csomagolási csoport | III csomagolási csoport |
|-----------------------|------------------------|-------------------------|
| 1,8 m                 | 1,2 m                  | 0,8 m                   |

- b) olyan szállítandó anyagok esetén, amelyeknek relatív sűrűsége meghaladja az 1,2 értéket, az ejtési magasságot a szállítandó anyag relatív sűrűségéből a következő módon kell kiszámítani (egy tizedesre felkerekítve):

| I csomagolási csoport            | II csomagolási csoport           | III csomagolási csoport           |
|----------------------------------|----------------------------------|-----------------------------------|
| relatív sűrűség $\times 1,5$ (m) | relatív sűrűség $\times 1,0$ (m) | relatív sűrűség $\times 0,67$ (m) |

- c) olyan anyagok szállítására használt és a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott finomlemez csomagolóeszközök esetében, amelyeknek viszkozitása  $23\text{ °C}$ -on  $200\text{ mm}^2/\text{s}$ -nál nagyobb (ez megfelel az ISO 2431:1993 szabvány szerinti 6 mm átmérőjű kifolyónyílású szabványos pohárból 30 s kifolyási időnek):

- i) ha a relatív sűrűség nem haladja meg az 1,2 értéket:

| II csomagolási csoport | III csomagolási csoport |
|------------------------|-------------------------|
| 0,6 m                  | 0,4 m                   |

- ii) ha a szállítandó anyag relatív sűrűsége meghaladja az 1,2 értéket, az ejtési magasságot a szállítandó anyag relatív sűrűségéből a következő módon kell kiszámítani (egy tizedesre felkerekítve):

| II csomagolási csoport         | III csomagolási csoport         |
|--------------------------------|---------------------------------|
| relatív sűrűség $\times 0,5$ m | relatív sűrűség $\times 0,33$ m |

#### 6.1.5.3.6 Elfogadási feltétel

##### 6.1.5.3.6.1 Minden folyadékot tartalmazó csomagolásnak tömítettnek kell maradnia, miután a belső és a

külső nyomás között az egyensúly létrejött; a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott, összetett (üveg, porcelán és kőagyag) csomagolóeszközöknél és a kombinált csomagolások belső csomagolásainál nincs szükség arra, hogy a nyomások kiegyenlítődjenek.

- 6.1.5.3.6.2** Ha szilárd anyagok szállítására használt csomagolóeszközt ejtőpróbának vetnek alá úgy, hogy az ütközőlapra a felső rész ütközik fel, és a tartalmat a belső csomagolóeszköz vagy belső tartály (pl. műanyag zsák) teljes egészében megtartotta, a próbadarab kiállta a próbát, még akkor is, ha a zárószerkezet már nem portömör, de megtartó funkcióját megőrizte.
- 6.1.5.3.6.3** A csomagolóeszközön, ill. az összetett csomagolóeszköz vagy a kombinált csomagolás külső csomagolóeszközén nem szabad olyan sérülésnek mutatkoznia, amely befolyásolná a szállítás biztonságát. A belső tartályban vagy belső csomagolóeszköz(ök)ben levő anyagból semmi sem juthat ki.
- 6.1.5.3.6.4** A zsákok külső rétegén, ill. a külső csomagolóeszközön nem szabad olyan sérülésnek mutatkoznia, amely befolyásolná a szállítás biztonságát.
- 6.1.5.3.6.5** Felütközésnél a zárószerkezeteknél keletkezett nagyon csekély veszteség nem tekinthető a csomagolás hiányosságának, feltéve, hogy további elfolyás nincs.
- 6.1.5.3.6.6** Az 1 osztályba tartozó áruk csomagolásán semmiféle olyan repedés nem engedhető meg, amely miatt az robbanóanyagok vagy -tárgyak a külső csomagolóeszközből kijuthatnának.

#### **6.1.5.4 Tömörsegi próba**

Tömörsegi próbát kell végrehajtani minden, folyékony anyag szállítására szánt csomagolás típuson, kivéve:

- a kombinált csomagolások belső csomagolásait;
- a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott és összetett (üveg, porcelán és kőagyag) csomagolóeszközök belső tartályait;
- az olyan finomlemez csomagolóeszközöket, amelyek 23 °C-on 200 mm<sup>2</sup>/s-nál nagyobb viszkozitású anyagok csomagolására valók és a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel vannak ellátva.

**6.1.5.4.1** *A próbadarabok száma:* gyártási mintánként és gyártónként három próbadarab.

**6.1.5.4.2** *A próbadarabok különleges előkészítése a próbához:* a szellőző-szerkezettel ellátott zárószerkezetet hasonló, de szellőző-szerkezet nélkülire kell kicserélni, vagy a szellőző-szerkezetet le kell zárni.

**6.1.5.4.3** *Vizsgálati módszer és alkalmazandó nyomás:* a csomagolóeszközöket, beleértve a zárószerkezeteket is, víz alatt kell tartani 5 percen át, mialatt a belső levegőnyomás hat rájuk; a rögzítési módszernek nem szabad a próba eredményét befolyásolnia.

Az alkalmazandó levegőnyomás (túlnyomás):

| I csomagolási csoport     | II csomagolási csoport    | III csomagolási csoport   |
|---------------------------|---------------------------|---------------------------|
| legalább 30 kPa (0,3 bar) | legalább 20 kPa (0,2 bar) | legalább 20 kPa (0,2 bar) |

Alkalmazhatók más, legalább azonos hatékonyságú eljárások is.

**6.1.5.4.4** *Elfogadási feltétel:* nem következhet be semmiféle szivárgás.

#### **6.1.5.5 Belsőnyomás-állósági próba (folyadéknyomás-próba)**

**6.1.5.5.1** A folyadéknyomás-próbát folyadék befogadására használt, minden fémből és műanyagból készült és összetett csomagolóeszköz típusán el kell végezni. Nincs szükség nyomáspróbára:

- a kombinált csomagolások belső csomagolásain;
- a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott összetett (üveg, porcelán és

kőagyag) csomagolóeszközök belső tartályain; és

- az olyan finomlemez csomagolóeszközökön, amelyek 23 °C-on 200 mm<sup>2</sup>/s-nál nagyobb viszkozitású anyagok csomagolására valók és a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel vannak ellátva.

**6.1.5.5.2** *A próbadarabok száma:* gyártási mintánként és gyártónként három próbadarab.

**6.1.5.5.3** *A próbadarabok különleges előkészítése a próbához:* a szellőző-szerkezettel ellátott zárószervezetet hasonló, de szellőző-szerkezet nélkülire kell kicserélni, vagy a szellőző-szerkezeteket le kell zárni.

**6.1.5.5.4** *Vizsgálati módszer és alkalmazandó nyomás:* a fém csomagolóeszközöket és az összetett (üveg, kőagyag, porcelán) csomagolóeszközöket, beleértve zárószervezeteiket is, 5 percig kell a próbanyomásnak kitenni. A műanyag csomagolóeszközöket és az összetett (műanyag) csomagolóeszközöket, beleértve zárószervezeteiket is, 30 percig kell a próbanyomásnak kitenni. Ez az a próbanyomás, amit a jelölésben a 6.1.3.1 d) pont szerint fel kell tüntetni. A csomagolóeszköz megtámasztásának módja nem hamisíthatja meg a próba eredményeit. A nyomást folyamatosan és egyenletesen kell növelni. A próbanyomást a próba teljes időtartama alatt állandó értéken kell tartani. Az alkalmazott folyadéknyomást (túlnyomást) a következő módszerek egyikével kell meghatározni. A próbanyomás nem lehet kisebb, mint:

- a) a csomagolásban 55 °C-on mért teljes túlnyomás (vagyis a betöltött folyadék gőznyomásának és a levegő vagy más inert gázok parciális nyomásának összegéből levonva 100 kPa-t) szorozva 1,5 biztonsági tényezővel; e teljes túlnyomás meghatározásához 4.1.1.4 bekezdés szerinti maximális töltési fokot és 15 °C töltési hőmérsékletet kell alapul venni; vagy
- b) a betöltött folyadék 50 °C-on mért gőznyomásának 1,75-szorosából levonva 100 kPa-t, de legalább 100 kPa túlnyomás; vagy
- c) a betöltött folyadék 55 °C-on mért gőznyomásának 1,5-szereséből levonva 100 kPa-t, de legalább 100 kPa túlnyomás.

**6.1.5.5.5** Ezenkívül az I csomagolási csoportba tartozó folyadékokhoz szánt csomagolóeszközöket a csomagolóeszköz szerkezeti anyagától függően 5 percig vagy 30 percig legalább 250 kPa próbanyomással (túlnyomással) kell vizsgálni.

**6.1.5.5.6** *Elfogadási feltétel:* egyetlen csomagolóeszköz sem szivároghat.

#### **6.1.5.6** *Halmazolási próba*

A halmazolási próbát minden csomagolástípuson el kell végezni, kivéve a zsákokat és a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott, nem halmazolható, összetett (üveg, porcelán és kőagyag) csomagolóeszközöket.

**6.1.5.6.1** *A próbadarabok száma:* gyártási mintánként és gyártónként három próbadarab.

**6.1.5.6.2** *Vizsgálati módszer:* a próbadarabot ki kell tenni a csomagolóeszköz felső felületére ható, az azonos küldeménydarabok össztömegével megegyező erőnek, melyek a szállítás során arra halmazolhatók; amennyiben a próbadarab tartalma olyan folyadék, amelynek relatív sűrűsége eltér a szállítandó folyadék sűrűségétől, az erőt ez utóbbira vonatkoztatva kell kiszámítani. A legkisebb halmazolási magasság, beleértve a próbadarabot is, 3 méter. A próba időtartama 24 óra, kivéve a folyadékokhoz szánt műanyag hordókat, kannákat és a 6HH1 és 6HH2 összetett csomagolóeszközöket, amelyeket 28 nap időtartamon át kell legalább 40 °C hőmérsékleten halmazolási próbának alávetni.

A 6.1.5.2.5 pont szerinti vizsgálathoz az eredeti töltőanyagot kell használni. A 6.1.5.2.6 pont szerinti vizsgálatnál a halmazolási próbát standardfolyadékkal kell végrehajtani.

**6.1.5.6.3** *Elfogadási feltétel:* A csomagolóeszköz nem szivároghat. Összetett csomagolóeszközök, ill. kombinált csomagolások esetén a belső tartályban, ill. a belső csomagolásban található



anyagból semennyinek sem szabad kifolynia. Egyetlen próbadarabon sem szabad olyan sérülésnek lennie, amely veszélyeztetheti a szállítás során a biztonságot, sem pedig olyan alakváltozásoknak, amelyek csökkenthetik a szilárdságot vagy a stabilitás hiányát vonhatják maguk után, ha a küldeménydarabokat egymásra rakják. A műanyag csomagolóeszközöket a próba értékelése előtt környezeti hőmérsékletre kell hűteni.

**6.1.5.7** *Kiegészítő áteresztőképességi (szivárgási) próba a 60 °C vagy annál kisebb lobbanáspontú folyadékok szállítására használt, a 6.1.4.8 bekezdés szerinti műanyag hordókra és kannákra, és a 6.1.4.19 bekezdés szerinti összetett (műanyag) csomagolóeszközökre, kivéve a 6HAI kódjelű csomagolóeszközöket*

A polietilénből gyártott csomagolóeszközökön ezt a próbát csak akkor kell végrehajtani, ha benzol, toluol, xilol vagy ezeket az anyagokat tartalmazó keverékek vagy készítmények szállítására kell jóváhagyni.

**6.1.5.7.1** *A próbadarabok száma:* Gyártási típusonként és gyártónként három próbadarab.

**6.1.5.7.2** *A próbadarabok különleges előkészítése a próbákhoz:* A próbadarabokat előzetesen, vagy a 6.1.5.2.5 pont szerint eredeti töltőanyaggal, vagy polietilénből gyártott csomagolóeszközöknél a 6.1.5.2.6 pont szerint szénhidrogén-keverék (white spirit) standardfolyadékkal megtöltve kell tárolni.

**6.1.5.7.3** *Vizsgálati eljárás:* A jóváhagyandó anyaggal megtöltött próbadarabokat 50%-os relatív páratartalom mellett és 23 °C-on 28 napig tartó tárolás előtt és után le kell mérni. A polietilénből gyártott csomagolásoknál a próbát szénhidrogén-keverék (white spirit) standardfolyadékkal is el lehet végezni benzol, toluol vagy xilol helyett.

**6.1.5.7.4** *Elfogadási feltétel:* A folyadékáteresztés (szivárgás) nem haladhatja meg a 0,008 g/(l·h) értéket.

**6.1.5.8** *Vizsgálati jegyzőkönyv*

**6.1.5.8.1** A vizsgálatokról legalább a következő adatokat tartalmazó jegyzőkönyvet kell készíteni, amit a csomagolóeszköz felhasználói számára hozzáférhetővé kell tenni:

1. A vizsgálatot végző szervezet neve és címe;
2. A vizsgálatot kérő neve és címe (ha szükséges);
3. A vizsgálati jegyzőkönyv egyedi azonosítója;
4. A vizsgálati jegyzőkönyv kelte;
5. A csomagolóeszköz gyártója;
6. A csomagolóeszköz típus leírása (pl. méretek, anyagok, zárószervezetek, falvastagság stb.), beleértve a gyártási módszert (pl. üreges test fúvás), ami rajzzal (rajzokkal) és/vagy fényképpel (fényképekkel) kiegészíthető;
7. Legnagyobb űrtartalom;
8. A vizsgálat alatti tartalom jellemzői, pl. folyadékoknál a viszkozitás és a relatív sűrűség és szilárd anyagoknál a szemcseméret;
9. A vizsgálatok leírása és eredményei;
10. A vizsgálati jegyzőkönyvet alá kell írni, az aláíró nevét és beosztását fel kell tüntetni.

**6.1.5.8.2** A vizsgálati jegyzőkönyvnek megállapítást kell tartalmaznia arra nézve, hogy a szállításra előkészített csomagolás ezen fejezet megfelelő rendelkezéseivel összhangban került vizsgálatra és más csomagolási módszerek vagy alkotórészek használata azt érvénytelenné teheti. A vizsgálati jegyzőkönyv egy példányát az illetékes hatóság rendelkezésére kell bocsátani.

**6.1.6 Standardfolyadékok polietilénből gyártott csomagolóeszközök (IBC-k) kémiai összeférhetőségének a 6.1.5.2.6, ill. a 6.5.6.3.5 pont szerinti vizsgálatához**

**6.1.6.1** Az ilyen műanyaghoz a következő standardfolyadékokat kell használni:

- a) Nedvesítőszer oldatot olyan anyagoknál, amelyeknek a polietilénre erős, feszültség-korróziót kiváltó hatásuk van, különösen az összes, nedvesítőszeret tartalmazó oldatnál és készítménynél.

Alkil-benzol-szulfonát 1%-os vizes oldatát vagy nonil-fenol-etoxilát 5%-os vizes oldatát kell használni, amelyet a vizsgálatokhoz történő első felhasználás előtt legalább 14 napig 40 °C-on előtárolásnak kell alávetni. Az oldat felületi feszültségének 23 °C-on 31...35 mN/m-nek kell lennie.

A halmazolási próbánál legalább 1,2 relatívsűrűség-értéket kell alapul venni.

Amennyiben a nedvesítőszer oldattal való kielégítő kémiai összeférhetőség bizonyított, akkor ecetsavval nem kell összeférhetőségi vizsgálatot végezni.

Olyan töltőanyagok esetén, amelyeknek a polietilénre a nedvesítőszer oldatnál erősebb feszültségkorróziót kiváltó hatásuk van, a kielégítő kémiai összeférhetőséget a 6.1.5.2.6 pont szerinti, 40 °C-on végzett háromhetes előtárolással, de az eredeti töltőanyaggal lehet vizsgálni.

- b) Ecetsavat olyan anyagoknál és készítményeknél, amelyeknek a polietilénre feszültségkorróziót kiváltó hatásuk van, különösen a monokarbonsavaknál és egyértékű alkoholoknál.

98...100%-os koncentrációjú ecetsavat kell használni, amelynek relatív sűrűsége 1,05.

A halmazolási próbánál legalább 1,1 relatívsűrűség-értéket kell alapul venni.

Olyan töltőanyagok esetén, amelyek a polietilént az ecetsavnál nagyobb mértékben és legfeljebb 4% tömegnövekedést kitevő mértékben duzzasztják, a kielégítő kémiai összeférhetőséget a 6.1.5.2.6 pont szerinti 40 °C-on végzett háromhetes előtárolással, de az eredeti töltőanyaggal lehet vizsgálni.

- c) Normál-butil-acetátot/n-butil-acetáttal telített nedvesítőszer oldatot olyan anyagoknál és készítményeknél, amelyek a polietilént legfeljebb 4% tömegnövekedést kitevő mértékben duzzasztják, és egyidejűleg feszültségkorróziót okoznak, különösen növényvédő szereknél, folyékony festékeknél és észtereknél. A 6.1.5.2.6 pont szerinti előtároláshoz 98...100%-os koncentrációjú n-butil-acetátot kell használni.

A 6.1.5.6 bekezdés szerinti halmazolási próbához az előző a) pont szerinti 1...10% vizes nedvesítőszer oldatot és 2% n-butil-acetátot tartalmazó vizsgálófolyadékot kell használni.

A halmazolási próbánál legalább 1,0 relatívsűrűség-értéket kell alapul venni.

Olyan töltőanyagok esetén, amelyek a polietilént az n-butil-acetátnál nagyobb mértékben és legfeljebb 7,5% tömegnövekedést kitevő mértékben duzzasztják, a kielégítő kémiai összeférhetőséget a 6.1.5.2.6 pont szerinti 40 °C-on végzett háromhetes előtárolással, de az eredeti töltőanyaggal lehet vizsgálni.

- d) Szénhidrogén-keveréket (white spirit) a polietilénre duzzasztó hatást kifejtő anyagoknál és készítményeknél, különösen szénhidrogéneknek, észtereknek és ketonoknak.

A szénhidrogén-keverék forrás tartományának 160...220 °C közöttinek, relatív sűrűségének 0,78...0,80 közöttinek, lobbanáspontjának 50 °C fölöttinek és aromás szénhidrogén-tartalmának 16...21%-nak kell lenni.

A halmazolási próbánál legalább 1,0 relatívsűrűség-értéket kell alapul venni.

Olyan töltőanyagok esetén, amelyek a polietilént 7,5%-nál nagyobb tömegnövekedést



kitevő mértékben duzzasztják, a kielégítő kémiai összeférhetőséget a 6.1.5.2.6 pont szerinti 40 °C-on végzett háromhetes előtárolás után, de az eredeti töltőanyaggal lehet vizsgálni.

- e) Salétromsavat minden olyan anyagnál és készítménynél, amelynek a polietilénre gyakorolt oxidáló hatása és molekulatömeg-csökkentése azonos vagy kisebb mértékű, mint az 55%-os salétromsavé.

A salétromsavat legalább 55%-os koncentrációban kell alkalmazni.

A halmazolási próbánál legalább 1,4 relatívsűrűség-értéket kell alapul venni.

Olyan töltőanyagok esetén, amelyek oxidáló hatása vagy molekulatömeg-csökkentése nagyobb mértékű, mint az 55%-os salétromsavé, a 6.1.5.2.5 pont szerint kell eljárni.

Az ilyen esetekben a felhasználhatóság időtartamát a károsodás mértékének megfigyelése alapján kell meghatározni (pl. legalább 55%-os töménységű salétromsavnál 2 év).

- f) Vízet azoknál az anyagoknál, amelyek az a) – e) pontban jelzett esetektől eltérően nem támadják meg a polietilént, különösen szerves savaknál és lúgoknál, vizes sóoldatoknál, többértékű alkoholoknál és vízben oldott szerves anyagok esetében. A halmazolási próbánál legalább 1,2 relatívsűrűség-értéket kell alapul venni. Ha a megfelelő kémiai összeférhetőség nedvesítőszer oldattal vagy salétromsavval bizonyított, a gyártási típust nem szükséges vízzel vizsgálni.

**6.2 FEJEZET****A NYOMÁSTARTÓ TARTÁLYOK, AZ AEROSZOLOK,  
A GÁZZAL TÖLTÖTT, KISMÉRETŰ TARTÁLYOK  
(GÁZPATRONOK) ÉS A GYÚLÉKONY, CSEPPFOLYÓSÍTOTT  
GÁZT TARTALMAZÓ ÜZEMANYAGCELLA KAZETTÁK  
GYÁRTÁSÁRA ÉS VIZSGÁLATÁRA VONATKOZÓ  
KÖVETELMÉNYEK****6.2.1 Általános követelmények**

*Megjegyzés:* Az aeroszolak, a gázzal töltött kisméretű tartályok (gázipatronok) és a gyúlékony, cseppfolyósított gázt tartalmazó üzemanyagcella kazetták nem tartoznak a 6.2.1 – 6.2.5 szakaszok hatálya alá.

**6.2.1.1 Tervezés és gyártás**

**6.2.1.1.1** A nyomástartó tartályokat és zárószerkezetüket úgy kell méretezni, gyártani, bevizsgálni és felszerelni, hogy a normális szállítási feltételek mellett és normális használatot feltételezve minden fellépő igénybevételt, beleértve a kifáradást is, elviseljenek.

**6.2.1.1.2** (fenntartva)

**6.2.1.1.3** A legkisebb falvastagság semmilyen esetben sem lehet kisebb a tervezésre és gyártásra vonatkozó műszaki szabványokban meghatározott értéknél.

**6.2.1.1.4** Hegesztett nyomástartó tartályokhoz csak hibátlanul hegeszthető anyagok használhatók fel.

**6.2.1.1.5** A palackok, nagypalackok, gázhordók és palackkötegek próbanyomásának a 4.1.4.1 bekezdés P200 csomagolási utasításában előírtaknak kell lennie. A zárt mélyhűtő tartályoknál a próbanyomásnak a 4.1.4.1 bekezdés P203 csomagolási utasításában előírtaknak kell lennie.

**6.2.1.1.6** A köteget alkotó nyomástartó tartályokat szerkezeti szerelvényekkel kell egységbe építeni. A nyomástartó tartályokat úgy kell rögzíteni, hogy se a szerkezeti szerelvényekhez képest ne mozdulhassanak el, se oly módon, ami veszélyes helyi feszültség halmozódást okozna. A csőrendszert (pl. gyűjtőcsöveket, szelepeket, nyomásmérőket) úgy kell méretezni és kialakítani, hogy az ütközések okozta sérülésekkel és a szállítás során felépő szokásos erőhatásokkal szemben védve legyenek. A gyűjtőcső próbanyomásának legalább akkorának kell lennie, mint a palackokénak. A cseppfolyósított, mérgező gázok esetén mindegyik nyomástartó tartálynak elválasztó szeleppel kell rendelkeznie, ami biztosítja, hogy minden egyes nyomástartó tartály külön tölthető legyen és a szállítás alatt tartalmuk egymással ne cserélődhessen ki.

*Megjegyzés:* A cseppfolyósított, mérgező gázok a 2T, 2TF, 2TC, 2TO, 2TFC, ill. 2TOC osztályozási kód alá tartoznak.

**6.2.1.1.7** Kerülni kell a különböző fémek érintkezését, ami a galvanikus hatás folytán károsodást okozhat.

**6.2.1.1.8** A mélyhűtött, cseppfolyósított gázokhoz használt zárt mélyhűtő tartályok gyártására vonatkozó kiegészítő követelmények

- 6.2.1.1.8.1** Minden egyes nyomástartó tartályra meg kell állapítani a felhasznált fém mechanikai tulajdonságait, beleértve az ütőszilárdságot és a hajlítási együtthatót.

**Megjegyzés:** *Az ütőszilárdságra (a fajlagos ütőmunkára) vonatkozóan a 6.8.5.3 bekezdés részletezi az alkalmazható vizsgálati követelményeket.*

- 6.2.1.1.8.2** A nyomástartó tartályokat hőszigetelni kell. A hőszigetelést az ütések ellen burkolattal kell védeni. Ha a nyomástartó tartály és a burkolat közötti tér légüres (vákuumszigetelés), a védőburkolatot úgy kell méretezni, hogy egy elismert műszaki szabályzat szerint számítva legalább 100 kPa (1 bar) külső nyomásnak vagy legalább 200 kPa (2 bar) (túlnyomás) számított kritikus felszakítási nyomásnak álljon ellen maradandó alakváltozás nélkül. Ha a burkolat gáztömören zár (pl. vákuumszigetelés esetén), külön berendezéssel kell megakadályozni, hogy a nyomástartó tartályon vagy szerelvényein bekövetkező tömítetlenség esetén a szigetelőrétegben veszélyes nyomás keletkezzék. A berendezésnek meg kell akadályoznia, hogy a szigetelésbe nedvesség hatoljon be.

- 6.2.1.1.8.3** Azok a zárt mélyhűtő tartályok, amelyek atmoszférikus nyomáson  $-182\text{ °C}$  alatti forráspontú, mélyhűtött, cseppfolyósított gázok szállítására szolgálnak, nem tartalmazhatnak olyan anyagokat, amelyek az oxigénnel vagy az oxigénben dús környezettel veszélyes módon reagálhatnak, ha a hőszigetelés olyan részén helyezkednek el, ahol fennáll annak a veszélye, hogy oxigénnel vagy oxigénben dús környezettel érintkeznek.

- 6.2.1.1.8.4** A zárt mélyhűtő tartályokat megfelelő emelő és rögzítő szerkezetekkel kell tervezni és ellátni.

- 6.2.1.1.9** *Az acetilénhez használt nyomástartó tartályok gyártására vonatkozó kiegészítő követelmények*

Az UN 1001 oldott acetilénhez és az UN 3374 oldószermentes acetilénhez használt nyomástartó tartályokat olyan, egyenletesen elosztott, porózus anyaggal kell kitölteni, amely megfelel az illetékes hatóság által meghatározott követelményeknek és vizsgálatoknak, és amely:

- összeférhető a nyomástartó tartállyal, és sem az acetilénnel, sem az oldószerrel (az UN 1001 oldott acetilén esetén) nem alkot káros vagy veszélyes vegyületet;
- képes megakadályozni az acetilén bomlásának terjedését a porózus anyagban.

Az UN 1001 oldott acetilén esetén az oldószernek összeférhetőnek kell lennie a nyomástartó tartállyal.

## **6.2.1.2 Szerkezeti anyagok**

- 6.2.1.2.1** A nyomástartó tartályok és zárószerkezetük anyaga, amely a veszélyes áruval közvetlenül érintkezik csak olyan lehet, amelyet a szállítandó veszélyes áru nem támad meg, ill. nem gyengít, és amely nem fejt ki veszélyes hatást, pl. reakció katalizálást vagy a veszélyes áruval való reakciót.

- 6.2.1.2.2** A nyomástartó tartályokat és zárószerkezetüket a tervezésre és gyártásra vonatkozó műszaki szabványokban és a nyomástartó tartályban szállítandó veszélyes anyagra vonatkozó csomagolási utasításban meghatározott anyagból kell gyártani. Az anyagnak a tervezésre és gyártásra vonatkozó műszaki szabványban meghatározottak szerint ellenállónak kell lennie a ridegtöréssel és a feszültség alatti korróziós repedezéssel szemben.

## **6.2.1.3 Üzemi szerelvények**

- 6.2.1.3.1** A nyomásnak kitett szelepeket, csővezetéseket és más szerelvényeket – a nyomáscsökkentő szerkezetek kivételével – úgy kell tervezni és gyártani, hogy a repesztőnyomásuk a nyomástartó tartály próbanyomásának legalább 1,5-szerese legyen.

- 6.2.1.3.2** Az üzemi szerelvényeket úgy kell kialakítani vagy elrendezni, hogy normális szállítási és kezelési körülmények között ne sérülhessenek úgy meg, hogy a nyomástartó tartály tartalma

a szabadba jusson. A nyomáscsökkentő szelepekhez vezető gyűjtőcső vezetéknek elegendően hajlékonynak kell lennie, hogy ne következhesen be a szelepek és a csővezeték nyíródása és a nyomástartó tartály tartalmának kiszabadulása. A töltő- és ürítő szelepeknek és a védőkupakoknak a nem szándékos nyitással szemben védhetőnek kell lenniük. A szelepeket a 4.1.6.8 bekezdésben előírt módon védeni kell.

**6.2.1.3.3** A kézzel nem mozgatható, ill. nem gördíthető nyomástartó tartályokat olyan szerkezettel (pl. csúszótalppal, emelőfülekkel, kampókkal) kell ellátni, amely lehetővé teszi gépi berendezéssel való biztonságos kezelésüket, és ezt úgy kell tartályra felszerelni, hogy ne okozzák sem a nyomástartó tartály gyengülését, sem pedig meg nem engedhető igénybevételét.

**6.2.1.3.4** Az önálló nyomástartó tartályokat a 4.1.4.1 bekezdés P200 csomagolási utasítása 2) bekezdése, ill. a 6.2.1.3.6.4 és a 6.2.1.3.6.5 pontok szerint kell nyomáscsökkentő szerkezettel ellátni. A nyomáscsökkentő szerkezeteket úgy kell kialakítani, hogy megakadályozzák az idegen anyagoknak a tartályba való bejutását, a gáz kiszivárgását és mindenféle veszélyes túlnyomás kialakulását. A nyomáscsökkentő szerkezeteket a gyúlékony gázzal töltött, gyűjtőcsővel összekapcsolt, vízszintes helyzetű nyomástartó tartályokon úgy kell elhelyezni, hogy a lefűvás a szabad levegőbe akadálytalanul történhessen, és normális szállítási körülmények mellett a kiszabaduló gáz ne ütközzön magának a nyomástartó tartálynak.

**6.2.1.3.5** A térfogatra töltött nyomástartó tartályokat szintjelzővel kell ellátni.

**6.2.1.3.6** *A zárt mélyhűtő tartályokra vonatkozó kiegészítő követelmények*

**6.2.1.3.6.1** A gyúlékony mélyhűtött, cseppfolyósított gázok szállítására szolgáló zárt mélyhűtő tartályok minden töltő- és ürítőnyílását legalább két, egymás mögött elhelyezett, egymástól független zárószerkezettel kell ellátni, ahol az első egy zárószelep, a második pedig egy sapka vagy azzal egyenértékű, más szerkezet.

**6.2.1.3.6.2** Azokon a csővezeték szakaszokon, amelyek mindkét végükön zárhatóak, és azokon a részekon, ahol folyékony anyag maradhat vissza, a csővezetékben a túlzott nyomás kialakulásának elkerülésére automatikus nyomáscsökkentő rendszert kell alkalmazni.

**6.2.1.3.6.3** A zárt mélyhűtő tartályoknál minden csatlakozáson jól látható módon fel kell tüntetni a rendeltetését (pl. gőzfázis, folyadékfázis).

**6.2.1.3.6.4** Nyomáscsökkentő szerkezetek

**6.2.1.3.6.4.1** A zárt mélyhűtő tartályokat legalább egy nyomáscsökkentő szerkezettel kell ellátni. A nyomáscsökkentő szerkezetnek olyan típusúnak kell lennie, ami ellenáll a dinamikus hatásoknak, beleértve a folyadék hullámozását is.

**6.2.1.3.6.4.2** A zárt mélyhűtő tartályok ezenkívül a 6.2.1.3.6.5 pont követelményeinek kielégítésére a rugóterhelésű szerkezettel (szerkezetekkel) párhuzamosan hasadótárcsával is elláthatók.

**6.2.1.3.6.4.3** A nyomáscsökkentő szerkezet csatlakozásának akkora keresztmetszetűnek kell lennie, amekkora lehetővé teszi, hogy a szükséges ürítési mennyiség akadálytalanul eljuthasson a nyomáscsökkentő szerkezethez.

**6.2.1.3.6.4.4** Minden nyomáscsökkentő szerkezet bemenetnek a megengedett legnagyobb töltési fok mellett is a zárt mélyhűtő tartály gőzterében kell lennie és a szerkezetet úgy kell kialakítani, hogy biztosítva legyen a gőz akadálytalan távozása.

**6.2.1.3.6.5** A nyomáscsökkentő szerkezetek teljesítménye és beállítása

**Megjegyzés:** *A zárt mélyhűtő tartályok nyomáscsökkentő szerkezetei szempontjából a megengedett legnagyobb üzemi nyomás a megtöltött, zárt mélyhűtő tartály tetején, üzemi helyzetben megengedett legnagyobb tényleges túlnyomás, beleértve a töltés és ürítés során fellépő legnagyobb tényleges nyomást.*

**6.2.1.3.6.5.1** A nyomáscsökkentő szerkezetnek legalább a megengedett legnagyobb üzemi nyomáson

automatikusan ki kell nyílnia, és a megengedett legnagyobb üzemi nyomás 110%-ának megfelelő nyomáson teljesen nyitva kell lennie. Lefűvás után a szerkezetnek a nyitónyomásánál legfeljebb 10%-kal alacsonyabb nyomáson záródnia kell és minden, ennél alacsonyabb nyomáson zárva kell maradnia.

**6.2.1.3.6.5.2** A hasadótárcsákat olyan névleges nyomásra kell beállítani, ami a próbanyomás és a megengedett legnagyobb üzemi nyomás 150%-ának megfelelő nyomás közül az alacsonyabb értékkel egyenlő.

**6.2.1.3.6.5.3** A vákuumszigetelt, zárt mélyhűtő tartályoknál a vákuum csökkenése esetén a beépített nyomáscsökkentő szerkezetek összes lefűvási teljesítményének elégnek kell lennie ahhoz, hogy a nyomás (beszámítva a nyomás növekedését) a zárt mélyhűtő tartályban ne lépje túl a megengedett legnagyobb üzemi nyomás 120%-át.

**6.2.1.3.6.5.4** A nyomáscsökkentő szerkezetek szükséges teljesítményét az illetékes hatóság által elismert műszaki szabályzat<sup>1)</sup> szerint kell meghatározni.

#### **6.2.1.4** *A nyomástartó tartályok engedélyezése*

**6.2.1.4.1** A nyomástartó tartályok megfelelőségét a gyártásukkor kell értékelni az illetékes hatóság által előírt módon. A nyomástartó tartályokat egy vizsgáló szervezetnek kell megvizsgálnia és engedélyeznie. A műszaki dokumentációnak a tervezés és a gyártás részletes leírását, valamint a gyártás és a vizsgálat teljes dokumentációját tartalmaznia kell.

**6.2.1.4.2** A minőségbiztosítási rendszernek meg kell felelnie az illetékes hatóság előírásainak.

#### **6.2.1.5** *Üzembe helyezés előtti vizsgálat*

**6.2.1.5.1** Az új nyomástartó tartályokat – a zárt mélyhűtő tartályok kivételével – a gyártás során és az üzembe helyezés előtt a vonatkozó tervezési szabványoknak megfelelően vizsgálatnak kell alávetni, amelynek a következőkre kell kiterjednie:

Elegendő számú nyomástartó tartály mintadarabon:

- a) a szerkezeti anyag mechanikai jellemzőinek vizsgálatára;
- b) a legkisebb falvastagság ellenőrzésére;
- c) a szerkezeti anyag minden egyes gyártási sorozaton belüli azonosságának (minőségének) ellenőrzésére;
- d) a nyomástartó tartály külső és belső állapotának vizsgálatára;
- e) a nyakmenet vizsgálatára;
- f) a tervezési szabványoknak való megfelelés ellenőrzésére.

Minden egyes nyomástartó tartályon:

- g) folyadéknyomás-próbára. A nyomástartó tartálynak a tervezési előírásokban meghatározottnál nagyobb tágulás bekövetkezte nélkül kell elviselnie a próbanyomást;

**Megjegyzés:** Az illetékes hatóság hozzájárulása esetén a folyadéknyomás-próba gázzal végzett vizsgálattal helyettesíthető, ha az ilyen eljárás nem okoz semmiféle veszélyt.

- h) a gyártási hibák vizsgálatára és értékelésére. A hibákat ki kell javítani vagy a nyomástartó tartályt használatra alkalmatlanná kell tenni. Hegesztett nyomástartó tartályok esetén különös figyelmet kell fordítani a hegesztés minőségére;
- i) a nyomástartó tartályon levő jelölések vizsgálatára;
- j) ezen kívül az UN 1001 oldott acetilén és az UN 3374 oldószermentes acetilén

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1) Lásd például a CGA S-1.2-2003 „Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 2. rész – Árutartályok és mobil tartályok sűrített gázokhoz) és az S-1.1-2003 „Pressure Relief Device Standards – Part 1 – Cylinders for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 1. rész – Sűrített gáz palackok) kiadványt.

szállítására használt nyomástartó tartályoknál ellenőrizni kell a porózus anyag megfelelő alkalmazását és állapotát, ill. ha van, az oldószer mennyiségét.

**6.2.1.5.2** A zárt mélyhűtő tartályok egy megfelelő mintadarabján el kell végezni a 6.2.1.5.1 a), b), d) és f) pontban meghatározott vizsgálatokat. Ezen kívül a zárt mélyhűtő tartályok mintadarabján a vonatkozó tervezési és gyártási előírások szerint radiográfiás, ultrahangos vagy más alkalmas, roncsolásmentes vizsgálati módszerrel meg kell vizsgálni a hegesztéseket. A burkolat hegesztését nem kell így vizsgálni.

Ezen kívül minden zárt mélyhűtő tartályt alá kell vetni az üzembe helyezés előtti vizsgálatnak és a 6.2.1.5.1 g), h) és i) pontban meghatározott vizsgálatoknak, valamint tömörségi próbának és összeszerelés után ellenőrizni kell az üzemi szerelvények kielégítő működését.

#### **6.2.1.6** *Időszakos vizsgálat*

**6.2.1.6.1** Az újratölthető nyomástartó tartályokat – a mélyhűtő tartályok kivételével – az illetékes hatósága által felhatalmazott szervezet által időszakos vizsgálatnak kell alávetni, amelynek a következőkre kell kiterjednie:

- a) a nyomástartó tartály külső állapotának vizsgálatára, valamint a szerelvények és a külső jelölések ellenőrzésére;
- b) a nyomástartó tartály belső állapotának vizsgálatára (pl. a belső vizsgálatnál, a legkisebb falvastagság ellenőrzésével);
- c) a menetek vizsgálatára, ha korrózió jelei mutatkoznak vagy ha a szerelvényeket eltávolították;
- d) folyadéknomás-próbára és szükség esetén alkalmas vizsgálati eljárással az anyagjellemzők ellenőrzésére;
- e) az üzemi szerelvények, az egyéb tartozékok és a nyomáscsökkentő szerkezetek ellenőrzésére, amennyiben azokat újra üzembe helyezik.

**Megjegyzés:** 1. Az illetékes hatóság hozzájárulása esetén a folyadéknomás-próba helyettesíthető gázzal végzett vizsgálattal, ha az ilyen eljárás nem okoz semmiféle veszélyt.

2. Az illetékes hatóság hozzájárulása esetén a palackok, ill. nagypalackok folyadéknomás-próbája akusztikus emissziós vizsgálaton, ultrahangos vizsgálaton vagy az akusztikus emissziós és az ultrahangos vizsgálat kombinációján alapuló, egyenértékű vizsgálattal helyettesíthető.

3. Az időszakos vizsgálatok gyakoriságára vonatkozóan lásd a 4.1.4.1 bekezdés P200 csomagolási utasítását.

**6.2.1.6.2** Az UN 1001 oldott acetilén és az UN 3374 oldószermentes acetilén szállítására használt nyomástartó tartályoknál csak a 6.2.1.6.1 a), c) és e) pontok szerinti vizsgálatot kell elvégezni. Ezenkívül a porózus anyag állapotát (pl. repedezettség, felső szabad tér, lazulás, összeesés) is kell vizsgálni.

#### **6.2.1.7** *A gyártóra vonatkozó előírások*

**6.2.1.7.1** A gyártónak műszakilag alkalmasnak kell lennie a nyomástartó tartályok megfelelő színvonalú előállítására és rendelkeznie kell minden, ehhez szükséges erőforrással, különösen megfelelő képzettségű alkalmazottakkal:

- a) a gyártási folyamat átfogó felügyeletére;
- b) az anyagok illesztésének kivitelezésére;
- c) a megfelelő vizsgálatok végrehajtására.



**6.2.1.7.2** A gyártó alkalmasságának értékelését minden esetben a jóváhagyó ország illetékes hatósága által jóváhagyott vizsgáló szervezetnek kell végeznie.

**6.2.1.8** *A vizsgáló szervezetekre vonatkozó előírások*

**6.2.1.8.1** A vizsgáló szervezeteknek a gyártó vállalatoktól függetlennek kell lenniük és kellő szakértelemmel kell rendelkezniük a szükséges vizsgálatok, ellenőrzések elvégzéséhez, ill. a jóváhagyásokhoz.

**6.2.2** **Az UN nyomástartó tartályokra vonatkozó követelmények**

Az UN nyomástartó tartályoknak a 6.2.1 szakasz általános követelményein kívül e szakasz előírásainak is meg kell felelniük, beleértve az esetleges szabványokat.

**6.2.2.1** *Tervezés, gyártás és üzembe helyezés előtti vizsgálat*

**6.2.2.1.1** Az UN palackok tervezéséhez, gyártásához és üzembe helyezés előtti vizsgálatához a következő szabványokat kell alkalmazni, a megfelelés-értékelési rendszerrel és a jóváhagyással kapcsolatos vizsgálati követelményeknek azonban a 6.2.2.5 bekezdéssel összhangban kell lenniük:

|                  |  |
|------------------|--|
| ISO 9809-1:1999  | Gázpalackok – Újratölthető, varrat nélküli acél gázpalackok – Tervezés, gyártás és vizsgálat – 1. Rész: Edzett és temperált palackok 1100 MPa-nál kisebb szakítószilárdságú acélból.<br><i>Megjegyzés: A szabvány 7.3 szakaszában az F tényezőre vonatkozó megjegyzés az UN palackokra nem vonatkozik.</i> |
| ISO 9809-2:2000  | Gázpalackok – Újratölthető, varrat nélküli acél gázpalackok – Tervezés, gyártás és vizsgálat – 2. rész: Edzett és temperált palackok 1100 MPa vagy annál nagyobb szakítószilárdságú acélból.   |
| ISO 9809-3:2000  | Gázpalackok – Újratölthető, varrat nélküli acél gázpalackok – Tervezés, gyártás és vizsgálat – 3. rész: Normalizált acélpalackok.  |
| ISO 7866:1999    | Gázpalackok – Újratölthető, varrat nélküli alumíniumötvözet gázpalackok – Tervezés, gyártás és vizsgálat<br><i>Megjegyzés: A szabvány 7.2 szakaszában az F tényezőre vonatkozó megjegyzés az UN palackokra nem vonatkozik. 6351A-T6 vagy azzal egyenértékű alumíniumötvözet nem megengedett.</i>           |
| ISO 11118:1999   | Gázpalackok – Nem újratölthető fém gázpalackok – Meghatározások és vizsgálati módszerek.   |
| ISO 11119-1:2002 | Kompozit gázpalackok - Előírások és vizsgálati módszerek – 1. rész: Köpenyrészen bevont kompozit gázpalackok   |
| ISO 11119-2:2002 | Kompozit gázpalackok - Előírások és vizsgálati módszerek – 2. rész: Teljes felületen bevont szálvasas kompozit gázpalackok teherviselő fém béléstesttel  |
| ISO 11119-3:2002 | Kompozit gázpalackok - Előírások és vizsgálati módszerek – 3. rész: Teljes felületen bevont szálvasas kompozit gázpalackok nem-teherviselő fém vagy nemfém béléstesttel  |

**Megjegyzés: 1.** Az előzőekben hivatkozott szabványok szerint a kompozit palackokat korlátlan élettartamra kell tervezni.

**2.** Az első 15 évi használat után az e szabványok szerint gyártott kompozit palackok használatát a palackokat eredetileg jóváhagyó illetékes hatóság a gyártó, a tulajdonos vagy a felhasználó által közölt vizsgálati adatokra alapozva korlátlan időre kiterjesztheti.

**6.2.2.1.2** Az UN nagypalackok tervezéséhez, gyártásához és üzembe helyezés előtti vizsgálatához a következő szabványokat kell alkalmazni, a megfelelés-értékelési rendszerrel és a jóváhagyással kapcsolatos vizsgálati követelményeknek azonban a 6.2.2.5 bekezdéssel összhangban kell lenniük:

|                |  |
|----------------|--|
| ISO 11120:1999 | Gázpalackok. A 150 l – 3000 l űrtartalmú, újratölthető, varrat nélküli acél nagypalackok sűrített gáz szállítására. Kialakítás, kivitelezés és vizsgálat<br><b>Megjegyzés:</b> A szabvány 7.1 szakaszában az F tényezőre vonatkozó megjegyzés az UN nagypalackokra nem vonatkozik. |
|----------------|--|

**6.2.2.1.3**

Az UN acetilén palackok tervezéséhez, gyártásához és üzembe helyezés előtti vizsgálatához a következő szabványokat kell alkalmazni, a megfelelőség-értékelési rendszerrel és a jóváhagyással kapcsolatos vizsgálati követelményeknek azonban a 6.2.2.5 bekezdéssel összhangban kell lenniük:

A palackra:

|                 |  |
|-----------------|--|
| ISO 9809-1:1999 | Gázpalackok – Újratölthető, varrat nélküli acél gázpalackok – Tervezés, gyártás és vizsgálat – 1. Rész: Edzett és temperált palackok 1100 MPa-nál kisebb szakítószilárdságú acélból.<br><b>Megjegyzés:</b> A szabvány 7.3 szakaszában az F tényezőre vonatkozó megjegyzés az UN palackokra nem vonatkozik. |
| ISO 9809-3:2000 | Gázpalackok – Újratölthető, varrat nélküli acél gázpalackok – Tervezés, gyártás és vizsgálat – 3. Rész: Normalizált acélpalackok.  |

A palackban levő porózus anyagra:

|                 |  |
|-----------------|--|
| ISO 3807-1:2000 | Acetilén palackok – Alapkövetelmények – 1. Rész: Palackok kioldódó dugó nélkül |
| ISO 3807-2:2000 | Acetilén palackok – Alapkövetelmények – 2. Rész: Palackok kioldódó dugóval     |

**6.2.2.1.4**

Az UN mélyhűtő tartályok tervezésére, gyártására és üzembe helyezés előtti vizsgálatára a következő szabvány vonatkozik, azzal a különbséggel, hogy a megfelelőség értékelési rendszerrel és a gyártás jóváhagyásával kapcsolatos vizsgálati követelményekre a 6.2.2.5 bekezdést kell alkalmazni.

|                  |   |
|------------------|---|
| ISO 21029-1:2004 | Mélyhűtő tartályok – Szállítható, vákuumszigetelt tartályok legfeljebb 1000 liter űrtartalommal – 1. Rész: Tervezés, gyártás és vizsgálat |
|------------------|---|

**6.2.2.2****Szerkezeti anyagok**

A nyomástartó tartályok tervezési és gyártási szabványaiiban az anyagokra meghatározott követelményeken és a szállítandó gáz(ok)ra vonatkozó csomagolási utasításokban (pl. a 4.1.4.1 bekezdés P200 csomagolási utasításában) meghatározott korlátozásokon kívül az anyagok összeférhetőségére a következő szabványokat kell alkalmazni:

|                  |  |
|------------------|--|
| ISO 11114-1:1997 | Szállítható gázpalackok. Gázpalack és palackszelep szerkezeti anyagainak megfelelősége a gáztöltetnek. 1. rész: Fémek    |
| ISO 11114-2:2000 | Szállítható gázpalackok. Gázpalack és palackszelep szerkezeti anyagainak megfelelősége a gáztöltetnek. 2. rész: Nemfémek |

**Megjegyzés:** Az ISO 11114-1 szabványban a nagy szilárdságú acélötvözeteknél a legnagyobb szakítószilárdsága vonatkozó 1100 MPa érték nem vonatkozik az UN 2203 szilícium-hidrogén (szilán) esetére.

**6.2.2.3****Üzemi szerelvények**

A zárószerkezetekre és védelmükre a következő szabványokat kell alkalmazni:

|                |   |
|----------------|---|
| ISO 11117:1998 | Gázpalackok – Szelepvédő kupakok és szelepvédelmek ipari és orvosi gázpalackokhoz – Tervezés, gyártás és vizsgálat  |
| ISO 10297:2006 | Szállítható gázpalackok – Palackszelepek – Műszaki követelmények és típusvizsgálat<br><b>Megjegyzés:</b> Az ISO szabvány EN változata is alkalmazható, mivel megfelel a követelményeknek. |



**6.2.2.4 Időszakos vizsgálat**

Az UN palackok időszakos vizsgálatához a következő szabványokat kell alkalmazni:

|                            |   |
|----------------------------|---|
| ISO 6406:2005              | Varrat nélküli acél gázpalackok időszakos vizsgálata  |
| ISO 10461:2005<br>+A1:2006 | Varrat nélküli alumínium-ötvözet gázpalackok – Időszakos vizsgálat                          |
| ISO 10462: 2005            | Gázpalackok – Szállítható palackok oldott acetilénhez – Időszakos vizsgálat és karbantartás |
| ISO 11623:2002             | Szállítható gázpalackok – Kompozit gázpalackok időszakos vizsgálata                         |

**6.2.2.5 A nyomástartó tartályok megfelelőség-értékelési rendszere és gyártásának jóváhagyása****6.2.2.5.1 Meghatározások**

Ezen bekezdés alkalmazásában:

A *megfelelőség-értékelési rendszer* a gyártó illetékes hatóság általi engedélyezésére szolgáló, a nyomástartó tartály típusjóváhagyására, a gyártó minőségbiztosítási rendszerének jóváhagyására és a vizsgáló szervezetek jóváhagyására kiterjedő rendszer;

A *gyártási típus* valamely nyomástartó tartályra vonatkozó szabványban meghatározott nyomástartó tartály típus;

Az *ellenőrzés* meghatározott követelmények teljesítésének megállapítása vizsgálattal vagy objektív bizonyítékok felhasználásával.

**6.2.2.5.2 Általános követelmények**

*Illetékes hatóság*

**6.2.2.5.2.1** A nyomástartó tartályt jóváhagyó illetékes hatóságnak jóvá kell hagynia a megfelelőség-értékelési rendszert, annak érdekében, hogy a nyomástartó tartályok megfeleljenek az ADR előírásainak. Ha egy nyomástartó tartályt jóváhagyó illetékes hatóság nem a gyártó országának illetékes hatósága, akkor a nyomástartó tartályon fel kell tüntetni mind a gyártó országának, mind a jóváhagyó országnak a jelét (lásd a 6.2.2.7 és a 6.2.2.8 bekezdést).

A jóváhagyó ország illetékes hatóságának azon ország megfelelő hatósága kérésre, amelyben a nyomástartó tartályt használják, bizonyítania kell, hogy megfelel a megfelelőség-értékelési rendszernek.

**6.2.2.5.2.2** Az illetékes hatóság feladatait a megfelelőség-értékelési rendszerben részben vagy egészben átruházhatja.**6.2.2.5.2.3** Az illetékes hatóságnak biztosítania kell, hogy a jóváhagyott vizsgáló szervezetek és azonosító jelölésük, továbbá az engedélyezett gyártók és azonosító jelölésük érvényes jegyzéke rendelkezésre álljon.

*Vizsgáló szervezet*

**6.2.2.5.2.4** A vizsgáló szervezetnek az illetékes hatóság jóváhagyásával kell rendelkeznie a nyomástartó tartályok vizsgálatára és a következő feltételeknek kell megfelelnie:

- szervezetbe integrált, alkalmas, hozzáértő, szakképzett és gyakorlott személyzettel kell rendelkeznie, hogy műszaki feladatait megfelelő módon végezhesse;
- alkalmas és elegendő berendezésnek és felszerelésnek kell rendelkezésére állnia;
- részrehajlás nélkül kell működnie, és minden olyan hatástól mentesnek kell lennie, ami ebben akadályozhatná;
- a gyártók és más szervezetek kereskedelmi és tulajdonjogi védelmet élvező tevékenységeit üzleti titokként kell kezelnie;
- egyértelműen el kell különítenie a vizsgáló szervezeti funkcióit és az ezzel nem

kapcsolatos tevékenységet;

- f) dokumentált minőségbiztosítási rendszert kell működtetnie;
- g) biztosítani kell, hogy a nyomástartó tartályokra vonatkozó szabványokban és az ADR-ben szereplő vizsgálatokat elvégezzék; és
- h) a 6.2.2.5.6 pontban foglaltak szerinti célszerű és megfelelő jegyzőkönyvezési és okirat nyilvántartási rendszert kell működtetnie.

**6.2.2.5.2.5** A nyomástartó tartályra vonatkozó szabványnak való megfelelés biztositásához a vizsgáló szervezetnek jóvá kell hagynia a gyártási típust, meg kell vizsgálnia és felügyelnie kell a nyomástartó tartály gyártását és ezekről tanúsítványt kell kiállítania (lásd a 6.2.2.5.4 és a 6.2.2.5.5 pontot).

*Gyártó*

**6.2.2.5.2.6** A gyártónak

- a) a 6.2.2.5.3 pont szerinti, dokumentált minőségbiztosítási rendszert kell működtetnie;
- b) a típusjóvá hagyást a 6.2.2.5.4 pont szerint kell megkérnie;
- c) a jóváhagyó országban az illetékes hatóság által vezetett, jóváhagyott vizsgáló szervezetek jegyzékéből ki kell választania egy vizsgáló szervezetet; és
- d) az okiratokat a 6.2.2.5.6 pont szerint kell megőriznie.

*Vizsgáló laboratórium*

**6.2.2.5.2.7** A vizsgáló laboratóriumnak:

- a) szervezetbe integrált, szakképzett és gyakorlott, kellő számú személyzettel kell rendelkeznie; és
- b) alkalmas és elegendő berendezésnek és felszerelésnek kell rendelkezésére állnia, hogy a gyártási szabványokban előírt vizsgálatokat a vizsgáló szervezet számára elfogadható módon elvégezhesse.

**6.2.2.5.3** *A gyártó minőségbiztosítási rendszere*

**6.2.2.5.3.1** A minőségbiztosítási rendszernek a gyártó által alkalmazott minden elemre, követelményre és előírásra ki kell terjednie. Ezt szisztematikusan és rendezett módon kell dokumentálni írásban rögzített alapelvek, eljárások és utasítások formájában.

Különösen a következők megfelelő leírását kell tartalmaznia:

- a) a szervezeti felépítés, a tervezéssel és termék minőségével kapcsolatos személyi felelősség;
- b) a nyomástartó tartályok tervezése és tervezés-ellenőrzése során alkalmazott technikák, módszerek és eljárások;
- c) a nyomástartó tartályok gyártására, minőségellenőrzésére, minőségbiztosítására és gyártási folyamatára vonatkozó, megfelelő utasítások;
- d) minőségellenőrzési nyilvántartás, pl. vizsgálati jegyzőkönyvek, vizsgálati eredmények és hitelesítési adatok;
- e) vezetői felülvizsgálatok a 6.2.2.5.3.2 pont szerinti auditálás alapján a minőségbiztosítási rendszer hatékony működésének biztositásához;
- f) a vevő igényeinek kielégítését szolgáló eljárások leírása;
- g) a dokumentáció ellenőrzési és karbantartási eljárása;
- h) a nem megfelelő minőségű nyomástartó tartályok, vásárolt alkatrészek, félkész és késztermékek ellenőrzésének, kiszűrésének módja; és
- i) az érintett személyekre vonatkozó képzési program és minősítési eljárás.

**6.2.2.5.3.2** A minőségbiztosítási rendszer auditálása

A minőségbiztosítási rendszert először ki kell értékelni annak eldöntéséhez, hogy a 6.2.2.5.3.1 pontban felsorolt követelményeknek az illetékes hatóság számára elfogadható módon megfelel-e.

A gyártót értesíteni kell az auditálás eredményéről. Az értesítésnek tartalmaznia kell az auditálás következtetéseit és az esetleg szükséges javításokat.

Az illetékes hatóság számára elfogadható módon időszakos auditálást kell végezni, annak biztosítására, hogy a minőségbiztosítási rendszert a gyártó fenntartja és alkalmazza. Az időszakos auditálás jegyzőkönyvét a gyártónak át kell adni.

**6.2.2.5.3.3** A minőségbiztosítási rendszer fenntartása

A gyártónak a minőségbiztosítási rendszert a jóváhagyott állapotban fenn kell tartania, hogy megfelelő és hatékony legyen.

A gyártónak a minőségbiztosítási rendszert jóváhagyó illetékes hatóságot minden tervezett változásról értesítenie kell. A javasolt változtatásokat értékelni kell annak eldöntésére, hogy a módosított minőségbiztosítási rendszer továbbra is megfelel-e a 6.2.2.5.3.1 pont előírásainak.

**6.2.2.5.4** *Jóváhagyási eljárás**Első típusjóváhagyás***6.2.2.5.4.1** Az első típusjóváhagyás a gyártó minőségbiztosítási rendszerének jóváhagyásából és a gyártandó nyomástartó tartály típusjóváhagyásából áll. Az első típusjóváhagyás iránti kérelemnek a 6.2.2.5.4.2 – 6.2.2.5.4.6 és a 6.2.2.5.4.9 pont előírásainak kell megfelelnie.**6.2.2.5.4.2** Ha egy gyártó valamely nyomástartó tartályra vonatkozó szabvány és az ADR előírásai szerinti nyomástartó tartályt kíván gyártani, akkor rendelkeznie kell a jóváhagyás országának illetékes hatósága által a 6.2.2.5.4.9 pontban leírt eljárás szerint kiadott gyártási típusbizonyítvánnyal legalább egy nyomástartó tartály típusra. A bizonyítvány megszerzéséhez kérelmet kell benyújtania, és a kapott bizonyítványt meg kell őriznie. Ha annak az országnak az illetékes hatósága kéri, amelyben a tartályt használják, akkor a bizonyítványt a rendelkezésére kell bocsátani.**6.2.2.5.4.3** Minden gyártó üzemre külön kérelmet kell benyújtani, aminek a következőket kell tartalmaznia:

- a) a gyártó nevét és székhelyét, és ezenkívül, ha a kérelmet meghatalmazott képviselő nyújtja be, annak nevét és címét;
- b) a gyártó üzem címét (ha az előzőektől eltér);
- c) a minőségbiztosítási rendszerért felelős személy(ek) nevét és beosztását;
- d) a nyomástartó tartály rendeltetését és a nyomástartó tartályra vonatkozó szabványt;
- e) ha egy hasonló kérelmet egy másik illetékes hatóság már elutasított, akkor az elutasítás részleteit;
- f) a gyártási típust jóváhagyó vizsgáló szervezet megnevezését;
- g) a gyártó üzemre a 6.2.2.5.3.1 pontban meghatározott dokumentációt; és
- h) a típusjóváhagyáshoz szükséges műszaki dokumentációt, ami lehetővé teszi annak megállapítását, hogy a nyomástartó tartály a vonatkozó gyártási szabvány előírásainak megfelel-e. A műszaki dokumentációnak a tervezésre és a gyártási eljárásokra kell kiterjednie, és az értékeléshez szükséges mértékben legalább a következőket kell tartalmaznia:
  - i) a nyomástartó tartályra vonatkozó gyártási szabványt, az esetleges alkatrészeket és szerkezeti részegységeket ábrázoló tervrajzokat;
  - ii) a tervrajzok és a nyomástartó tartály tervezett használatának megértéséhez

szükséges leírásokat és magyarázatokat;

- iii) a gyártási eljárás pontos meghatározásához szükséges szabványok felsorolását;
- iv) a tervezési számításokat és a felhasznált anyagok műszaki jellemzőit; és
- v) a típusjóváahagyás vizsgálati jegyzőkönyvét, amely tartalmazza a 6.2.2.5.4.9 pont szerint végrehajtott vizsgálatok eredményeit.

**6.2.2.5.4.4** A 6.2.2.5.3.2 pont szerinti első auditálást az illetékes hatóság számára elfogadható módon kell végezni.

**6.2.2.5.4.5** Ha az illetékes hatóság nem adja meg a jóváahagyást a gyártónak, az elutasítást írásban részletesen meg kell indokolnia.

**6.2.2.5.4.6** A jóváahagyást követően az első típusjóváahagyási kérelemhez a 6.2.2.5.4.3 pont szerint benyújtott adatokban bekövetkező változásokat az illetékes hatósággal közölni kell.

*További típusjóváahagyások*

**6.2.2.5.4.7** A további típusjóváahagyás iránti kérelemnek a 6.2.2.5.4.8 és a 6.2.2.5.4.9 pont előírásainak kell megfelelnie, feltéve, hogy a gyártó rendelkezik első típusjóváahagyással. Ilyen esetben a gyártó 6.2.5.6.3 pont szerinti minőségbiztosítási rendszerének, amelyet az első típusjóváahagyás során kellett jóváahagyni, az új gyártási típusra is alkalmazhatónak kell lennie.

**6.2.2.5.4.8** A kérelemnek a következőket kell tartalmaznia:

- a) a gyártó nevét és székhelyét, és ezenkívül, ha a kérelmet meghatalmazott képviselő nyújtja be, annak nevét és címét;
- b) ha egy hasonló kérelmet egy másik illetékes hatóság már elutasított, akkor az elutasítás részleteit;
- c) annak bizonyítékát, hogy rendelkezik az első típusjóváahagyással; és
- d) a 6.2.2.5.4.3 h) pontban leírt műszaki dokumentációt.

*A gyártási típusjóváahagyás eljárása*

**6.2.2.5.4.9** A vizsgáló szervezetnek:

- a) meg kell vizsgálnia a műszaki dokumentációt annak ellenőrzésére, hogy:
  - i) a típus megfelel-e a szabványok vonatkozó előírásainak, és
  - ii) a minta sorozatot a műszaki dokumentációnak megfelelően gyártották-e és az a gyártási típust megfelelően képviseli-e;
- b) ellenőriznie kell, hogy a 6.2.2.5.5 pont szerinti gyártásellenőrzéseket elvégezték-e;
- c) a minta sorozatból ki kell választania azokat a nyomástartó tartályokat, amelyeken azután a típusjóváahagyásban előírt vizsgálatok elvégzését felügyelnie kell;
- d) végre kell hajtania vagy hajtatnia a nyomástartó tartályra vonatkozó szabványban meghatározott vizsgálatokat annak eldöntéséhez, hogy:
  - i) a szabványt alkalmazták-e és betartották-e, és
  - ii) a gyártó által alkalmazott eljárások kielégítik-e a szabvány követelményeit; és
- e) biztosítania kell, hogy a különböző típusjóváahagyási vizsgálatokat pontosan és szakszerűen végezzék el.

Miután a gyártási típus vizsgálata kielégítő eredménnyel zárult, és a 6.2.2.5.4 pont minden vonatkozó követelménye teljesült, típusjóváahagyási bizonyítványt kell kiállítani, amelyben fel kell tüntetni a gyártó nevét és székhelyét, a vizsgálatok eredményeit és következtetéseit, és a gyártási típus azonosításához szükséges adatokat.

Ha az illetékes hatóság nem adja meg a típusjóváahagyást a gyártónak, az elutasítást írásban kell részletesen megindokolnia.

**6.2.2.5.4.10** A jóváahagyott gyártási típus módosítása

A gyártónak

- a) vagy értesítenie kell a jóváahagyott típus módosításáról a jóváahagyást kiadó illetékes hatóságot, ha ez a módosítás a nyomástartó tartályra vonatkozó szabvány értelmében nem eredményez új gyártási típust;
- b) vagy további típusjóváahagyást kell kérnie, ha a módosítás a nyomástartó tartályra vonatkozó szabvány értelmében új gyártási típust eredményez. A kiegészítő jóváahagyást az eredeti típusjóváahagyási bizonyítvány módosításaként kell kiadni.

**6.2.2.5.4.11** Bármely másik illetékes hatóság kérésére az illetékes hatóságnak tájékoztatást kell adnia a típusjóváahagyásokról, a jóváahagyások módosításáról és a jóváahagyások visszavonásáról.

**6.2.2.5.5** Gyártásellenőrzés és tanúsítás

*Általános követelmények*

Minden egyes nyomástartó tartályt egy vizsgáló szervezetnek vagy megbízottjának kell megvizsgálnia és tanúsítania. A gyártó a gyártás során történő ellenőrzéshez másik vizsgáló szervezetet is választhat, mint amelyik a gyártási típus vizsgálatokat végzi.

Ha a vizsgáló szervezet által elfogadható módon be tudja bizonyítani a gyártó, hogy rendelkezik gyártási műveletektől független, szakképzett, hozzáértő ellenőrökkel, akkor a vizsgálatokat ezek az ellenőrök is elvégezhetik. Ilyen esetben a gyártónak meg kell őriznie az ellenőrök képzésére vonatkozó dokumentációt.

A vizsgáló szervezetnek ellenőriznie kell, hogy a nyomástartó tartályokon a gyártó által végzett ellenőrzések és vizsgálatok teljes mértékben megfelelnek-e a szabványnak és az ADR követelményeinek. Ha a vizsgáló szervezet azt állapítja meg, hogy az ellenőrzést, ill. a vizsgálatokat nem megfelelően hajtották végre, akkor a gyártó ellenőrei által végzendő vizsgálatokra vonatkozó engedélyt visszavonhatja.

A vizsgáló szervezet jóváahagyása után a gyártónak nyilatkozatot kell adnia, hogy a tartály megegyezik a jóváahagyott gyártási típussal. A nyomástartó tartály jóváahagyási jelölésének felvitelét úgy kell tekinteni, mint annak igazolását, hogy a nyomástartó tartály megfelel a nyomástartó tartályra vonatkozó szabványoknak, valamint az ezen megfelelésértékelési rendszer és az ADR előírásainak. A vizsgáló szervezetnek vagy a vizsgáló szervezet felhatalmazása alapján a gyártónak minden egyes jóváahagyott nyomástartó tartályon el kell helyeznie a jóváahagyási jelölést és a vizsgáló szervezet nyilvántartási jelét.

A nyomástartó tartály megtöltése előtt a megfelelésegről tanúsítványt kell kiállítani, amit a gyártónak és a vizsgáló szervezetnek alá kell írnia.

**6.2.2.5.6** Okiratok

A gyártási típus bizonyítványokat és a megfeleléségi tanúsítványokat a gyártónak és a vizsgáló szervezetnek legalább 20 évig meg kell őriznie.

**6.2.2.6** *A nyomástartó tartályok időszakos vizsgálatának jóváahagyási rendszere*

**6.2.2.6.1** *Meghatározások*

Ezen bekezdés alkalmazásában:

A *jóváahagyási rendszer* a nyomástartó tartályok időszakos vizsgálatát végző szervezet (továbbiakban: időszakos vizsgálatot végző szervezet) illetékes hatóság általi jóváahagyásának rendszere, beleértve az ilyen szervezet minőségbiztosítási rendszerének jóváahagyását is.

**6.2.2.6.2** *Általános követelmények*

*Illetékes hatóság*

- 6.2.2.6.2.1** Az illetékes hatóságnak jóváhagyási rendszert kell kialakítania annak érdekében, hogy a nyomástartó tartályok időszakos vizsgálata megfeleljen az ADR előírásainak. Ha a nyomástartó tartályok időszakos vizsgálatát végző szervezetet jóváhagyó illetékes hatóság nem a nyomástartó tartály gyártását jóváhagyó ország illetékes hatósága, akkor a nyomástartó tartályon fel kell tüntetni az időszakos vizsgálatot jóváhagyó országnak a jelét is (lásd a 6.2.2.7 bekezdést).

Az időszakos vizsgálatot jóváhagyó ország illetékes hatóságának azon ország megfelelő hatósága kérésére, amelyben a nyomástartó tartályt használják, bizonyítani kell, hogy megfelel ennek a jóváhagyási rendszernek, ill. rendelkezésére kell bocsátania az időszakos vizsgálatok során készült dokumentumokat.

A jóváhagyó ország illetékes hatósága a jóváhagyási rendszernek való nem megfelelésre utaló bizonyítékok alapján visszavonhatja a 6.2.2.6.4.1 pont szerinti jóváhagyási bizonyítványt.

- 6.2.2.6.2.2** Az illetékes hatóság feladatait ezen jóváhagyási rendszerben részben vagy egészben átruházhatja.

- 6.2.2.6.2.3** Az illetékes hatóságnak biztosítani kell, hogy az időszakos vizsgálat végzésére jóváhagyott szervezetek és azonosító jelölésük érvényes jegyzéke rendelkezésre álljon.

*Időszakos vizsgálatot végző szervezet*

- 6.2.2.6.2.4** Az időszakos vizsgálatot végző szervezetet az illetékes hatóságnak kell jóváhagynia és a következő feltételeknek kell megfelelnie:

- a) szervezetbe integrált, alkalmas, hozzáértő, szakképzett és gyakorlott személyzettel kell rendelkeznie, hogy műszaki feladatait megfelelő módon végezhesse;
- b) alkalmas és elegendő berendezésnek és felszerelésnek kell rendelkezésére állnia;
- c) részrehajlás nélkül kell működnie, és minden olyan hatástól mentesnek kell lennie, ami ebben akadályozhatná;
- d) biztosítani kell az információk üzleti titokként való kezelését;
- e) egyértelműen el kell különítenie az időszakos vizsgálatok végzésének szervezeti funkcióit és az ezzel nem kapcsolatos tevékenységet;
- f) a 6.2.2.6.3 pont szerinti, dokumentált minőségbiztosítási rendszert kell működtetnie;
- g) a 6.2.2.6.4 pontban foglaltak szerint kell a jóváhagyás iránt folyamodnia;
- h) biztosítani kell, hogy az időszakos vizsgálatok a 6.2.2.6.5 pont szerint történjenek; és
- i) a 6.2.2.6.6 pontban foglaltak szerinti célszerű és megfelelő jegyzőkönyvezési és okirat nyilvántartási rendszert kell működtetnie.

- 6.2.2.6.3** *Az időszakos vizsgálatot végző szervezet minőségbiztosítási rendszere és auditálása*

- 6.2.2.6.3.1** Minőségbiztosítási rendszer

A minőségbiztosítási rendszernek az időszakos vizsgálatot végző szervezet által alkalmazott minden elemre, követelményre és előírásra ki kell terjednie. Ezt szisztematikusan és rendezett módon kell dokumentálni írásban rögzített alapelvek, eljárások és utasítások formájában.

A minőségbiztosítási rendszernek a következőket kell tartalmaznia:

- a) a szervezeti felépítés és a felelősségek megosztásának leírása;
- b) a vizsgálatra, minőségellenőrzésre, minőségbiztosításra és eljárás végrehajtásra vonatkozó, megfelelő utasítások;
- c) minőségellenőrzési nyilvántartás, pl. vizsgálati jegyzőkönyvek, vizsgálati eredmények, hitelesítési adatok és bizonyítványok;



- d) vezetői felülvizsgálatok a 6.2.2.6.3.2 pont szerinti auditálás alapján a minőségbiztosítási rendszer hatékony működésének biztosításához;
- e) a dokumentáció ellenőrzési és karbantartási eljárása;
- f) a nem megfelelő minőségű nyomástartó tartályok ellenőrzésének, kiszűrésének módja; és
- g) az érintett személyekre vonatkozó képzési program és minősítési eljárás.

#### **6.2.2.6.3.2** *Auditálás*

Az időszakos vizsgálatot végző szervezetet és minőségbiztosítási rendszerét ki kell értékelni annak eldöntéséhez, hogy az ADR követelményeinek az illetékes hatóság számára elfogadható módon megfelel-e.

Az auditálást az első jóváhagyási eljárás (lásd a 6.2.2.6.4.3 pontot) részeként kell elvégezni. Auditálásra lehet szükség a jóváhagyás módosítása során is (lásd a 6.2.2.6.4.6 pontot).

Az illetékes hatóság számára elfogadható módon időszakos auditálást kell végezni annak biztosítására, hogy az időszakos vizsgálatot végző szervezet továbbra is megfeleljen az ADR követelményeinek.

Az időszakos vizsgálatot végző szervezetet értesíteni kell az auditálás eredményéről. Az értesítésnek tartalmaznia kell az auditálás következtetéseit és az esetleg szükséges javításokat.

#### **6.2.2.6.3.3** *A minőségbiztosítási rendszer fenntartása*

Az időszakos vizsgálatot végző szervezetnek a minőségbiztosítási rendszert a jóváhagyott állapotban fenn kell tartania, hogy folyamatosan megfelelő és hatékony legyen.

Az időszakos vizsgálatot végző szervezetnek a minőségbiztosítási rendszert jóváhagyó illetékes hatóságot a 6.2.2.6.4.6 pont szerinti jóváhagyás módosítási eljárás értelmében minden tervezett változásról értesítenie kell.

#### **6.2.2.6.4** *Az időszakos vizsgálatot végző szervezetek jóváhagyásának eljárása*

##### *Első jóváhagyás*

#### **6.2.2.6.4.1** Ha egy szervezet valamely nyomástartó tartályra vonatkozó szabvány és az ADR előírásai szerinti nyomástartó tartály időszakos vizsgálatát kívánja végezni, akkor rendelkeznie kell az illetékes hatóság által kiadott jóváhagyási bizonyítvánnyal, annak megszerzéséhez kérelmet kell benyújtania, és a kapott bizonyítványt meg kell őriznie.

Ha annak az országnak az illetékes hatósága kéri, amelyben a tartályt használják, akkor az írásbeli jóváhagyást a rendelkezésére kell bocsátani.

#### **6.2.2.6.4.2** Minden időszakos vizsgálatot végző szervezetre külön kérelmet kell benyújtani, aminek a következőket kell tartalmaznia:

- a) az időszakos vizsgálatot végző szervezet nevét és székhelyét, és ezenkívül, ha a kérelmet meghatalmazott képviselő nyújtja be, annak nevét és címét;
- b) minden időszakos vizsgálatot végző telephely címét;
- c) a minőségbiztosítási rendszerért felelős személy(ek) nevét és beosztását;
- d) a nyomástartó tartály rendeltetését, az időszakos vizsgálatok végzésének módját és a nyomástartó tartályra vonatkozó szabványt, amelyeket a minőségbiztosítási rendszerben figyelembe vettek;
- e) minden telephelyre, a berendezésekre és a minőségbiztosítási rendszerre a 6.2.2.6.3.1 pontban meghatározott dokumentációt;
- f) az időszakos vizsgálatot végző személyzet képzésére és minősítésére vonatkozó dokumentációt; és
- g) ha egy hasonló kérelmet egy másik illetékes hatóság már elutasított, akkor az elutasítás

részleteit.

**6.2.2.6.4.3** Az illetékes hatóságnak:

- a) meg kell vizsgálnia a műszaki dokumentációt annak ellenőrzésére, hogy megfelel-e a vonatkozó nyomástartó tartály szabványok és az ADR előírásainak; és
- b) el kell végeznie a 6.2.2.6.3.2 pont szerinti auditálást annak ellenőrzésére, hogy a vizsgálatokat a vonatkozó nyomástartó szabványok és az ADR előírásainak megfelelően, az illetékes hatóság által elfogadott módon végzik.

**6.2.2.6.4.4** Miután az auditálás kielégítő eredménnyel zárult, és a 6.2.2.6.4 pont minden vonatkozó követelménye teljesült, jóváhagyási bizonyítványt kell kiállítani, amelyben fel kell tüntetni az időszakos vizsgálatot végző szervezet nevét, nyilvántartási jelét, minden telephely címét és a jóváhagyott tevékenység azonosításához szükséges adatokat (pl. a nyomástartó tartályok rendeltetését, az időszakos vizsgálati módszereket és a nyomástartó tartály szabványokat).

**6.2.2.6.4.5** Ha az illetékes hatóság nem adja meg a jóváhagyást az időszakos vizsgálatot végző szervezetnek, az elutasítást írásban részletesen meg kell indokolnia.

*Az időszakos vizsgálatot végző szervezet jóváhagyásának módosítása*

**6.2.2.6.4.6** A jóváhagyást követően az időszakos vizsgálatot végző szervezetnek közölnie kell a jóváhagyást kiadó illetékes hatósággal az első jóváhagyási kérelemhez a 6.2.2.6.4.2 pont szerint benyújtott adatokban bekövetkező változásokat. A változásokat értékelni kell annak meghatározására, hogy kielégítik-e a vonatkozó nyomástartó tartály szabványok és az ADR előírásait. Ennek során szükség lehet a 6.2.2.6.3.2 pont szerinti auditálásra. Az illetékes hatóságnak ezen változásokat írásban kell elfogadnia vagy elutasítania, és szükség esetén módosított jóváhagyási bizonyítványt kell kiadnia.

**6.2.2.6.4.7** Bármely másik illetékes hatóság kérésére az illetékes hatóságnak tájékoztatást kell adnia az első jóváhagyásokról, a jóváhagyások módosításáról és a jóváhagyások visszavonásáról.

**6.2.2.6.5** *Időszakos vizsgálat és tanúsítás*

Az időszakos vizsgálati jelölés felvitelét egy nyomástartó tartályra úgy kell tekinteni, mint annak igazolását, hogy a nyomástartó tartály megfelel a nyomástartó tartályra vonatkozó szabványoknak és az ADR előírásainak. Az időszakos vizsgálatot végző szervezetnek minden jóváhagyott nyomástartó tartályon el kell helyeznie az időszakos vizsgálati jelölést és saját nyilvántartási jelét (lásd a 6.2.2.7.6 pontot).

A nyomástartó tartály megtöltése előtt az időszakos vizsgálatot végző szervezetnek tanúsítványt kell kiállítania arról, hogy a nyomástartó tartály az időszakos vizsgálaton megfelelt.

**6.2.2.6.6** *Okiratok*

A nyomástartó tartályok időszakos vizsgálatára vonatkozó tanúsítványokat (megfelelőség és nem megfelelőség esetén egyaránt), beleértve a vizsgáló berendezések helyét, az időszakos vizsgálatot végző szervezetnek a legalább 15 évig meg kell őriznie.

A nyomástartó tartály tulajdonosának a tanúsítványt a következő időszakos vizsgálatig kell megőriznie, kivéve, ha a nyomástartó tartályt a használatból véglegesen kivonják.

**6.2.2.7** *Az újratölthető, UN nyomástartó tartályok jelölése*


Az újratölthető, UN nyomástartó tartályokon jól olvashatóan és maradandóan fel kell tüntetni a jóváhagyási jelölést, valamint az üzemi és a gyártási jelölést. A jelöléseket tartósan (pl. beütéssel, bevéséssel vagy maratással) kell a nyomástartó tartályon elhelyezni. A jelölések a nyomástartó tartály vállrészén, a tetején vagy a nyakrészén, vagy a nyomástartó tartályhoz tartósan hozzáerősített alkatrészén (pl. hegesztett galléron vagy a zárt mélyhűtő tartály külső burkolatára hegesztett korrózióálló táblán) helyezhetők el. Az „UN” csomagolóeszköz jelölés kivételével a jelölések legkisebb mérete a 140 mm vagy annál



nagyobb átmérőjű nyomástartó tartályok esetén 5 mm, ill. a 140 mm-nél kisebb átmérőjű nyomástartó tartályok esetén 2,5 mm. Az „UN” csomagolóeszköz jelölés legkisebb mérete a 140 mm vagy annál nagyobb átmérőjű nyomástartó tartályok esetén 10 mm, ill. a 140 mm-nél kisebb átmérőjű nyomástartó tartályok esetén 5 mm.

**6.2.2.7.1**

A következő jóváhagyási jelöléseket kell feltüntetni:

- a) az Egyesült Nemzetek jelét a csomagolóeszközön:  ;
- Ezt a jelet csak annak tanúsítására szabad használni, hogy a csomagolóeszköz megfelel a 6.1, a 6.2, a 6.3, a 6.5, ill. a 6.6 fejezetben található vonatkozó előírásoknak. Ez a jel nem használható azokon a nyomástartó tartályokon, amelyek csak a 6.2.3 – 6.2.5 szakaszok követelményeinek felelnek meg (lásd a 6.2.3.9 bekezdést);
- b) a tervezéshez, a gyártáshoz és a vizsgálathoz használt műszaki szabványok számát (pl. ISO 9809-1);
- c) a jóváhagyó állam jelét a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>2)</sup>;
- Megjegyzés:** A jóváhagyó államnak azt az államot kell tekinteni, amely azt szervezetet hagyta jóvá, amelyik az adott nyomástartó tartályt a gyártás során vizsgálta.*
- d) a jelölést engedélyező ország illetékes hatósága által bejegyzett vizsgáló szervezet azonosító jelét vagy bélyegzőjét;
- e) az üzembe helyezés előtti vizsgálat végrehajtásának évét (négy számjeggyel), ferde vonallal elválasztva a hónapot (két számjeggyel) (pl. 2005/03).

**6.2.2.7.2**

A következő üzemi jelöléseket kell feltüntetni:

- f) a próbanyomást bar-ban kifejezve, ami elé a „PH” betűket kell írni, a nyomásérték után a „BAR” mértékegységet is ki kell írni;
- g) az üres nyomástartó tartály tömegét, beleértve minden tartósan felszerelt szerkezeti alkatrészt (pl. nyakgyűrűt, talpgyűrűt stb.) kilogrammban kifejezve, ami után a „KG” mértékegységet is ki kell írni. Ez a tömeg nem tartalmazza a szelep, a szelepszapka vagy a szelepvédő, az esetleges bevonat tömegét, sem acetilénél a porózus anyag tömegét. A tömeget az utolsó jegyre felfelé kerekített három értékes számjegyre kell megadni. Az 1 kg-nál könnyebb palackok esetén az üres tömeget az utolsó jegyre felfelé kerekített két értékes számjegyre kell megadni. Az UN 1001 oldószermentes acetilén és az UN 3374 oldószermentes acetilén esetén legalább egy tizedesjegyet, az 1 kg-nál könnyebb nyomástartó tartályoknál legalább két tizedesjegyet kell feltüntetni;
- h) a nyomástartó tartály szavatolt legkisebb falvastagságát mm-ben kifejezve, ami után a „MM” mértékegységet is ki kell írni. Ez a jelölés nem szükséges 1 l víztérfogatú nyomástartó tartályokra, a kompozit palackokra és a zárt mélyhűtő tartályokra;
- i) a sűrített gázokhoz, az UN 1001 oldott acetilénhez és az UN 3374 oldószermentes acetilénhez használt nyomástartó tartályokon az üzemi nyomást bar-ban kifejezve, ami elé a „PW” rövidítést kell írni; zárt mélyhűtő tartályok esetén a megengedett legnagyobb üzemi nyomást, ami elé az „MAWP” rövidítést kell írni;
- j) a cseppfolyósított gázokhoz és a mélyhűtött, cseppfolyósított gázokhoz használt nyomástartó tartályokon a víztérfogatot literben kifejezve, az utolsó jegyre lefelé kerekített három értékes számjegyre, ami után az „L” mértékegységet is ki kell írni. Ha a legkisebb vagy névleges víztérfogat egész szám, a tizedesvessző utáni számjegyek elhagyhatók;

2) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.

- k) az UN 1001 oldott acetilénhez használt nyomástartó tartályokon az üres tartály, a töltés alatt is rajta levő szerelvények és alkatrészek, az esetleges bevonat, valamint a porózus anyag, az oldószer és a telítési gáz tömegének összegét kg-ban kifejezve, az utolsó jegyre lefelé kerekített három értékes számjegyre, ami után a „KG” mértékegységet is ki kell írni. Legalább egy tizedesjegyet fel kell tüntetni, az 1 kg-nál könnyebb nyomástartó tartályoknál a tömeget az utolsó jegyre lefelé kerekített két értékes számjegyre kell megadni;
- l) az UN 3374 oldószermentes acetilénhez használt nyomástartó tartályokon az üres tartály, a töltés alatt is rajta levő szerelvények és alkatrészek, az esetleges bevonat, valamint a porózus anyag tömegének összegét kg-ban kifejezve, az utolsó jegyre lefelé kerekített három értékes számjegyre, ami után a „KG” mértékegységet is ki kell írni. Legalább egy tizedesjegyet fel kell tüntetni, az 1 kg-nál könnyebb nyomástartó tartályoknál a tömeget az utolsó jegyre lefelé kerekített két értékes számjegyre kell megadni.

**6.2.2.7.3**

A következő gyártási jelöléseket kell feltüntetni:


- m) a palack menet azonosítását (pl. 25E). Ez a jelölés nem szükséges a zárt mélyhűtő tartályokra;
- n) a gyártó illetékes hatóság által bejegyzett jelét. Ha nem ugyanabban az országban gyártják, mint ahol jóváhagyják, akkor a gyártó jele elé a gyártási ország jelét kell írni a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>3)</sup>. Az ország jelét és a gyártó jelét szóközzel vagy ferde vonallal kell elválasztani;
- o) a gyártó által kiadott sorozatszámot;
- p) a hidrogén elridegedés veszélyével járó gázok szállítására szolgáló, acélból készült nyomástartó tartályok és acél béléssel ellátott, kompozit nyomástartó tartályok esetén az acél összeférhetőségét jelölő „H” betűt (lásd az ISO 11114-1:1997 szabványt).

**6.2.2.7.4**

Az előzőekben felsorolt jelöléseket három csoportba kell elrendezni:

- a felső csoportban a gyártási jelöléseket kell feltüntetni a 6.2.2.7.3 pontban megadott sorrendben, egymás után;
- a középső csoportban a 6.2.2.7.2 pontban felsorolt üzemi jelöléseket kell feltüntetni, és ha az üzemi nyomás (i) feltüntetése is szükséges, akkor azt közvetlenül a próbanyomás (f) előtt kell feltüntetni;
- az alsó csoportban a jóváhagyási jelöléseket kell feltüntetni a 6.2.2.7.1 pontban megadott sorrendben.

Példa a palack jelölésére:

| (m)   | (n)        | (o)    | (p) |         |
|---|------------|--------|-----|---------|
| 25E   | D MF       | 765432 | H   |         |
| (i)   | (f)        | (g)    | (j) | (h)     |
| PW200   | PH300BAR   | 62.1KG | 50L | 5.8MM   |
| (a)   | (b)        | (c)    | (d) | (e)     |
|  | ISO 9809-1 | F      | IB  | 2000/12 |

3) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.

**6.2.2.7.5** Az oldalfalon kívüli helyeken egyéb jelölések is elhelyezhetők, amennyiben kis feszültségnek kitett helyre viszik fel és méretük, ill. mélységük nem eredményez veszélyes feszültség halmozódást. Zárt mélyhűtő tartályok esetén ezek a jelölések a külső burkolatra erősített különálló táblán is feltüntethetők. Ezek a jelölések azonban nem lehetnek az előírt jelölésekkel ellentétesek.

**6.2.2.7.6** Az előző jelöléseken kívül azokat az újratölthető, nyomástartó tartályokat, amelyek kielégítik a 6.2.2.4 bekezdés időszakos vizsgálati követelményeit, a következő jelölésekkel kell ellátni:

- a) az időszakos vizsgálatot végző szervezetet felhatalmazó országot azonosító betű(k). Ez a jelölés nem szükséges, ha ezt a szervezetet a gyártást engedélyező ország illetékes hatósága hatalmazta fel;
- b) az illetékes hatóság által az időszakos vizsgálat elvégzésére felhatalmazott szervezet nyilvántartási jele;
- c) az időszakos vizsgálat végrehajtásának évét (két számjeggyel), és ferde vonallal elválasztva a hónapot (két számjeggyel) (pl. 05/12). Az év jelölésére négy számjegy is használható (pl. 2005/12).

Ezeket a jelöléseket a megadott sorrendben egymás után kell feltüntetni.

**6.2.2.7.7** Acetilén palackoknál az illetékes hatóság hozzájárulásával az utolsó időszakos vizsgálat dátuma és a vizsgálatot végző szervezet bélyegzője a palackhoz erősített olyan gallérra is beüthető, amelyet a szelep rögzít a palackra. A gallért úgy kell kialakítani, hogy az csak a szelepnek a palackról való leszerelésével legyen eltávolítható.

**6.2.2.8** *A nem újratölthető, UN nyomástartó tartályok jelölése*

A nem újratölthető, UN nyomástartó tartályokat jól olvashatóan és maradandóan el kell látni a jóváhagyási jelöléssel, valamint a gázra és a nyomástartó tartályra vonatkozó különleges jelöléssel. A jelöléseket tartósan (pl. betűsablonnal, beütéssel, bevéséssel vagy maratással) kell a nyomástartó tartályon elhelyezni. A jelölések – a betűsablonnal felvitt jelölés kivételével – elhelyezhetők a nyomástartó tartály vállrészén, a tetején vagy a nyakrészén, vagy a nyomástartó tartályhoz tartósan hozzáerősített alkatrészén (pl. hegesztett galléron). Az „UN” csomagolóeszköz jelölésén és a „TILOS ÚJRATÖLTENI” feliraton kívül a többi jelölés legkisebb mérete a 140 mm vagy annál nagyobb átmérőjű nyomástartó tartályok esetén 5 mm, ill. a 140 mm-nél kisebb átmérőjű nyomástartó tartályok esetén 2,5 mm.

Az „UN” csomagolóeszköz jelölés legkisebb mérete a 140 mm vagy annál nagyobb átmérőjű nyomástartó tartályok esetén 10 mm, ill. a 140 mm-nél kisebb átmérőjű nyomástartó tartályok esetén 5 mm.

A „TILOS ÚJRATÖLTENI” felirat mérete legalább 5 mm.

**6.2.2.8.1** A 6.2.2.7.1 – 6.2.2.7.3 pontokban felsorolt jelöléseket kell alkalmazni a g), h) és m) pont kivételével. Az o) pont szerinti sorozatszám helyett fel lehet tüntetni a gyártási tétel számát. Ezen kívül a „TILOS ÚJRATÖLTENI” feliratot is el kell helyezni legalább 5 mm magas betűkkel írva.

**6.2.2.8.2** A 6.2.2.7.4 pont követelményeit be kell tartani.

**Megjegyzés:** A nem újratölthető, nyomástartó tartályokon, méreteikre tekintettel, a jelölés bárcával is helyettesíthető.

**6.2.2.8.3** Az oldalfalon kívüli helyeken egyéb jelölések is elhelyezhetők, amennyiben kis feszültségnek kitett helyre viszik fel és méretük, ill. mélységük nem eredményez veszélyes feszültség halmozódást. Ezek a jelölések azonban nem lehetnek az előírt jelölésekkel ellentétesek.

**6.2.2.9** *A megfelelőség-értékelésre és az időszakos vizsgálatra vonatkozó egyenértékű eljárás*

A következő eljárások alkalmazása esetén a 6.2.2.5 és a 6.2.2.6 bekezdés követelményei az

UN nyomástartó tartályokra teljesítettnek tekinthetők:

| Eljárás                                    | Illetékes szervezet |
|--|---------------------|
| Típusjóváhagyás (1.8.7.2)                  | Xa                  |
| A gyártás felügyelete (1.8.7.3)            | Xa vagy IS          |
| Üzembe helyezés előtti vizsgálat (1.8.7.4) | Xa vagy IS          |
| Időszakos vizsgálat (1.8.7.5)              | Xa vagy Xb vagy IS  |

Xa illetékes hatóságot, ill. megbízottját vagy az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, A típusú vizsgáló szervezetet jelent.

Xb az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, B típusú vizsgáló szervezetet jelent.

IS a kérelmezőnek az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, A típusú vizsgáló szervezet által felügyelt üzemi vizsgálóhelyét jelenti. Az üzemi vizsgálóhelynek függetlennek kell lennie a tervezési, gyártási, javítási és karbantartási tevékenységektől.

### **6.2.3 A nem-UN nyomástartó tartályokra vonatkozó általános követelmények**

#### **6.2.3.1 Tervezés és gyártás**

**6.2.3.1.1** Ha egy nyomástartó tartályt, ill. zárószervezetét nem a 6.2.2 szakasz követelményei szerint terveznek, gyártanak, vizsgálnak és hagynak jóvá, akkor a 6.2.1 szakasz általános követelményei (e szakasz követelményei szerint módosítva vagy kiegészítve) és a 6.2.4, ill. 6.2.5 szakasz követelményei szerint kell tervezni, gyártani, vizsgálni és jóváhagyni.

**6.2.3.1.2** Hacsak lehetséges, a falvastagságot számítással kell meghatározni, szükség esetén kísérleti szilárdsági vizsgálatral összekapcsolva. Egyéb esetben a falvastagság kísérleti úton is meghatározható.

A külső falnál és a teherviselő részeknél alkalmas szilárdsági számításokat kell végezni a nyomástartó tartályok biztonságának eléréséhez.

A nyomás elviseléséhez szükséges legkisebb falvastagságot számítással kell meghatározni, különösen figyelembe véve:

- a tervezési nyomást, ami nem lehet a próbanyomásnál kisebb;
- a tervezési hőmérsékletet, elfogadható biztonsági tényező figyelembevételével;
- a legnagyobb feszültséget és szükség esetén a feszültség halmozódásokat;
- az anyag tulajdonságaival összefüggő egyéb tényezőket.

**6.2.3.1.3** Hegesztett nyomástartó tartályokhoz csak olyan hibátlanul hegeszthető anyagok használhatók fel, amelyek ütőszilárdsága  $-20\text{ °C}$  környezeti hőmérsékleten szavatolható.

**6.2.3.1.4** Zárt mélyhűtő tartályoknál a 6.2.1.1.8.1 pont szerint megállapítandó ütőszilárdságot a 6.8.5.3 bekezdés szerint kell vizsgálni.

**6.2.3.2** (fenntartva)

#### **6.2.3.3 Üzemi szerelvények**

**6.2.3.3.1** Az üzemi szerelvényeknek a 6.2.1.3 bekezdés előírásainak kell megfelelniük.

**6.2.3.3.2 Nyílások**

A gázhordókon töltő- és ürítőnyílások, valamint a szintjelző, nyomásmérő vagy nyomáscsökkentő szerkezet csatlakoztatásához további nyílások is lehetnek. A biztonságos üzemeltetés érdekében a nyílások száma a lehető legkevesebb legyen. A gázhordók vizsgálónyílással is elláthatók, amelyet hatékony zárószerkezettel kell zárni.

**6.2.3.3.3 Szerelvények**

- a) Ha a palack gördítést akadályozó szerkezettel van ellátva, ezt a szerkezetet nem szabad a szelepvédő sapkával egybeépíteni.
- b) A gördíthető gázhordókat gördítőabronccsal kell ellátni vagy más módon kell védeni a gördülés során bekövetkező sérülésektől (pl. korrózióálló fémbevonat felszórásával a nyomástartó tartály külső felületére).
- c) A palackkötegeket olyan szerkezettel kell ellátni, amely biztonságos kezelésüket és szállításukat lehetővé teszi.
- d) Ha szintjelző, nyomásmérő vagy nyomáscsökkentő szerkezet van felszerelve, akkor ezeket a 4.1.6.8 bekezdésben a szelepekre előírt módon kell védeni.

**6.2.3.4 Üzembe helyezés előtti vizsgálat**

**6.2.3.4.1** Az új nyomástartó tartályokat a gyártás során és az üzembe helyezés előtt a 6.2.1.5 bekezdés követelményei szerint kell vizsgálni, azzal az eltéréssel, hogy a 6.2.1.5.1 g) pont helyett a következőt kell alkalmazni:

- g) folyadéknomás-próbára. A nyomástartó tartálynak a tartós deformáció és repedések bekövetkezése nélkül el kell viselnie a próbanyomást.

**6.2.3.4.2** Az alumíniumötvözet nyomástartó tartályokra vonatkozó különleges előírások

- a) A 6.2.1.5.1 pontban előírt vizsgálatokon kívül vizsgálni kell a nyomástartó tartályfal belsejének kristályközi korróziójának lehetőségét, amennyiben réztartalmú alumínium-ötvözetet vagy olyan magnézium- vagy mangántartalmú alumíniumötvözetet használnak, amelynek magnéziumtartalma meghaladja a 3,5%-ot, vagy mangántartalma 0,5%-nál kevesebb.
- b) Az alumínium-réz ötvözet vizsgálatát a gyártónak az új ötvözetnek az illetékes hatóság részéről történő engedélyezése alkalmával kell végrehajtania, és ezt követően a gyártás során minden öntésnél meg kell ismételnie.
- c) Az alumínium-magnézium ötvözet vizsgálatát a gyártónak az új ötvözetnek és a gyártási eljárásnak az illetékes hatóság által történő engedélyezése alkalmával kell végrehajtania. Az ötvözet összetételében vagy a gyártási eljárásban bekövetkezett változás esetén a vizsgálatot meg kell ismételni.

**6.2.3.5 Időszakos vizsgálat**

**6.2.3.5.1** Az időszakos vizsgálatokat a 6.2.1.6.1 pont szerint kell végrehajtani.

*Megjegyzés : A típusjóvá hagyást kiadó ország illetékes hatósága hozzájárulása esetén az UN 1965 szénhidrogén-gáz keverék, cseppfolyósított, m.n.n. szállítására szolgáló, 6,5 l-nél kisebb űrtartalmú, hegesztett acélpalackok folyadéknomás-próbája egyenértékű vizsgálati módszerrel helyettesíthető.*

**6.2.3.5.2** A zárt mélyhűtő tartályokat az illetékes hatóság által felhatalmazott szervezet által, a 4.1.4.1 bekezdés P203 csomagolási utasítása szerinti gyakorisággal időszakos vizsgálatnak kell alávetni a külső állapot, a nyomáscsökkentő szerkezetek állapota és működése ellenőrzése céljából, valamint a legnagyobb üzemi nyomás 90%-át kitevő nyomással tömörségi

próbának kell alávetni. A tömörségi próbát a nyomástartó tartályban levő gázzal vagy inert gázzal kell végrehajtani. Az ellenőrzés nyomásmérővel vagy vákuum-méréssel végezhető. A hőszigetelést nem kell eltávolítani.

#### **6.2.3.6 A nyomástartó tartályok engedélyezése**

**6.2.3.6.1** Az 1.8.7 szakasz szerinti megfelelőség-értékelési eljárást és időszakos vizsgálatokat a következő táblázat szerinti illetékes szervezetnek kell végeznie:

| <b>Eljárás</b>                             | <b>Illetékes szervezet</b> |
|--|----------------------------|
| Típusjóváhagyás (1.8.7.2)                  | Xa                         |
| A gyártás felügyelete (1.8.7.3)            | Xa vagy IS                 |
| Üzembe helyezés előtti vizsgálat (1.8.7.4) | Xa vagy IS                 |
| Időszakos vizsgálat (1.8.7.5)              | Xa vagy Xb vagy IS         |

A szelepek és a közvetlen biztonsági funkcióval rendelkező egyéb tartozékok megfelelőség-értékelését a tartálytól függetlenül is el lehet végezni, de a megfelelőség-értékelési eljárásnak legalább olyan szigorúnak kell lennie, mint amelyet a nyomástartó tartályra alkalmaztak, amelyre a tartozékokat szerelik.

Xa illetékes hatóságot, ill. megbízottját vagy az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, A típusú vizsgáló szervezetet jelent.

Xb az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, B típusú vizsgáló szervezetet jelent.

IS a kérelmezőnek az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, A típusú vizsgáló szervezet által felügyelt üzemi vizsgálóhelyét jelenti. Az üzemi vizsgálóhelynek függetlennek kell lennie a tervezési, gyártási, javítási és karbantartási tevékenységektől.

**6.2.3.6.2** Ha a jóváhagyó ország nem valamely ADR Szerződő Fél, akkor a 6.2.1.7.2 pontban említett illetékes hatóság valamely ADR Szerződő Fél illetékes hatósága.

#### **6.2.3.7 A gyártóra vonatkozó előírások**

**6.2.3.7.1** Az 1.8.7 szakasz vonatkozó követelményeit kell betartani.

#### **6.2.3.8 A vizsgáló szervezetekre vonatkozó előírások**

Az 1.8.6 szakasz követelményeit kell betartani.

#### **6.2.3.9 Az újratölthető nyomástartó tartályok jelölése**

**6.2.3.9.1** A jelölésre a 6.2.2.7 bekezdés előírásait kell betartani, a következő eltérésekkel.

**6.2.3.9.2** A 6.2.2.7.1 a) pontban meghatározott, Egyesült Nemzetek jelét nem szabad használni.

**6.2.3.9.3** A 6.2.2.7.2 j) pont helyett a következőt kell alkalmazni:

j) a víztérfogatot literben kifejezve, ami után az „L” mértékegységet is ki kell írni. A cseppfolyósított gázokhoz használt nyomástartó tartályokon a literben kifejezett víztérfogatot az utolsó jegyre lefelé kerekített három értékes számjegyre kell megadni. Ha a legkisebb vagy névleges víztérfogat egész szám, a tizedesvessző utáni számjegyek elhagyhatók.

**6.2.3.9.4** A 6.2.2.7.2 g) és h) pont, valamint a 6.2.2.7.3 m) pont szerinti jelölés nem szükséges az UN 1965 szénhidrogén-gáz keverék, cseppfolyósított, m.n.n. gázokhoz használt nyomástartó tartályokra.



**6.2.3.9.5** Ha a 6.2.2.7.6 c) pont szerint kell dátumot feltüntetni, a hónap feltüntetése nem szükséges azoknál a gázoknál, amelyekre a vizsgálati időköz 10 év vagy annál nagyobb (lásd a 4.1.4.1 bekezdés P200 és P203 csomagolási utasítását).

**6.2.3.9.6** A 6.2.2.7.6 pont szerinti jelölés a palackhoz erősített olyan, alkalmas anyagból készült gallérra is beüthető, amelyet a szelepnek a palackra való felszerelésekor rögzítenek, és amely gallér csak a szelepnek a palackról való leszerelése után távolítható el.

**6.2.3.10** *A nem újratölthető nyomástartó tartályok jelölése*

**6.2.3.10.1** A jelölésre a 6.2.2.8 bekezdés előírásait kell betartani, azzal az eltéréssel, hogy a 6.2.2.7.1 a) pontban meghatározott, Egyesült Nemzetek jelét nem szabad használni.

**6.2.4 Szabvány szerint tervezett, gyártott és vizsgált nyomástartó tartályok**

**Megjegyzés:** A szabványokban megnevezett azon személyeknek, ill. szervezeteknek, akikre az ADR szerint felelősség hárul, meg kell felelniük az ADR követelményeinek.

A következő táblázatban felsorolt szabványokat a nyomástartó tartály gyártási idejétől függően kell alkalmazni a 6.2 fejezetnek a táblázat (3) oszlopában hivatkozott követelményeinek kielégítésére. A szabványokat a (4) oszlop szerinti esetekben kell, ill. az (5) oszlop szerinti esetekben lehet alkalmazni. A 6.2 fejezetnek a táblázat (3) oszlopában hivatkozott követelményei azonban minden esetben elsőbbséget élveznek.

Ha ugyanarra a követelményre több szabvány van kötelezően alkalmazandónak feltüntetve, akkor csak az egyiket kell alkalmazni, de azt teljes egészében, kivéve, ha a következő táblázatban másként van megadva.

| Hivatkozás   | A dokumentum címe  | A vonatkozó bekezdés, ill. pont | Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje: | Alkalmazható, ha a nyomástartó tartály gyártási ideje: |
|--|--|---------------------------------|---|--|
| (1)  | (2)  | (3)                             | (4)   | (5)  |
| <b>anyagokra</b>   |  |                                 |   |  |
| EN 1797-1:1998   | Kriogén tartályok. Gáz és szerkezeti anyag összeférhetősége  | 6.2.1.2                         |   | 2001. júl. 1. és 2003. jún. 30. között                 |
| EN 1797:2001   | Kriogén tartályok. Gáz és szerkezeti anyag összeférhetősége  | 6.2.1.2                         | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN ISO 11114-1:1997  | Szállítható gázpalackok. Gázpalack és palackszelep szerkezeti anyagainak megfelelése a gáztöltetnek. 1. rész: Fémek  | 6.2.1.2                         | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN ISO 11114-2:2000  | Szállítható gázpalackok. Gázpalack és palackszelep szerkezeti anyagainak megfelelése a gáztöltetnek. 2. rész: Nemfémes anyagok   | 6.2.1.2                         | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN ISO 11114-4:2005 (az 5.3 fejezet C módszer kivételével) | Szállítható gázpalackok. A palack- és a szelepanyagok összeférhetősége a gáztartalommal. 4. rész: A hidrogénridegedésnek ellenálló fémanyagok kiválasztásának vizsgálati módszerei | 6.2.1.2                         | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 1252-1:1998   | Kriogén tartályok. Alapanyagok. 1. rész: Szívóssági követelmények -80 °C-nál kisebb hőmérsékletekhez   | 6.2.1.2                         |   | 2001. júl. 1. és 2003. jún. 30. között                 |

| Hivatkozás   | A dokumentum címe  | A vonatkozó bekezdés, ill. pont | Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje: | Alkalmazható, ha a nyomástartó tartály gyártási ideje: |
|--|--|---------------------------------|---|--|
| (1)  | (2)  | (3)                             | (4)   | (5)  |
| <b>jelölésre</b>   |  |                                 |   |  |
| EN 1442:1998 + AC:1999   | Szállítható, újratölthető hegesztett acélpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Tervezés és szerkezeti kialakítás   | 6.2.2.7                         |   | 2003. júl. 1. előtt                                    |
| EN 1251-1:2000   | Kriogén tartályok. Szállítható, vákuumszigetelésű, legfeljebb 1000 l űrtartalmú tartályok. 1. rész: Alapvető követelmények   | 6.2.2.7                         |   | 2003. júl. 1. előtt                                    |
| EN 1089-1:1996   | Szállítható gázpalackok. A gázpalackok megjelölése (az LPG kivételével). 1. rész: Bélyegző jel   | 6.2.2.7                         |   | 2003. júl. 1. előtt                                    |
| <b>tervezésre és gyártásra</b>   |  |                                 |   |  |
| 84/525/EGK<br>Irányelv,<br>I Melléklet,<br>1-3. rész   | A Tanács irányelve a tagállamok varrat nélküli acél gázpalackokra vonatkozó jogszabályainak közelítéséről, megjelent: EK Hivatalos Lap, L300, 1984. 11. 19.  | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| 84/526/EGK<br>Irányelv,<br>I Melléklet,<br>1-3. rész   | A Tanács irányelve a tagállamok varrat nélküli, ötvözetlen alumíniumból és alumíniumötvözetből készült gázpalackokra vonatkozó jogszabályainak közelítéséről, megjelent: EK Hivatalos Lap, L300, 1984. 11. 19. | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| 84/527/EGK<br>Irányelv,<br>I Melléklet,<br>1-3. rész   | A Tanács irányelve a tagállamok hegesztett, ötvözetlen acél gázpalackokra vonatkozó jogszabályainak közelítéséről, megjelent: EK Hivatalos Lap, L300, 1984. 11. 19.  | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 1442:1998 + AC: 1999  | Szállítható, újratölthető hegesztett acélpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Tervezés és szerkezeti kialakítás   | 6.2.3.1 és 6.2.3.4              |   | 2001. júl. 1. és 2007. jún. 30. között                 |
| EN 1442:1998 + A2:2005   | Szállítható, újratölthető hegesztett acélpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Tervezés és szerkezeti kialakítás   | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1. és 2010. dec. 31. között*                       | 2009. jan. 1. előtt                                    |
| * Kivéve, ha ugyanarra a célra másik szabvány alkalmazása engedélyezett az (5) oszlopban az ugyanakkor gyártott nyomástartó tartályokra. |  |                                 |   |  |
| EN 1442:2006 + A1:2008   | Szállítható, újratölthető hegesztett acélpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Tervezés és szerkezeti kialakítás   | 6.2.3.1 és 6.2.3.4              | 2011. jan. 1-től  | 2011. jan. 1. előtt                                    |
| EN 1800:1998 + AC: 1999  | Szállítható gázpalackok. Acetilén-palackok. Alapkövetelmények és fogalommeghatározások   | 6.2.1.1.9                       | 2009. jan. 1. és 2010. dec. 31. között*                       | 2009. jan. 1. előtt                                    |
| * Kivéve, ha ugyanarra a célra másik szabvány alkalmazása engedélyezett az (5) oszlopban az ugyanakkor gyártott nyomástartó tartályokra. |  |                                 |   |  |



| Hivatkozás                                  | A dokumentum címe  | A vonatkozó bekezdés, ill. pont | Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje: | Alkalmazható, ha a nyomástartó tartály gyártási ideje: |
|---|--|---------------------------------|---|--|
| (1)   | (2)  | (3)                             | (4)   | (5)  |
| EN 1800:2006                                | Szállítható gázpalackok. Acetilén-palackok. Alapkövetelmények, fogalommeghatározások és típus-vizsgálat  | 6.2.1.1.9                       | 2011. jan. 1-től  | 2011. jan. 1. előtt                                    |
| EN 1964-1:1999                              | Szállítható gázpalackok. Legalább 0,5 l, de legfeljebb 150 l űrtartalmú, újratölthető, szállítható, varrat nélküli, acél gázpalackok tervezési és szerkezeti előírásai. 1. rész: 1100 MPa-nál kisebb $R_m$ értékű acélból készült, varrat nélküli palackok             | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 1975:1999 (a 6. melléklet kivételével)   | Szállítható gázpalackok. Alumíniumból és alumínium-ötvözetből készült, varrat nélküli, legalább a 0,5 l és legfeljebb 150 l űrtartalmú, újratölthető, szállítható gázpalackok tervezési és szerkezeti előírásai  | 6.2.3.1 és 6.2.3.4              |   | 2005. júl. 1. előtt                                    |
| EN 1975:1999 +A1:2003                       | Szállítható gázpalackok. Alumíniumból és alumínium-ötvözetből készült, varrat nélküli, legalább a 0,5 l és legfeljebb 150 l űrtartalmú, újratölthető, szállítható gázpalackok tervezési és szerkezeti előírásai  | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN ISO 11120:1999                           | Gázpalackok. A 150 l – 3000 l űrtartalmú, újratölthető, varrat nélküli acélpalackok sűrített gáz szállítására. Kialakítás, kivitelezés és vizsgálat  | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 1964-3:2000                              | Szállítható gázpalackok. Legalább 0,5 l, de legfeljebb 150 l űrtartalmú, újratölthető, szállítható, varrat nélküli, acél gázpalackok tervezési és szerkezeti előírásai. 3. Rész: 1100 MPa-nál kisebb $R_m$ értékű korrozioálló acélból készült varrat nélküli palackok | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 12862:2000                               | Szállítható gázpalackok. Újratölthető, szállítható, alumínium ötvözetből készült, hegesztett gázpalackok tervezési és szerkezeti előírásai   | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 1251-2:2000                              | Kriogén tartályok. Szállítható, vákuumszigetelésű, legfeljebb 1000 l űrtartalmú tartályok. 2. rész: Tervezés, gyártás, ellenőrzés és vizsgálat   | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 12257:2002                               | Szállítható gázpalackok. Palástfelületen erősített, varrat nélküli kompozitpalackok  | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 12807: 2001 (az A melléklet kivételével) | Szállítható, újratölthető, forrasztott acél gázpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Tervezés és szerkezeti kialakítás   | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |

| Hivatkozás                | A dokumentum címe   | A vonatkozó bekezdés, ill. pont | Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje: | Alkalmazható, ha a nyomástartó tartály gyártási ideje: |
|---------------------------|---|---------------------------------|---|--|
| (1)                       | (2)   | (3)                             | (4)   | (5)  |
| EN 1964-2:2001            | Szállítható gázpalackok. Legalább 0,5 l, de legfeljebb 150 l űrtartalmú, újratölthető, szállítható, varrat nélküli, acél gázpalackok tervezési és szerkezeti előírásai. 2. Rész: Legalább 1100 MPa $R_m$ értékű acélból készült, varrat nélküli palackok                                | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 13293:2002             | Szállítható gázpalackok. Szállítható, újratölthető, varrat nélküli, mangántartalmú normalizált szénacélból készült gázpalackok tervezési és szerkezeti előírásai sűrített, cseppfolyósított és oldott gázokhoz legfeljebb 0,5 l, illetve szén-dioxid gázhoz legfeljebb 1 l űrtartalomig | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 13322-1:2003           | Szállítható gázpalackok. Újratölthető, hegesztett acélpalackok. Tervezés és szerkezeti kialakítás.<br>1. rész: Ötvözetlen acél  | 6.2.3.1 és 6.2.3.4              |   | 2007. júl. 1. előtt                                    |
| EN 13322-1:2003 + A1:2006 | Szállítható gázpalackok. Újratölthető, hegesztett acélpalackok. Tervezés és szerkezeti kialakítás.<br>1. rész: Ötvözetlen acél  | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 13322-2:2003           | Szállítható gázpalackok. Újratölthető, hegesztett acélpalackok. Tervezés és szerkezeti kialakítás.<br>2. rész: Korrozíóálló acél  | 6.2.3.1 és 6.2.3.4              |   | 2007. júl. 1. előtt                                    |
| EN 13322-2:2003 + A1:2006 | Szállítható gázpalackok. Újratölthető, hegesztett acélpalackok. Tervezés és szerkezeti kialakítás.<br>2. rész: Korrozíóálló acél  | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 12245:2002             | Szállítható gázpalackok. Teljes felületen erősített kompozitpalackok  | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 12205:2001             | Szállítható gázpalackok. Nem újratölthető, fém gázpalackok  | 6.2.3.1 és 6.2.3.4              | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 13110:2002             | Szállítható, újratölthető, hegesztett alumíniumpalackok cseppfolyósított szénhidrogéngázokhoz (LPG-hez). Tervezés és szerkezeti kialakítás  | 6.2.3.1, 6.2.3.4 és 6.2.3.9     | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 14427:2004             | Szállítható, újratölthető, teljes felületen erősített kompozitpalackok cseppfolyósított szénhidrogéngázokhoz (LPG-hez). Tervezés és szerkezeti kialakítás<br><i>Megjegyzés: Ezt a szabványt csak a nyomáscsökkentő szeleppel ellátott palackokra kell alkalmazni.</i>                   | 6.2.3.1, 6.2.3.4 és 6.2.3.9     |   | 2007. júl. 1. előtt                                    |

| Hivatkozás   | A dokumentum címe  | A vonatkozó bekezdés, ill. pont | Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje: | Alkalmazható, ha a nyomástartó tartály gyártási ideje: |
|--|--|---------------------------------|---|--|
| (1)  | (2)  | (3)                             | (4)   | (5)  |
| EN 14427:2004 + A1:2005  | Szállítható, újratölthető, teljes felületen erősített kompozitpalackok cseppfolyósított szénhidrogén-gázokhoz (LPG-hez).<br>Tervezés és szerkezeti kialakítás<br><b>Megjegyzés:</b><br><i>1. Ezt a szabványt csak a nyomáscsökkentő szeleppel ellátott palackokra kell alkalmazni.</i><br><i>2. Az 5.2.9.2.1 és 5.2.9.3.1 pontban mindkét palackot alá kell vetni repesztési próbának, ha a keletkezett sérülés legalább akkora, mint a kizárási feltétel.</i> | 6.2.3.1, 6.2.3.4 és 6.2.3.9     | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 14208:2004  | Szállítható gázpalackok. Legfeljebb 1000 l űrtartalmú, hegesztett, nyomástartó, gázszállító hordók előírásai.<br>Tervezés és szerkezeti kialakítás   | 6.2.3.1, 6.2.3.4 és 6.2.3.9     | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 14140:2003  | Szállítható, újratölthető, hegesztett acélpalackok cseppfolyósított szénhidrogén-gázokhoz (LPG-hez). Választható tervezés és szerkezeti kialakítás   | 6.2.3.1, 6.2.3.4 és 6.2.3.9     | 2009. jan. 1. és 2010. dec. 31. között*                       | 2009. jan. 1. előtt                                    |
| * Kivéve, ha ugyanarra a célra másik szabvány alkalmazása engedélyezett az (5) oszlopban az ugyanakkor gyártott nyomástartó tartályokra. |  |                                 |   |  |
| EN 14140:2003 + A1:2006  | LPG-berendezések és -tartozékok. Szállítható, újratölthető, hegesztett acélpalackok cseppfolyósított szénhidrogén-gázokhoz (LPG-hez). Választható tervezés és szerkezeti kialakítás  | 6.2.3.1, 6.2.3.4 és 6.2.3.9     | 2011. jan. 1-től  | 2011. jan. 1. előtt                                    |
| EN 13769:2003  | Szállítható gázpalackok. Palackkötegek. Tervezés, gyártás, azonosítás és vizsgálat   | 6.2.3.1, 6.2.3.4 és 6.2.3.9     |   | 2007. júl. 1. előtt                                    |
| EN 13769: 2003 +A1:2005  | Szállítható gázpalackok. Palackkötegek. Tervezés, gyártás, azonosítás és vizsgálat   | 6.2.3.1, 6.2.3.4 és 6.2.3.9     | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 14638-1:2006  | Szállítható gázpalackok. Legfeljebb 150 l űrtartalmú, újratölthető, hegesztett gyűjtőedények.<br>1. rész: Kísérleti módszerekkel igazolt tervezés szerint készült, hegesztett, ausztenites rozsdamentes acélpalackok   | 6.2.3.1 és 6.2.3.4              | 2011. jan. 1-től  | 2011. jan. 1. előtt                                    |
| EN 14893: 2006 + AC:2007   | LPG-berendezések és -tartozékok. 150 l és 1000 l közötti űrtartalmú, szállítható, hegesztett nyomástartó acélhordók cseppfolyósított szénhidrogén-gázhoz (LPG-hez)   | 6.2.3.1 és 6.2.3.4              | 2011. jan. 1-től  | 2011. jan. 1. előtt                                    |

| Hivatkozás  | A dokumentum címe  | A vonatkozó bekezdés, ill. pont | Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje: | Alkalmazható, ha a nyomástartó tartály gyártási ideje: |
|---|--|---------------------------------|---|--|
| (1)   | (2)  | (3)                             | (4)   | (5)  |
| <b>zároszerkezetekre</b>                              |  |                                 |   |  |
| EN 849:1996<br>(az A melléklet kivételével)           | Szállítható gázpalackok. Palackszelepek. Műszaki követelmény és típusvizsgálat   | 6.2.3.1                         |   | 2003. júl. 1. előtt                                    |
| EN 849:1996 + A2:2001                                 | Szállítható gázpalackok. Palackszelepek. Műszaki követelmény és típusvizsgálat   | 6.2.3.1                         |   | 2007. júl. 1. előtt                                    |
| EN ISO 10297: 2006                                    | Szállítható gázpalackok. Palackszelepek. Műszaki követelmény és típusvizsgálat   | 6.2.3.1                         | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 13152: 2001  | Cseppfolyósított szénhidrogéngáz palackja szelepének előírásai és vizsgálata. Önelzáró szelepek  | 6.2.3.3                         |   | 2005. júl. 1. és 2010. dec. 31. között                 |
| EN 13152: 2001 + A1:2003                              | Cseppfolyósított szénhidrogéngáz palackja szelepének előírásai és vizsgálata. Önelzáró szelepek  | 6.2.3.3                         | 2011. jan. 1-től  | 2011. jan. 1. előtt                                    |
| EN 13153: 2001  | Cseppfolyósított szénhidrogéngáz palackja szelepének előírásai és vizsgálata. Kézi működtetésű szelepek  | 6.2.3.3                         |   | 2005. júl. 1. és 2010. dec. 31. között                 |
| EN 13153: 2001 + A1:2003                              | Cseppfolyósított szénhidrogéngáz palackja szelepének előírásai és vizsgálata. Kézi működtetésű szelepek  | 6.2.3.3                         | 2011. jan. 1-től  | 2011. jan. 1. előtt                                    |
| <b>időszakos vizsgálatra</b>                          |  |                                 |   |  |
| EN 1251-3:2000  | Kriogén tartályok. Szállítható, vákuumszigetelésű, legfeljebb 1000 l űrtartalmú tartályok. 3. rész: Üzemeltetési követelmények   | 6.2.3.5                         | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 1968:2002<br>(a B melléklet kivételével)           | Szállítható gázpalackok. Acélból készült, varrat nélküli gázpalackok időszakos ellenőrzése és vizsgálata   | 6.2.3.5                         |   | 2007. júl. 1. előtt                                    |
| EN 1968:2002 + A1:2005<br>(a B melléklet kivételével) | Szállítható gázpalackok. Acélból készült, varrat nélküli gázpalackok időszakos ellenőrzése és vizsgálata   | 6.2.3.5                         | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 1802:2002<br>(a B melléklet kivételével)           | Szállítható gázpalackok. Alumíniumötvözetből készült, varrat nélküli gázpalackok időszakos ellenőrzése és vizsgálata   | 6.2.3.5                         | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 12863:2002   | Szállítható gázpalackok. Oldott acetilén-palack időszakos felülvizsgálata és karbantartása<br><i>Megjegyzés: Ebben a szabványban az „üzembe helyezés előtti vizsgálaton” egy új acetilén palack végső jóváhagyását követő első időszakos vizsgálatát kell érteni</i> | 6.2.3.5                         |   | 2007. júl. 1. előtt                                    |
| EN 12863:2002 + A1:2005                               | Szállítható gázpalackok. Oldott acetilén-palack időszakos felülvizsgálata és karbantartása   | 6.2.3.5                         | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |

| Hivatkozás                                | A dokumentum címe  | A vonatkozó bekezdés, ill. pont | Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje: | Alkalmazható, ha a nyomástartó tartály gyártási ideje: |
|---|--|---------------------------------|---|--|
| (1)                                       | (2)  | (3)                             | (4)   | (5)  |
|   | <i><b>Megjegyzés:</b> Ebben a szabványban az „üzembe helyezés előtti vizsgálaton” egy új acetilén palack végső jóváhagyását követő első időszakos vizsgálatát kell érteni.</i> |                                 |   |  |
| EN 1803:2002 (a B melléklet kivételével)  | Szállítható gázpalackok. Ötvöztelen acélból készült, hegesztett gázpalackok időszakos ellenőrzése és vizsgálata  | 6.2.3.5                         | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN ISO 11623:2002 (a 4. cikk kivételével) | Szállítható gázpalackok. Kompozitpalackok időszakos ellenőrzése és vizsgálata  | 6.2.3.5                         | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 14189:2003                             | Szállítható gázpalackok. Palackszelepek felülvizsgálata és karbantartása gázpalackok időszakos felülvizsgálatakor  | 6.2.3.5                         | 2009. jan. 1-től  | 2009. jan. 1. előtt                                    |
| EN 14876:2007                             | Szállítható gázpalackok. Hegesztett, nyomástartó acélhordók időszakos ellenőrzése és vizsgálata  | 6.2.3.5                         | 2011. jan. 1-től  | 2011. jan. 1. előtt                                    |
| EN 14912:2005                             | LPG-berendezések és -tartozékok. Az LPG-palackszelepek ellenőrzése és karbantartása a palackok időszakos ellenőrzésekor  | 6.2.3.5                         | 2011. jan. 1-től  | 2011. jan. 1. előtt                                    |

### 6.2.5 Nem szabvány szerint tervezett, gyártott és vizsgált nyomástartó tartályokra vonatkozó követelmények

Az illetékes hatóság elismerhet olyan, azonos biztonsági szintet eredményező műszaki szabályzatot, amely célja a tudományos és műszaki haladás követése, vagy amely olyan szakterületre vonatkozik, amelyre a 6.2.2, ill. a 6.2.4 szakaszban nem szerepel szabvány, ill. olyan részterületet érint, amellyel a 6.2.2, ill. a 6.2.4 szakaszban szereplő szabvány nem foglalkozik.

Az elismert szabályzatok jegyzékét az illetékes hatóságnak meg kell küldenie az ENSZ Európai Gazdasági Bizottság (UNECE) Titkárságának. A jegyzéknek tartalmaznia kell szabályzat(ok) címét, dátumát, tárgyát és elérhetőségének részleteit. A Titkárság a jegyzékeket a honlapján nyilvánosságra hozza.

A 6.2.1 és a 6.2.3 szakasz követelményeit és a következő követelményeket azonban ki kell elégíteni.

***Megjegyzés :** E szakasz vonatkozásában a 6.2.1 szakaszban hivatkozott műszaki szabvány alatt a műszaki szabályzat értendő.*

#### 6.2.5.1 Szerkezeti anyagok

A következő előírásokban példák találhatók a felhasználható anyagokra, amelyek kielégítik a 6.2.1.2 bekezdés szerkezeti anyagokra vonatkozó követelményeit:

- szénacél a sűrített, a cseppfolyósított, a mélyhűtött, cseppfolyósított gázokhoz, az oldott gázokhoz, valamint a nem a 2 osztályba tartozó anyagokhoz, amelyeket a 4.1.4.1 bekezdés P200 csomagolási utasítás 3 táblázata sorol fel;

- b) ötvöztött acél (különleges acél), nikkel és nikkelötvözet (pl. monel) a sűrített, a cseppfolyósított, a mélyhűtött, cseppfolyósított gázokhoz, az oldott gázokhoz, valamint a nem a 2 osztályba tartozó anyagokhoz, amelyeket a 4.1.4.1 bekezdés P200 csomagolási utasítás 3 táblázata sorol fel;
- c) réz:
  - i) az 1A, az 1O, az 1F és az 1TF osztályozási kód alá tartozó gázokhoz, ha töltési nyomásuk 15 °C-ra vonatkoztatva nem haladja meg a 2 MPa-t (20 bar-t);
  - ii) a 2A osztályozási kód gázaihoz és ezenkívül az UN 1033 dimetil-éterhez, az UN 1037 etil-kloridhoz, az UN 1063 metil-kloridhoz, az UN 1079 kén-dioxidhoz, az UN 1085 vinil-bromidhoz, az UN 1086 vinil-kloridhoz, valamint az UN 3300 etilén-oxid és szén-dioxid keverékhez 87%-nál nagyobb etilén-oxid tartalommal;
  - iii) a 3A, a 3O és a 3F osztályozási kód alá tartozó gázokhoz;
- d) alumíniumötvözet: lásd a 4.1.4.1 bekezdésben a P200 csomagolási utasítás 10) bekezdésének „a” különleges előírását;
- e) kompozit anyagok a sűrített, a cseppfolyósított, a mélyhűtött, cseppfolyósított gázokhoz, valamint az oldott gázokhoz;
- f) műanyagok a mélyhűtött, cseppfolyósított gázokhoz; és
- g) üveg a 3A osztályozási kód gázaihoz, az UN 2187 szén-dioxid, mélyhűtött, cseppfolyósított, ill. szén-dioxid keverékek, mélyhűtött, cseppfolyósított gázok kivételével, valamint a 3O osztályozási kód gázaihoz.

#### 6.2.5.2 *Üzemi szerelvények*

(fenntartva)

#### 6.2.5.3 *Fémről készült palackok, nagypalackok, gázhordók és palackkötegek*

A próbanyomás hatására a fémbe keletkező feszültség a tartály leginkább igénybe vett helyén nem haladhatja meg az  $R_e$  szavatolt legkisebb folyáshatár 77%-át.

Folyáshatáron azt a feszültséget kell érteni, amelynek hatására a próbatest mérési jelei között 2 ezrelékes (0,2%-os), illetve ausztenites acélokban 1%-os maradé nyúlás jön létre.

**Megjegyzés:** A fémlemezről készült szakítópróbatest tengelyének merőlegesnek kell lennie a hengerlés irányára. A szakadási nyúlás méréséhez olyan kör keresztmetszetű szakítópálcát kell használni, amelyen a két jel közötti „l” távolság a „d” átmérő ötszöröse ( $l = 5d$ ). Négyzetű keresztmetszetű szakítópálca esetén a jelek közötti távolságot a következő képlettel kell számítani:

$$l = 5,65 \sqrt{F_0}, \text{ ahol } F_0 \text{ a szakítópálca eredeti keresztmetszeti területe.}$$

A nyomástartó tartályokat és zárószerveket olyan alkalmas anyagból kell gyártani, amely  $-20\text{ °C}$  és  $+50\text{ °C}$  között ellenáll a ridegtörésnek és a feszültség alatti korróziós repedésnek.

A hegesztéseket szakszerűen kell elkészíteni, és teljesen biztonságosnak kell lenniük.

#### 6.2.5.4 *Kiegészítő előírások azokra az alumíniumötvözet nyomástartó tartályokra, amelyeket sűrített gázokhoz, cseppfolyósított gázokhoz, oldott gázokhoz, gázmintákhoz (olyan túlnyomás nélküli gázokhoz, amelyekre különleges előírások érvényesek), valamint (az aeroszolok és a gázpatronok kivételével) a túlnyomás alatti gázt tartalmazó tárgyakhoz használnak*

**6.2.5.4.1** Az alumíniumötvözetből készült nyomástartó tartályok anyagának az alábbi követelményeknek kell megfelelnie:

|  | A   | B   | C   | D   |
|--|---|---|---|---|
| Szakítószilárdság, $R_m$ , MPa (N/mm <sup>2</sup> )  | 49 – 186  | 196 – 372   | 196 – 372   | 343 – 490   |
| Folyáshatár, $R_e$ , MPa (N/mm <sup>2</sup> )<br>( $l = 0,2\%$ maradandó nyúlásnál)          | 10 – 167  | 59 – 314  | 137 – 334   | 206 – 412   |
| Szakadási nyúlás ( $l = 5d$ ) %-ban  | 12 – 40   | 12 – 30   | 12 – 30   | 11 – 16   |
| Hajlítási próba (a hajlítótüske átmérője $d = n \cdot e$ , ahol $e$ a mintalemez vastagsága) | $n=5$ ( $R_m \leq 98$ )<br>$n=6$ ( $R_m > 98$ ) | $n=6$ ( $R_m \leq 325$ )<br>$n=7$ ( $R_m > 325$ ) | $n=6$ ( $R_m \leq 325$ )<br>$n=7$ ( $R_m > 325$ ) | $n=7$ ( $R_m \leq 392$ )<br>$n=8$ ( $R_m > 392$ ) |
| Aluminium Association sorozatszám <sup>a)</sup>  | 1 000   | 5 000   | 6 000   | 2 000   |

a) Lásd az „Aluminium Standards and Data” 5. kiadását, 1976. január, közzétette az Aluminium Association, 750, 3<sup>rd</sup> Avenue, New York.

A tényleges tulajdonságok az adott ötvözet összetételétől és a nyomástartó tartály végleges megmunkálásától függenek, azonban bármilyen ötvözetet is használjanak, a falvastagságot a következő képletek egyikével kell kiszámítani:

$$e = \frac{P_{MPa} D}{\frac{2R_e}{1,3} + P_{MPa}} \quad \text{vagy} \quad e = \frac{P_{bar} D}{\frac{20R_e}{1,3} + P_{bar}}$$

ahol

$e$  = nyomástartó tartály legkisebb falvastagsága, mm;

$P_{MPa}$  = a próbanyomás, MPa;

$P_{bar}$  = a próbanyomás, bar;

$D$  = a tartály névleges külső átmérője, mm;

$R_e$  = a szavatolt minimális folyáshatár, MPa (= N/mm<sup>2</sup>) 0,2%-os maradé nyúlásnál.

Az előző képletekben szereplő szavatolt minimális folyáshatár ( $R_e$ ) nem lehet nagyobb, mint a szavatolt minimális szakítószilárdság ( $R_m$ ) 0,85-szorosa bármilyen alumíniumötvözet esetén.

**Megjegyzés:** 1. A táblázatban felsorolt minőségi adatok azokon a tapasztalatokon alapulnak, amelyeket eddig a nyomástartó tartályok gyártásához használt következő anyagokkal szereztek:

A oszlop: nem ötvözött, 99,5% tisztaságú alumínium;

B oszlop: alumínium- és magnéziumötvözetek;

C oszlop: alumínium-szilícium-magnézium ötvözetek, pl.: ISO/  
R209-Al-Si-Mg (Aluminium Association 6351)

D oszlop: alumínium-réz-magnézium ötvözetek.

2. A szakadási nyúlást kör keresztmetszetű szakítópálcán mérik, amelyen a két jel közötti „l” távolság a „d” átmérő ötszöröse ( $l=5d$ ). Négyzet keresztmetszetű szakítópálcák esetén a jelek közötti távolságot a következő képlettel kell kiszámítani:  $l = 5,65\sqrt{F_0}$

ahol  $F_0$  a szakítópálca kezdeti keresztmetszete.

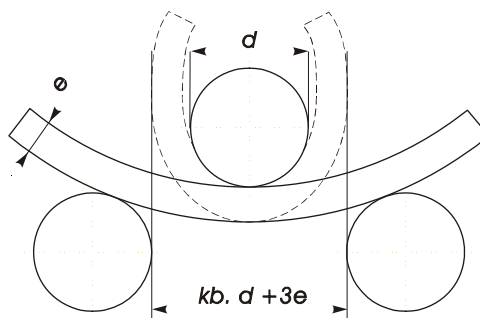
3. a) A hajlítási próbát (lásd az ábrát) olyan próbatesteken kell végrehajtani, amelyeket a palástból két egyforma  $3e$ , de legalább 25 mm széles körgyűrű kivágásával nyernek. A próbatesteknek csak a széleken szabad megmunkáltatniuk.



*b) A hajlítási próbát egy  $d$  átmérőjű tüskével és két támasztó hengerrel kell végrehajtani, amelyek egymástól  $d+3e$  távolságra vannak. A próba során a belső felületeknek nem szabad egymástól nagyobb távolságra eltávolodni, mint a tüske átmérője.*

*c) A próbatesteken nem szabad repedéseknek mutatkozniuk, ha a tüske körül egészen addig behajlanak, ameddig a belső felületeik közti távolság nem haladja meg a tüske átmérőjét.*

*d) A tüske átmérője és a próbatest vastagsága közötti  $n$  aránynak meg kell felelnie a táblázatban meghatározott értékeknek.*



A hajlítási próba vázlata

**6.2.5.4.2** Kisebb minimális nyúlásérték azzal a feltétellel engedhető meg, hogy olyan kiegészítő vizsgálati eljárással, amelyet a nyomástartó tartály gyártási országának illetékes hatósága engedélyez, bizonyítják, hogy a tartály a szállítás tekintetében ugyanazt a biztonságot nyújtja, mint azok a tartályok, amelyeket 6.2.5.4.1 pont táblázatának értékei szerint gyártottak (lásd az EN 1975:1999 +A1:2003 szabványt is).

**6.2.5.4.3** A nyomástartó tartályok falának a legvékonyabb részen a következő vastagságúnak kell lennie:

- legalább 1,5 mm, ha a nyomástartó tartály átmérője 50 mm-nél kisebb;
- legalább 2 mm, ha a nyomástartó tartály átmérője 50 mm és 150 mm között van;
- legalább 3 mm, ha a nyomástartó tartály átmérője 150 mm-nél nagyobb.

**6.2.5.4.4** A tartályfenékek keresztmetszetének félkör, ellipszis vagy kosárv alakúnak kell lennie, és a nyomástartó tartály palástjával azonos biztonságot kell nyújtania.

#### **6.2.5.5 Kompozit nyomástartó tartályok**

A kompozit palackoknál, nagypalackoknál, gázhordóknál és kompozit anyagok felhasználásával készült palackkötegeknél a kialakításnak olyannak kell lennie, hogy a repesztő- és a próbanyomás hányadosa legalább a következő legyen:

- köpenyrészen bevont nyomástartó tartályoknál 1,67;
- a teljes felületen bevont nyomástartó tartályoknál 2,00.

#### **6.2.5.6 Zárt mélyhűtő tartályok**

A mélyhűtött, cseppfolyósított gázokhoz használt zárt mélyhűtő tartályok kialakítására a következő követelményeket kell alkalmazni:

**6.2.5.6.1** Nemfémes anyagok használata esetén a nyomástartó tartálynak és szerelvényeinek a legkisebb üzemi hőmérsékleten a ridegtöréssel szemben ellenállónak kell lennie.

**6.2.5.6.2** A nyomáscsökkentő szerkezeteket úgy kell kialakítani, hogy még a legkisebb üzemi



hőmérsékleten is kifogástalanul működjenek. Az ilyen hőmérsékleten való megbízható működést vagy minden egyes szerkezeten, vagy ugyanilyen típusú szerkezetekből vett mintán végzett próbával kell megállapítani, ill. ellenőrizni.

**6.2.5.6.3** A nyomástartó tartályok nyílásait és nyomáscsökkentő szerkezeteit úgy kell kialakítani, hogy azok a folyadék kifröccsenését megakadályozzák.

**6.2.6** **Az aeroszolonkra, a gázzal töltött kisméretű tartályokra (gázpatronokra) és a gyúlékony cseppfolyósított gázt tartalmazó üzemanyagcella kazettákra vonatkozó általános követelmények**

**6.2.6.1** *Tervezés és gyártás*

**6.2.6.1.1** A csak egyféle gázt vagy gázkeveréket tartalmazó UN 1950 aeroszolonkat, valamint UN 2037 gázzal töltött kisméretű tartályokat (gázpatronokat) fémből kell gyártani. Ezt a követelményt nem kell alkalmazni az UN 1011 butánt tartalmazó aeroszolonkra és gázzal töltött kisméretű tartályokra (gázpatronokra) 100 ml ürtartalomig. Az UN 1950 számú egyéb aeroszolonkat fémből, műanyagból vagy üvegből kell gyártani. A legalább 40 mm külső átmérőjű fémtartályok fenekének homorúnak kell lennie.

**6.2.6.1.2** A fémtartályok ürtartalma 1000 ml-nél, a műanyag és üvegtartályoké 500 ml-nél nagyobb nem lehet.

**6.2.6.1.3** Minden tartálymintadarabot (aeroszolonkat és gázpatronokat) üzembe helyezés előtt a 6.2.6.2 bekezdés szerinti folyadéknyomás-próbának kell alávetni.

**6.2.6.1.4** Az UN 1950 aeroszolon kibocsátószelepének és porlasztószerkezetének és az UN 2037 gázpatronok szelepének olyannak kell lennie, hogy a tartályok tömör zárását és véletlen kinyílása elleni védelmét biztosítsa. Olyan szelepek és porlasztószerkezetek, amelyek csak belső nyomásra zárnak, nem alkalmazhatók.

**6.2.6.1.5** A belső nyomás 50 °C-on nem haladhatja meg sem a próbanyomás kétharmadát, sem az - 1,32 MPa-t (13,2 bar-t). Az aeroszolonkat és a kisméretű gáztartályokat (gázpatronokat) úgy kell megtölteni, hogy a folyadék fázis 50 °C-on ne haladja meg ürtartalmuk 95%-át.

**6.2.6.2** *Folyadéknyomás-próba*

**6.2.6.2.1** A próba során alkalmazott belső nyomásnak (próbanyomásnak) az 50 °C-on fennálló belső nyomás 1,5 szeresének, de legalább 1 MPa-nak (10 bar-nak) kell lennie.

**6.2.6.2.2** A folyadéknyomás-próbát minden tartálytípusból legalább öt üres tartályon el kell végezni:

- a) az előírt próbanyomásig, amely mellett semmiféle szivárgásnak vagy maradandó alakváltozásnak nem szabad fellépnie;
- b) szivárgás vagy szétrepedés bekövetkeztéig; amennyiben a tartály fenéke homorú, annak kell először engednie (kidomborodnia), és a tartály csak akkor szivároghat vagy repedhet szét, ha a nyomás eléri vagy meghaladja a próbanyomás 1,2-szeresét.

**6.2.6.3** *Tömörégi (szivárgásmentességi) próba*

**6.2.6.3.1** *Gázzal töltött kisméretű tartályok (gázpatronok) és gyúlékony cseppfolyósított gázt tartalmazó üzemanyagcella kazetták*

**6.2.6.3.1.1** Minden tartálynak, ill. üzemanyagcella kazettának ki kell állnia a forró vizes fürdőben végzett tömörségi (szivárgás-mentességi) próbát.

**6.2.6.3.1.2** A fürdő hőmérsékletét és a próba időtartamát úgy kell megválasztani, hogy az egyes

tartályok, ill. üzemanyagcella kazetták belsejében fellépő nyomás legalább 90 %-át elérje annak a nyomásnak, amely 55 °C hőmérsékleten kialakulna. Ha azonban a tartalom hőre érzékeny, vagy a tartály, ill. üzemanyagcella kazetta olyan műanyagból készült, amely az ily módon végrehajtott próba hőmérsékleténél meglágyulna, akkor a vizsgálatot 20...30 °C hőmérsékletű fürdőben kell végrehajtani. Ezenfelül minden 2000 darab közül egy darabon a vizsgálatot 55 °C-on kell végezni.

**6.2.6.3.1.3** A vizsgálat során a tartályon, ill. üzemanyagcella kazettán semmiféle szivárgásnak vagy maradandó alakváltozásnak nem szabad bekövetkeznie, kivéve a műanyag tartálynál, ill. üzemanyagcella kazettánál a lágyulás miatt bekövetkező alakváltozást, feltéve, hogy nem szivárog.

**6.2.6.3.2** *Aeroszol csomagolások*

Minden aeroszol csomagolásnak ki kell állnia a forró vizes fürdőben végzett tömörségi (szivárgásmentességi) próbát, vagy egy jóváhagyott, egyéb vízfürdős vizsgálatot.

**6.2.6.3.2.1** Forró vizes fürdőben végzett próba

**6.2.6.3.2.1.1** A fürdő hőmérsékletét és a próba időtartamát úgy kell megválasztani, hogy a belső nyomás elérje azt a nyomást, amely 55 °C hőmérsékleten kialakulna (vagy amely 50 °C hőmérsékleten alakulna ki, ha a folyékony fázis 50 °C-on nem haladja meg az aeroszol csomagolás ürtartalmának 95%-át). Ha azonban a tartalom hőre érzékeny, vagy az aeroszol csomagolás olyan műanyagból készült, amely az ily módon végrehajtott próba hőmérsékleténél meglágyulna, akkor a vizsgálatot 20...30 °C hőmérsékletű fürdőben kell végrehajtani, de ezenfelül minden 2000 darab közül egy darabon a magasabb hőmérsékleten kell a vizsgálatot elvégezni

**6.2.6.3.2.1.2** A vizsgálat során az aeroszol csomagoláson semmiféle szivárgásnak vagy maradandó alakváltozásnak nem szabad bekövetkeznie, kivéve a műanyag aeroszol csomagolásnál a lágyulás miatt bekövetkező alakváltozást, feltéve, hogy nem szivárog.

**6.2.6.3.2.2** Egyéb módszerek

Az illetékes hatóság jóváhagyásával egyéb módszerek is használhatók, ha azonos biztonsági szintet eredményeznek, feltéve, hogy a 6.2.6.3.2.2.1, a 6.2.6.3.2.2.2 és a 6.2.6.3.2.2.3 pont követelményeit betartják.

**6.2.6.3.2.2.1** Minőségbiztosítási rendszer

Az aeroszol csomagolások töltőjének és aeroszol csomagolások szerkezeti elemei gyártójának rendelkeznie kell minőségbiztosítási rendszerrel. A minőségbiztosítási rendszerben olyan eljárást kell foganatosítani, amely biztosítja, hogy minden aeroszol csomagolást, amely szivárog vagy alakváltozást szenvedett, selejtnak minősítsenek és nem adják fel szállításra.

A minőségbiztosítási rendszernek a következőket kell tartalmaznia:

- a) a szervezeti felépítés és a felelősségek megosztásának leírása;
- b) a vizsgálatra, minőségellenőrzésre, minőségbiztosításra és eljárás végrehajtásra vonatkozó, megfelelő utasítások;
- c) minőségellenőrzési nyilvántartás, pl. vizsgálati jegyzőkönyvek, vizsgálati eredmények, hitelesítési adatok és bizonyítványok;
- d) vezetői felülvizsgálatok a minőségbiztosítási rendszer hatékony működésének biztosításához;
- e) a dokumentáció ellenőrzési és karbantartási eljárása;
- f) a nem megfelelő minőségű aeroszol csomagolások ellenőrzésének, kiszűrésének módja;
- g) az érintett személyekre vonatkozó képzési program és minősítési eljárás; és

h) a végtermék sérülésmentességét biztosító eljárás.

Az illetékes hatóság számára elfogadható módon első alkalommal és időszakosan auditálást kell végezni. Az auditálásnak biztosítania kell, hogy a jóváhagyott rendszer alkalmas és hatékony legyen és az is maradjon. Az illetékes hatóságot a jóváhagyott rendszert érintő minden javasolt változtatásról előzetesen értesíteni kell.

**6.2.6.3.2.2.2** Az aeroszol csomagolás töltés előtti nyomás- és tömörségi próbája

Minden üres aeroszol csomagolást legalább akkora nyomásnak kell kitenni, mint az a legnagyobb nyomás, amely a megtöltött aeroszol csomagolásban 55 °C-on várhatóan kialakul (vagy amely 50 °C hőmérsékleten alakulna ki, ha a folyékony fázis 50 °C-on nem haladja meg az aeroszol csomagolás ürtartalmának 95%-át). Ez a nyomás azonban nem lehet kisebb, mint az aeroszol csomagolás méretezési nyomásának kétharmada. Azt az aeroszol csomagolást, amely a próbanyomáson  $3,3 \times 10^{-2}$  mbar·l·s<sup>-1</sup> mértékben vagy annál erősebben szivárog, eltorzul vagy más sérülést szenved, ki kell selejtezni.

**6.2.6.3.2.2.3** Az aeroszol csomagolás töltés utáni vizsgálata

Töltés előtt a töltőnek biztosítania kell, hogy a peremező berendezés megfelelően legyen beállítva és az előírt hajtóanyagot használják.

Minden megtöltött aeroszol csomagolás tömegét meg kell mérni, ill. a tömörségét meg kell vizsgálni. A tömörség vizsgáló berendezésnek elegendő pontosságúnak kell lennie ahhoz, hogy legalább a 20 °C-on  $2 \times 10^{-3}$  mbar·l·s<sup>-1</sup> mértékű szivárgást tudja érzékelni.

Azt az aeroszol csomagolást, amely szivárog, eltorzult vagy túl van töltve, ki kell selejtezni.

**6.2.6.3.3**

Az olyan, gyógyszerészeti terméket és nem-gyúlékony gázt tartalmazó aeroszol és kisméretű tartály (gázpatron), amelynek sterilnek kell lennie, és amelyet a vízfürdős vizsgálat kedvezőtlenül befolyásolna, az illetékes hatóság hozzájárulásával mentesül a 6.2.6.3.1 és a 6.2.6.3.2 pont előírásai alól, amennyiben:

- a) az állami egészségügyi szervek engedélyével és ha az illetékes hatóság előírja, az Egészségügyi Világszervezet (WHO)<sup>4)</sup> által kiadott helyes gyártási gyakorlatot (Good Manufacturing Practice – GMP) követve gyártották;
- b) azonos biztonságot lehet elérni azzal, hogy a gyártó más tömörségi- illetve nyomáspróbát alkalmaz, mint pl. a hélium érzékelést és olyan vízfürdős vizsgálatot, amelyet minden gyártási tételből 2000 darabonként legalább egy darabot tartalmazó, véletlenszerűen kiválasztott mintán végeznek.

**6.2.6.4** *Hivatkozás a szabványokra*

Ezen szakasz követelményei a következő szabványok alkalmazása esetén teljesítettnek tekinthetők:

- UN 1950 aeroszolokra: a 94/1/EK<sup>5)</sup> Bizottsági Irányelvvel módosított 75/324/EGK<sup>6)</sup>

4) WHO kiadvány: „Gyógyszerészeti minőségbiztosítás. Irányelvek és hasonló dokumentumok gyűjteménye, 2. kötet: Helyes gyártási gyakorlat és vizsgálat” („Quality assurance of pharmaceuticals. A compendium of guidelines and related materials. Volume 2: Good manufacturing practices and inspection”).

5) A Bizottság 1994. január 6-i 94/1/EK Irányelve a Tanács 75/324/EGK Irányelvének módosításáról (Az EK Hivatalos Lapja, L 23 szám, 1994. 01.28.)

Tanácsi Irányelv melléklete;

- az UN 2037 gázzal töltött kisméretű tartályokra (gázpatronokra), amelyek UN 1965 szénhidrogén-gáz keverék, cseppfolyósított, m.n.n.-t tartalmaznak: EN 417:2003 „Nem újratölthető fém gázpatronok cseppfolyósított szénhidrogén gázokhoz, szeleppel vagy szelep nélkül, szállítható berendezésekhez – Gyártás, vizsgálat és jelölés” szabvány.

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6) A Tanács 1975. május 20-i 75/324/EGK Irányelve a tagállamok aeroszolokra vonatkozó jogszabályainak közelítéséről (Az EK Hivatalos Lapja, L 147 szám, 1975. 06.09.).

## 6.3 FEJEZET

### A 6.2 OSZTÁLY „A” KATEGÓRIÁBA TARTOZÓ FERTŐZŐ ANYAGAIHOZ HASZNÁLT CSOMAGOLÓESZKÖZÖK GYÁRTÁSÁRA ÉS VIZSGÁLATÁRA VONATKOZÓ KÖVETELMÉNYEK

**Megjegyzés:** E fejezet követelményei nem vonatkoznak a 6.2 osztály anyagainak szállítására használt, a 4.1.4.1 bekezdés P621 csomagolási utasítása szerinti csomagolóeszközökre.

#### 6.3.1 Általános előírások

**6.3.1.1** E fejezet követelményei az „A” kategóriába tartozó fertőző anyagok szállítására használt csomagolóeszközökre vonatkoznak.

#### 6.3.2 A csomagolóeszközökre vonatkozó követelmények

**6.3.2.1** A csomagolóeszközökre vonatkozó követelmények – 6.1.4 szakaszban meghatározottak szerint – a jelenleg használt csomagolásokon alapulnak. A tudományos és műszaki haladás figyelembevételének érdekében az ezen fejezetben található csomagolóeszközöktől eltérő jellemzőjű csomagolóeszközök is használhatók, amennyiben ezek ugyanolyan hatékonyságúak, az illetékes hatóság által elfogadhatók és képesek sikeresen elviselni a 6.3.5 szakaszban leírt próbákat. Az ADR-ben leírtaktól eltérő vizsgálati módszerek is használhatók, amennyiben egyenértékűek és az illetékes hatóság elfogadja.

**6.3.2.2** A csomagolóeszközöket az illetékes hatóság szerint megfelelő minőségbiztosítási program alapján kell gyártani és vizsgálni annak biztosítására, hogy minden egyes csomagolóeszköz kielégítse a jelen fejezet követelményeit.

**Megjegyzés:** Az alkalmazható eljárás(ok)ra megfelelő útmutatást ad az ISO 16106:2006 szabvány: „Csomagolás. Veszélyes áruk szállítási csomagolása. Veszélyes áruk csomagolásai, közepes méretű szállítótartályok (IBC-k) és nagyméretű csomagolások. Útmutató az ISO 9001 alkalmazásához”.

**6.3.2.3** A csomagolóeszköz gyártójának és forgalmazójának információt kell nyújtania a követendő eljárásokra és a zárószerkezetek (beleértve a szükséges tömítéseket) típusára és méreteire és minden más alkatrészre, ami annak biztosításához szükséges, hogy a szállításra előkészített küldeménydarab képes legyen az e fejezet vonatkozó igénybevételi próbáinak elviselésére.

#### 6.3.3 A csomagolóeszközök típusát jelölő kód

**6.3.3.1** A csomagolóeszközök típusát jelölő kódok a 6.1.2.7 bekezdésben találhatók.

**6.3.3.2** A csomagolási kódot egy „U” vagy „W” betű követheti. Az „U” betű a 6.3.5.1.6 pont előírásainak megfelelő különleges csomagolóeszközre utal. A „W” betű azt jelenti, hogy a csomagolóeszköz, bár a kód által jelzett típus alá tartozik, de a 6.1.4 szakaszban előírtaktól eltérően gyártották, és a 6.3.2.1 bekezdés előírásai értelmében egyenértékűnek tekinthető.

#### 6.3.4 Jelölés


**Megjegyzés:** 1. A jelölés arra utal, hogy a csomagolóeszköz, amelyen a jelölés van, megfelel a sikeresen bevizsgált gyártási típusnak és megfelel a jelen fejezet előírásainak, amelyek a csomagolóeszköz gyártására, nem pedig annak

használatára vonatkoznak.

2. A jelölésnek az a célja, hogy megkönnyítse a csomagolóeszköz gyártók, felújítók és felhasználók, a szállítást/fuvarozást végzők és a szabályozó hatóságok feladatainak teljesítését.
3. A jelölés nem mindig ad teljes felvilágosítást a vizsgálati szintekről és egyéb részletekről, holott szükséges lehet ezek figyelembe vétele is, ezeknek a vizsgálati jegyzőkönyvben, jelentésekben vagy a vizsgálatokat sikeresen kiállt csomagolóeszközök nyilvántartásában kell utána nézni.

**6.3.4.1** Minden csomagolóeszközön, amelyet az ADR szerinti használatra szánnak, rajta kell lenni a jelölésnek, amelynek tartósnak, jól láthatónak és a csomagolóeszközhöz képest olyan méretűnek kell lennie, hogy könnyen olvasható legyen. A 30 kg bruttó tömeget meghaladó küldeménydaraboknál a jelölést vagy annak megismétlését a csomagolóeszköz tetejére vagy egyik oldalára kell felvinni. A betűknek, számoknak és szimbólumoknak legalább 12 mm magasnak kell lenniük, kivéve a 30 liter vagy 30 kg, ill. annál kisebb csomagolóeszközöket, amelyek legalább 6 mm magasnak kell lenniük és az 5 liter vagy 5 kg, ill. annál kisebb csomagolóeszközöket, ahol megfelelő méretűnek kell lenniük.

**6.3.4.2** A jelen szakasz és a 6.3.5 szakasz követelményeit kielégítő csomagolóeszközöket a következő jelölésekkel kell ellátni:

- a) az Egyesült Nemzetek jele a csomagolóeszközön:  ;  
Ezt a jelet csak annak tanúsítására szabad használni, hogy a csomagolóeszköz megfelel a 6.1, a 6.2, a 6.3, a 6.5, ill. a 6.6 fejezetben található vonatkozó előírásoknak.
- b) a csomagolóeszköz típusát a 6.1.2 szakasz szerint jelölő kód;
- c) a „CLASS 6.2” szöveg;
- d) a gyártási év (az utolsó két számjegy);
- e) annak az államnak a jele, amely a jelölés alkalmazását engedélyezte, a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>1)</sup>;
- f) a gyártó neve vagy jele, vagy a csomagolóeszköznek az illetékes hatóság által megállapított egyéb azonosító jele;
- g) a 6.3.5.1.6 bekezdés követelményeit kielégítő csomagolóeszközöknél az előző b) pont szerint előírt jelölés után közvetlenül egy „U” betűt kell írni.

**6.3.4.3** A jelölést a 6.3.4.2 bekezdés a) – g) pontjai szerinti sorrendben kell felvinni; az ezekben a pontokban előírt jelölés elemeket egyértelműen el kell választani egymástól, pl. ferde vonallal vagy szóközzel, hogy könnyen azonosíthatók legyenek. Példaként lásd a 6.3.4.4 bekezdést.

Az illetékes hatóság által engedélyezett kiegészítő jelölések nem zavarhatják a 6.3.4.1 bekezdés szerinti jelölés részek pontos azonosíthatóságát.

**6.3.4.4** *Példa a csomagolóeszköz jelölésére*



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S/SP-9989-ERIKSSON

a 6.3.4.2 a), b), c) és d) szerint  
a 6.3.4.2 e) és f) szerint

1) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.

**6.3.5 A csomagolóeszközök vizsgálati követelményei****6.3.5.1 A vizsgálatok végrehajtása és gyakorisága**

**6.3.5.1.1** Minden egyes csomagolóeszköz gyártási típusát a jelölés felvitelét engedélyező illetékes hatóság által meghatározott eljárás szerint, az e szakaszban előírt vizsgálatoknak kell alávetni, és ugyanennek az illetékes hatóságnak jóvá kell hagyni.

**6.3.5.1.2** A csomagolóeszközök gyártási típusának sikeresen ki kell állnia az e fejezetben előírt vizsgálatokat, mielőtt az adott típusú csomagolóeszközt használatba vennék. A csomagolóeszköz gyártási típusát a tervezési méret, az anyag és falvastagság, a gyártási és összeállítási mód határozza meg, de beleérthetők a különféle felületkezelések. Egy gyártási típus tartalmazza azokat a csomagolóeszközöket is, amelyek a gyártási típustól csupán kisebb szerkezeti magasságukban térnek el.

**6.3.5.1.3** A vizsgálatokat a gyártásból vett mintákon az illetékes hatóság által meghatározott időközönként meg kell ismételni.

**6.3.5.1.4** A vizsgálatokat minden olyan módosítás után is meg kell ismételni, ami megváltoztatja a csomagolóeszköz szerkezetét, anyagát vagy gyártási módját.

**6.3.5.1.5** Az illetékes hatóság engedélyezheti azon csomagolóeszközök szelektív vizsgálatát, amelyek csak kismértékben térnek el egy bevizsgált típustól, pl. kisebb nettó tömegű elsődleges tartályokat tartalmaznak; vagy amelyek, pl. hordók és ládák esetén a külső méret(ek)et tekintve valamivel kisebbek.

**6.3.5.1.6** Bármely típusú elsődleges tartály elhelyezhető és szállítható egy másodlagos csomagolásban anélkül, hogy a merev falú külső csomagolóeszközzel együtt vizsgálták volna, feltéve, ha:

- a) a merev falú külső csomagolóeszköz törékeny (pl. üveg) elsődleges tartályokkal a 6.3.5.2.2 bekezdés szerinti vizsgálatokat sikeresen kiállta;
- b) a elsődleges tartályok együttes össztömege nem haladhatja meg az előző a) pont szerinti ejtőpróbánál használt elsődleges tartályok össztömegének felét;
- c) az elsődleges tartályok között és az elsődleges tartályok és a másodlagos csomagolóeszközök külseje között a párnázóanyag vastagsága nem lehet kisebb az eredetileg vizsgált csomagolásban alkalmazott vastagságnál; ha az eredeti vizsgálatnál csak egy elsődleges tartály volt, akkor az elsődleges tartályok közötti párnázóanyag vastagsága az eredeti vizsgálatnál az elsődleges tartály és a másodlagos csomagolóeszköz külseje közötti vastagságnál nem lehet kisebb. Ha az ejtőpróbánál alkalmazott elsődleges tartályoknál kevesebb vagy kisebb elsődleges tartályokat használnak, akkor az ebből adódó hézagokat ki kell tölteni elegendő mennyiségű párnázóanyaggal;
- d) a merev falú külső csomagolóeszköz – üres állapotban vizsgálva – sikeresen kiállta a 6.1.5.6 bekezdésben leírt halmazolási próbát. Az „azonos küldeménydarabok össztömegét” az előző a) pontban az ejtőpróbánál alkalmazott csomagolóeszközök össztömege alapján kell meghatározni;
- e) a folyadékot tartalmazó elsődleges tartályokat teljesen körül kell venni felszívóképes anyaggal, amely a elsődleges tartályok teljes folyadéktartalmának felszívására elegendő mennyiségű;
- f) ha a merev falú külső csomagolóeszközt folyadékot tartalmazó elsődleges tartályokhoz használják és nem szivárgásmentes, ill. szilárd anyagot tartalmazó elsődleges tartályokhoz használják és nem portömör, akkor szivárgásmentes bélés, műanyag zsák vagy egyéb azonos hatékonyságú eszköz alkalmazásával biztosítani kell, hogy a folyadékot, ill. szilárd anyagot szivárgás esetén is megtartsa;
- g) a 6.3.4.2 a) – f) pontban előírt jelöléseken kívül a csomagolóeszközöket a 6.3.4.2 g) pont szerinti jelöléssel is el kell látni.



**6.3.5.1.7** Az illetékes hatóság bármikor előírhatja, hogy a jelen szakasz előírásainak megfelelő próbákkal igazolják, hogy a sorozatban gyártott csomagolóeszközök megfelelnek a gyártási típus követelményeinek.

**6.3.5.1.8** Amennyiben a vizsgálat eredményeit nem befolyásolja és az illetékes hatóság hozzájárul, ugyanazon a mintán több vizsgálat is végezhető.

**6.3.5.2 A csomagolóeszközök előkészítése a próbákhoz**

**6.3.5.2.1** Minden csomagolóeszköz próbadarabját úgy kell előkészíteni, mint a szállításra, azzal a különbséggel, hogy a folyékony vagy szilárd fertőző anyagot vízzel vagy, ha  $-18\text{ }^{\circ}\text{C}$ -on történő kondicionálás van előírva, víz/fagyásgátló keverékkel kell helyettesíteni. Minden elsődleges tartályt ürtartalmának legalább 98%-áig kell megtölteni.

**Megjegyzés:** A víz alatt értendők a  $-18\text{ }^{\circ}\text{C}$ -on végzett vizsgálatához használt, legalább 0,95 relatív sűrűségű víz/fagyásgátló oldatok is.

**6.3.5.2.2 Előírt vizsgálatok és próbadarabok száma**

**A csomagolóeszköz típusa szerint előírt vizsgálatok**

| A csomagolóeszköz típusa <sup>a)</sup> |                    |       | Előírt vizsgálatok   |                                     |                         |   |                         |   |
|--|--------------------|-------|----------------------|-------------------------------------|-------------------------|---|-------------------------|---|
| merev falú külső csomagolóeszköz       | elsődleges tartály |       | vízpermet            | alacsony hőmérsékletű kondicionálás | ejtés                   | kiegészítő ejtés  | átlyukasztás            | halmazolás  |
|  | műanyag            | egyéb | 6.3.5.3.6.1          | 6.3.5.3.6.2                         | 6.3.5.3                 | 6.3.5.3.6.3   | 6.3.5.4                 | 6.1.5.6   |
|  |                    |       | a próbadarabok száma | a próba - darabok száma             | a próba - darabok száma | a próba - darabok száma                                       | a próba - darabok száma | a próba - darabok száma   |
| Papírlemez láda                        | x                  |       | 5                    | 5                                   | 10                      | Egy próbadarab, ha a csomagolóeszközben szárazjég használatos | 2                       | Három próbadarab, ha a 6.3.5.1.6 pont különleges előírása szerinti, „U”-betűvel jelölt csomagolóeszköz vizsgálatnak |
|  |                    | x     | 5                    | 0                                   | 5                       |   | 2                       |   |
| Papírlemez hordó                       | x                  |       | 3                    | 3                                   | 6                       |   | 2                       |   |
|  |                    | x     | 3                    | 0                                   | 3                       |   | 2                       |   |
| Műanyag láda                           | x                  |       | 0                    | 5                                   | 5                       |   | 2                       |   |
|  |                    | x     | 0                    | 5                                   | 5                       |   | 2                       |   |
| Műanyag hordó, kanna                   | x                  |       | 0                    | 3                                   | 3                       |   | 2                       |   |
|  |                    | x     | 0                    | 3                                   | 3                       |   | 2                       |   |
| Egyéb láda                             | x                  |       | 0                    | 5                                   | 5                       |   | 2                       |   |
|  |                    | x     | 0                    | 0                                   | 5                       |   | 2                       |   |
| Egyéb hordó, kanna                     | x                  |       | 0                    | 3                                   | 3                       |   | 2                       |   |
|  |                    | x     | 0                    | 0                                   | 3                       |   | 2                       |   |

a) „A csomagolóeszköz típusa” a csomagolóeszközök csoportosítása a csomagolóeszköz fajtája és anyagának jellemzői szerint a vizsgálatok céljából

**Megjegyzés:** 1. Ha az elsődleges tartály két- vagy többféle anyagból készült, a megfelelő vizsgálatot a sérülékenyebb anyag határozza meg.  
2. A vizsgálat, ill. a vizsgálatához szükséges kondicionálás kiválasztásánál a másodlagos csomagolóeszköz anyagát nem kell figyelembe venni.

A táblázat magyarázata

Ha a vizsgálandó csomagolóeszköz külső papírlemez láda műanyag elsődleges tartállyal, akkor az ejtés előtt öt próbadarabot kell vízpermet próbának (lásd a 6.3.5.3.6.1 pontot) alávetni, valamint ugyancsak az ejtés előtt másik öt darabot  $-18\text{ }^{\circ}\text{C}$ -on kondicionálni kell (lásd a 6.3.5.3.6.2 pontot). Ha a csomagolóeszközben szárazjég használatos, további egy próbadarabot kell ötször leejteni a 6.3.5.3.6.3 pontban leírt kondicionálás után.



A szállításra előkészített csomagolóeszközöket a 6.3.5.3 és a 6.3.5.4 bekezdésben felsorolt vizsgálatoknak kell alávetni. A külső csomagolóeszközöknél a táblázat fejléce a következőkre vonatkozik:

- papírlemezre vagy hasonló anyagra, melynek szilárdságát a nedvesség gyorsan befolyásolhatja;
- műanyagra, ami alacsony hőmérsékleten rideggé válhat; és
- egyéb anyagra, mint pl. fémre, aminek minőségét a hőmérséklet és a nedvesség nem befolyásolja.

### **6.3.5.3 Ejtőpróba**

**6.3.5.3.1** A próbadarabokat szabadon le kell ejteni a 6.1.5.3.4 pont szerinti, rugalmatlan, vízszintes, síma, masszív és szilárd felületre 9 m magasságból.

**6.3.5.3.2** Láda formájú minta esetén öt próbadarabot kell leejteni, mindegyiket a következő helyzetekben:

- a) laposan a fenéklapra,
- b) laposan a tetőlapra,
- c) laposan a leghosszabb oldallapra,
- d) laposan a legrövidebb oldallapra,
- e) valamelyik sarokra.

**6.3.5.3.3** Hordó alakú minta esetén három próbadarabot kell leejteni, mindegyiket a következő helyzetekben:

- a) átlósan a felső peremre oly módon, hogy a tömegközéppont függőlegesen a felütközési pont felett legyen,
- b) átlósan a fenékperemre,
- c) laposan a palástra.

**6.3.5.3.4** Bár a próbadarabot a megkívánt helyzetben kell elengedni, elfogadható, ha aerodinamikai okokból a felütközés nem ebben a helyzetben történik.

**6.3.5.3.5** A megfelelő ejtési sorozatot követően az elsődleges tartály(ok)ból semmi sem szivároghat ki és azoknak a másodlagos csomagolásban a felszívóképes anyag által védve kell maradniuk.

**6.3.5.3.6** *A próbadarabok előkészítése az ejtőpróba*

**6.3.5.3.6.1** Vízpermet próba papírlemez esetén

Papírlemez külső csomagolóeszköz esetén: A próbadarabot legalább 1 órán át ki kell tenni vízpermetnek, ami kb. 5 cm/óra intenzitású esőnek felel meg. Ezután alá kell vetni a 6.3.5.3.1 pontban leírt próbának.

**6.3.5.3.6.2** Alacsony hőmérsékletű kondicionálás műanyagok esetén I

Műanyag elsődleges tartályok és külső csomagolóeszközök esetén: A próbadarabot és tartalmát  $-18^{\circ}\text{C}$ -os vagy még alacsonyabb hőmérsékletű atmoszférában kell tartani legalább 24 órán át és azután az ezen atmoszférából való eltávolítást követően 15 percen belül alá kell vetni a 6.3.5.3.1 pontban leírt próbának. Ha a próbadarab szárazjeget tartalmaz, a kondicionálás időtartama 4 órára csökkenthető.

**6.3.5.3.6.3** Kiegészítő ejtőpróba szárazjeget tartalmazó csomagolóeszközökre

Ha a csomagolóeszköznek szárazjeget kell tartalmaznia, a 6.3.5.3.1 és a 6.3.5.3.6.1, ill. 6.3.5.3.6.2 pontban előírt próbán kívül kiegészítő vizsgálatot kell végezni. Egy próbadarabot addig kell tárolni, amíg a szárazjég teljes mennyisége szublimál és azután a 6.3.5.3.2 pontban leírtak közül abban a helyzetben kell leejteni, amelyikben a legnagyobb valószínűséggel következik be a csomagolóeszköz sérülése.

**6.3.5.4** *Átlyukasztási próba***6.3.5.4.1** *7 kg vagy annál kisebb bruttó tömegű küldeménydarabok*

A próbadarabot vízszintes, kemény felületre kell állítani. Legalább 7 kg tömegű, 38 mm átmérőjű és a felütközési végén legfeljebb 6 mm-es sugárral lekerekített végű hengeres acélrudat kell ráejteni függőlegesen szabadeséssel a próbadarab felütközési felületétől a rúd felütközési végéig mért 1 m magasságból. Az első próbadarabot fenéklapjára kell állítani. Egy második próbadarabot az első alkalommal választott helyzetre merőlegesen kell elhelyezni. Az acélrúddal minden esetben az elsődleges tartály ütését kell megcélózni. Az egyes ütések követően a másodlagos csomagolásba való behatolás elfogadható, amennyiben az elsődleges tartály(ok)ból nem következett be szivárgás.

**6.3.5.4.2** *7 kg-nál nagyobb bruttó tömegű küldeménydarabok*

A próbadarabokat egy hengeres acélrúd végére kell ejteni. A rudat függőlegesen egy vízszintes, kemény felületbe kell befogni. A rúd átmérője 38 mm kell legyen és a felső végének lekerekítési sugara nem haladhatja meg a 6 mm-t. A rúdnak a felületből legalább annyira kell kiállnia, mint az elsődleges tartály(ok) közepe és a külső csomagolás legkülső felülete közötti távolság, de legalább 200 mm-re. Egy próbadarabot „fejjel lefelé” (vagyis olyan helyzetben, hogy a felső felülete van legalul) függőlegesen szabadeséssel a rúd felső végétől mért 1 m magasságból kell a rúdra ejteni. A második próbadarabot ugyanezen magasságból az első ejtésnél alkalmazott helyzethez képest merőlegesen kell ejteni. A küldeménydarabokat minden esetben úgy kell elhelyezni, hogy az acélrúd be tudjon hatolni az elsődleges tartály(ok)ba. Az egyes ütések követően a másodlagos csomagolóeszköz átlyukadása elfogadható, ha az elsődleges tartály(ok)ból nem következik be szivárgás.

**6.3.5.5** *Vizsgálati jegyzőkönyv***6.3.5.5.1** A vizsgálatokról legalább a következő adatokat tartalmazó, jegyzőkönyvet kell írásba foglalni, amit a csomagolóeszköz felhasználói számára hozzáférhetővé kell tenni:

1. A vizsgálatot végző szerv neve és címe;
2. A vizsgálatot kérő neve és címe (ha szükséges);
3. A vizsgálati jegyzőkönyv egyedi azonosítója;
4. A vizsgálat ideje és a vizsgálati jegyzőkönyv kelte;
5. A csomagolóeszköz gyártója;
6. A csomagolóeszköz típus leírása (pl. méretek, anyagok, zárószerkezetek, falvastagság stb.), beleértve a gyártási módszert (pl. üreges test fűvás), ami rajzzal és/vagy fényképpel kiegészíthető;
7. Legnagyobb ürtartalom;
8. A vizsgálat alatti tartalom;
9. A vizsgálatok leírása és eredményei;
10. A vizsgálati jegyzőkönyvet alá kell írni, az aláíró nevét és beosztását fel kell tüntetni.

**6.3.5.5.2** A vizsgálati jegyzőkönyvnek megállapítást kell tartalmaznia arra nézve, hogy a szállításra előkészített csomagolás ezen fejezet megfelelő rendelkezéseivel összhangban került vizsgálatra és más csomagolási módszerek vagy alkotórészek használata azt érvénytelenné teheti. A vizsgálati jegyzőkönyv egy példányát az illetékes hatóság rendelkezésére kell bocsátani.

**6.4 FEJEZET****A 7 OSZTÁLY KÜLDEMÉNYDARABJAINAK ÉS ANYAGAINAK  
GYÁRTÁSÁRA, VIZSGÁLATÁRA ÉS JÓVÁHAGYÁSÁRA  
VONATKOZÓ KÖVETELMÉNYEK**

- 6.4.1** (fenntartva)
- 6.4.2** **Általános követelmények**
- 6.4.2.1** A küldeménydarabot úgy kell megtervezni a tömegére, térfogatára és alakjára vonatkozólag, hogy könnyen és biztonságosan kezelhető és szállítható legyen, továbbá, hogy a szállítás alatt a szállítóeszközön vagy azon belül megfelelően rögzíteni lehessen.
- 6.4.2.2** A kivitelnek olyannak kell lennie, hogy a küldeménydarabon bármely emelő szerelvény rendeltetésszerű használat közben ne romoljon el, és ha a meghibásodás mégis bekövetkezik, az ne rontsa a küldeménydarabnak azt a képességét, hogy megfeleljen a többi ADR előírásnak. A kivitelnél figyelembe kell venni a hirtelen emelés miatt szükséges biztonsági tényezőket.
- 6.4.2.3** Az emelő szerelvényeket, ill. a küldeménydarab külső felületén lévő minden olyan tartozékot, amit a küldeménydarab emelésére lehet használni, úgy kell megtervezni, hogy azok vagy elbírják a küldeménydarab tömegét a 6.4.2.2 bekezdés előírásainak megfelelően, vagy eltávolíthatónak kell lenniük, vagy úgy kell kialakítani, hogy a szállítás idejére használatra alkalmatlanná lehessen tenni.
- 6.4.2.4** Amennyire csak lehetséges, a csomagolást úgy kell tervezni és elkészíteni, hogy a külső felületeken kiálló kiemelkedések ne legyenek, és könnyen lehessen a szennyezettségtől mentesíteni.
- 6.4.2.5** Amennyire lehetséges, a küldeménydarab külső burkolatát úgy kell tervezni, hogy az a vizet ne gyűjtse össze és ne tartsa meg.
- 6.4.2.6** Bármely, a szállítás idejére a küldeménydarabhoz mellékelt szerkezet, amely nem része a küldeménydarabnak, nem csökkentheti annak biztonságát.
- 6.4.2.7** A küldeménydarabnak a tartályok zárószerkezeteinek bármilyen meghibásodása vagy a küldeménydarab egészének sérülése nélkül ellen kell tudnia állni a normális szállítási feltételek között valószínűleg fellépő gyorsulási, rezgési vagy rezonancia hatásoknak. Különösen a csavarokat, csavaranyákat és más biztonsági szerkezeteket kell úgy tervezni, hogy többszöri, megismételt használat után is megelőzhető legyen lazulásuk vagy nem szándékos kinyílásuk.
- 6.4.2.8** A csomagolás anyagainak és bármely alkatrészének vagy szerkezetének fizikailag és kémiaiilag összeférhetőnek kell lennie egymással és a radioaktív tartalommal. Figyelembe kell venni viselkedésüket besugárzás hatására is.
- 6.4.2.9** Minden olyan szelepet, amelyen keresztül a radioaktív tartalom kiszabadulni képes, illetéktelen működtetéssel szemben védetté kell tenni.
- 6.4.2.10** A küldeménydarab tervezésekor figyelembe kell venni a normális szállítási feltételek mellett valószínűleg előforduló környezeti hőmérsékleteket és nyomásokat.
- 6.4.2.11** A más veszélyes tulajdonságokkal is rendelkező radioaktív anyagoknál a küldeménydarab tervezésekor ezeket a veszélyes tulajdonságokat számításba kell venni; lásd a 2.1.3.5.3 és a 4.1.9.1.5 pontot.

**6.4.2.12** A csomagolóeszköz gyártójának és forgalmazójának információt kell nyújtania a követendő eljárásokra és a zárószerkezetek (beleértve a szükséges tömítéseket) típusára és méreteire és minden más alkatrészre, ami annak biztosításához szükséges, hogy a szállításra előkészített küldeménydarab képes legyen az e fejezet vonatkozó igénybevételi próbáinak elviselésére.

**6.4.3** (fenntartva)

**6.4.4 Az engedményes küldeménydarabokra vonatkozó követelmények**

Az engedményes küldeménydarabnak a 6.4.2 szakaszban meghatározott követelményeket kell kielégíteniük.

**6.4.5 Az ipari küldeménydarabokra vonatkozó követelmények**

**6.4.5.1** Az *IP-1*, *IP-2* és *IP-3* típusú küldeménydaraboknak a 6.4.2 szakasz és a 6.4.7.2 bekezdés követelményeit kell kielégíteniük.

**6.4.5.2** Az *IP-2* típusú küldeménydarab esetében, ha alávetnék a 6.4.15.4 és a 6.4.15.5 bekezdésben meghatározott vizsgálatoknak, akkor nem következhet be:

- a) a radioaktív tartalom elvesztése vagy szétszóródása; és
- b) a küldeménydarab bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

**6.4.5.3** Az *IP-3* típusú küldeménydarabnak a 6.4.7.2 – 6.4.7.15 bekezdésben meghatározott minden követelményt ki kell elégítenie.

**6.4.5.4 Alternatív követelmények az *IP-2* és *IP-3* típusú küldeménydarabokra**

**6.4.5.4.1** Egy küldeménydarab *IP-2* típusú küldeménydarabként akkor használható, ha:

- a) eleget tesz a 6.4.5.1 bekezdés követelményeinek;
- b) úgy tervezték, hogy megfeleljen a 6.1 fejezetben az I vagy II csomagolási csoportra előírt követelményeknek; és
- c) ha alávetnék a 6.1 fejezetben a I vagy II csomagolási csoportra előírt vizsgálatoknak, akkor nem következne be:
  - i) a radioaktív tartalom elvesztése vagy szétszóródása; és
  - ii) a küldeménydarab bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

**6.4.5.4.2** A mobil tartány *IP-2* vagy *IP-3* típusú küldeménydarabként is használható, ha:

- a) eleget tesz a 6.4.5.1 bekezdés követelményeinek;
- b) úgy tervezték, hogy megfeleljen a 6.7 fejezetben előírt követelményeknek, és képes 265 kPa próbanyomás elviselésére; és
- c) úgy tervezték, hogy bármilyen kiegészítő árnyékolással van is ellátva, a normális kezelési és szállítási feltételek között ellenáll a statikus és dinamikus hatásoknak, és nem következhet be a mobil tartány bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

**6.4.5.4.3** A mobil tartányokon kívül más tartányokat is lehet *IP-2* vagy *IP-3* típusú küldeménydarabként a 4.1.9.2.4 táblázatban előírtak szerint *LSA-I* és *LSA-II* folyékony anyagok és gázok szállítására használni, ha:

- a) eleget tesz a 6.4.5.1 bekezdés követelményeinek;

- b) úgy tervezték, hogy megfeleljen a 6.8 fejezetben előírt követelményeknek; és
- c) úgy tervezték, hogy bármilyen kiegészítő árnyékolással van is ellátva, a normális kezelési és szállítási feltételek között ellenáll a statikus és dinamikus hatásoknak, és nem következhet be tartány bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

**6.4.5.4.4** Tartósan zárt kialakítású konténerek is használhatók *IP-2* vagy *IP-3* típusú küldeménydarabként, ha:

- a) a radioaktív tartalom csak szilárd anyag;
- b) kielégítik a 6.4.5.1 bekezdés követelményeit; és
- c) tervezésük olyan, hogy megfeleljenek az ISO 1496-1:1990 „1. sorozat Teherkonténerek – Meghatározások és Vizsgálatok – Első rész: Általános teherkonténerek” szabványban meghatározott követelményeknek, kivéve a méreteket és a terhelési határokat. Ezeket úgy kell tervezni, hogy ha alávetnék az ezen előírásban meghatározott próbáknak és a normális szállítási körülmények mellett előforduló gyorsulásoknak, nem következne be:
  - i) a radioaktív tartalom elvesztése vagy szétszóródása; és
  - ii) a konténer bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

**6.4.5.4.5** A fém IBC-k is használhatók *IP-2* vagy *IP-3* típusú küldeménydarabként, ha:

- a) kielégítik 6.4.5.1 bekezdés előírásait; és
- b) a kivitelük megfelel a 6.5 fejezetben az I vagy II csomagolási csoportra vonatkozó követelményeknek és ha alávetnék a 6.5 fejezetben előírt vizsgálatoknak, de az ejtési próbát olyan helyzetben végeznék, hogy a legnagyobb sérülést szenvedje, nem következne be:
  - i) a radioaktív tartalom elvesztése vagy szétszóródása; és
  - ii) az IBC bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

**6.4.6 Az urán-hexafluoridot tartalmazó küldeménydarabokra vonatkozó követelmények**

**6.4.6.1** Az urán-hexafluoridhoz tervezett küldeménydaraboknak ki kell elégíteniük az ADR máshol található azon előírásait, amelyek az anyag radioaktív és hasadó tulajdonságai miatt vonatkoznak rájuk. A 6.4.6.4 bekezdésben engedélyezett kivétellel a 0,1 kg vagy annál több urán-hexafluoridot az ISO 7195:1993 „Az urán-hexafluorid (UF<sub>6</sub>) csomagolása a szállításhoz” szabvány és a 6.4.6.2 és a 6.4.6.3 bekezdés előírásainak megfelelően kell csomagolni és szállítani.

**6.4.6.2** Minden küldeménydarabot, amelyet 0,1 kg vagy annál több urán-hexafluorid tartalomra terveztek, úgy kell kialakítani, hogy kielégítse a következő előírásokat:

- a) az ISO 7195:1993 szabványban meghatározott szivárgás és elfogadhatatlan feszültség fellépése nélkül elviselje a 6.4.21.5 bekezdésben meghatározott szerkezeti vizsgálatot;
- b) az urán-hexafluorid elvesztése vagy kiszóródása nélkül elviselje 6.4.15.4 bekezdésben meghatározott szabadejtési próbát;
- c) a biztonsági tartály törése nélkül elviselje a 6.4.17.3 bekezdésben meghatározott hőpróbát.

**6.4.6.3** A 0,1 kg vagy annál több urán-hexafluoridot tartalmazó küldeménydarabokat nem szabad nyomás csökkentő szerkezetekkel ellátni.

**6.4.6.4** A 0,1 kg vagy annál több urán-hexafluorid tartalomra tervezett küldeménydarabok az

illetékes hatóság engedélyével akkor is szállíthatók, ha:

- a) a küldeménydarabokat az ISO 7195:1993 szabványtól eltérő nemzeti vagy nemzetközi szabványok szerint tervezték, azonban a biztonság szintje azonos;
- b) a küldeménydarabokat úgy tervezték, hogy szivárgás és elfogadhatatlan feszültség fellépése nélkül elviseljük a 2,76 MPa-nál kisebb próbanyomást, mint azt a 6.4.21.5 bekezdés előírja; vagy
- c) a 9000 kg vagy ennél több urán-hexafluorid tartalomra tervezett küldeménydaraboknál a küldeménydarab nem elégti ki a 6.4.6.2 c) pont előírásait.

Egyébként a 6.4.6.1 – 6.4.6.3 bekezdés követelményeit kell kielégíteni.

#### **6.4.7 Az A típusú küldeménydarabokra vonatkozó követelmények**

- 6.4.7.1** Az A típusú küldeménydarabok kivitelének olyannak kell lennie, hogy megfeleljen a 6.4.2 szakasz általános követelményeinek, valamint a 6.4.7.2 – 6.4.7.17 bekezdésben meghatározott követelményeknek.
- 6.4.7.2** A küldeménydarab legkisebb külső mérete nem lehet 10 cm-nél kisebb.
- 6.4.7.3** A küldeménydarab külső oldalán megfelelő szerkezetnek (pl. ólomzárnak) kell lenni, amely nem könnyen törhető össze, és amelynek sértetlen állapota bizonyítja, hogy a küldeménydarabot nem nyitották fel.
- 6.4.7.4** Minden rögzítő szerelvénynek a küldeménydarabon olyan kialakításúnak kell lennie, hogy a szerelvényekben ébredő erők se normális szállítási körülmények, se baleseti körülmények esetén ne okozzák azt, hogy a küldeménydarab a továbbiakban nem felel meg az ADR előírásainak.
- 6.4.7.5** A küldeménydarab tervezésekor  $-40\text{ °C}$  ...  $+70\text{ °C}$  hőmérséklet-tartományt kell alapul venni a csomagolás alkotóelemeihez. Figyelembe kell venni a folyadéktartalom fagyási hőmérsékletét és a csomagolás anyagainak e hőmérséklet-tartományban bekövetkező lehetséges károsodását.
- 6.4.7.6** A tervezési és a gyártási technikának meg kell felelnie a belföldi és a nemzetközi előírásoknak vagy más olyan követelményeknek, amelyek az illetékes hatóság számára elfogadhatóak.
- 6.4.7.7** A konstrukciónak tartalmaznia kell egy kényszerrögzítő szerkezettel biztonságosan lezárt biztonsági tartályt, amely nem tud véletlenül vagy a küldeménydarabban esetleg keletkező nyomás hatására kinyílni.
- 6.4.7.8** A különleges formájú radioaktív anyag úgy tekinthető, mint a biztonsági tartály egyik alkotóeleme.
- 6.4.7.9** Ha a biztonsági tartály a küldeménydarab egy önálló egységét képezi, annak alkalmasnak kell lennie arra, hogy a csomagolás bármely más részétől független kényszerrögzítő szerkezettel biztonságosan lezárható legyen.
- 6.4.7.10** A biztonsági tartály bármely alkatrészének tervezésekor, ahol szükséges, figyelembe kell venni a folyadékok és más megtámadható anyagok radiolítikus bomlását, valamint a kémiai reakció és radiolízis általi gázfejlődést.
- 6.4.7.11** A biztonsági tartálynak meg kell őriznie radioaktív tartalmát a környezeti nyomás 60 kPa-ig történő csökkenése során is.
- 6.4.7.12** Minden szelepet, amely nem nyomáscsökkentő szelep, burkolattal kell védeni, hogy a szelepből jövő bármely szivárgást megtartsa.
- 6.4.7.13** Azt a sugárárnyékolást, amelyik egy olyan elemét veszi körül a küldeménydarabnak, amely a



biztonsági tartály része, úgy kell tervezni, hogy megakadályozza ennek az elemnek nem szándékos kikerülését az árnyékolásból. Ahol a sugárárnyékolás és benne az ilyen elem különálló szerkezetet képez, a sugárárnyékolást el kell látni kényszerrögzítésű biztonságos zárószervezettel, amely független a csomagolás bármely más részétől.

**6.4.7.14** A küldeménydarabot úgy kell kialakítani, hogy ha a 6.4.15 szakaszban meghatározott vizsgálatoknak alávetnék, nem következne be:

- a) a radioaktív tartalom elvesztése vagy szétszóródása; és
- b) a küldeménydarab bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

**6.4.7.15** A folyékony radioaktív anyagokhoz használatos küldeménydarab tervezésénél biztosítani kell, hogy legyen elegendő üres tér a tartalom hőmérséklet-változásának és a töltés során fellépő, ill. az egyéb erőhatások kiegyenlítésére.

***Folyékony anyagot tartalmazó A típusú küldeménydarab***

**6.4.7.16** A folyékony radioaktív anyagot tartalmazó A típusú küldeménydarabnak továbbá meg kell felelnie:

- a) az előző 6.4.7.14 a) pontban meghatározott követelményeknek, ha a küldeménydarabot alávetik a 6.4.16 szakaszban meghatározott vizsgálatoknak; és
- b) a következők egyikének:
  - i) annyi felszívóképes anyaggal kell ellátni, amennyi a folyadéktartalom kétszeresét képes felszívni. Az ilyen felszívóképes anyagot alkalmas módon kell elhelyezni, hogy szivárgás esetén a folyékony anyaggal érintkezni tudjon; vagy
  - ii) olyan biztonsági tartállyal kell ellátni, amely egy elsődleges, belső és egy másodlagos, külső visszatartó elemből készült, amely biztosítja a folyadék-tartalom megtartását a másodlagos, külső részben abban az esetben, ha az elsődleges, belső alkatrész kilyukadna.

***Gázokat tartalmazó A típusú küldeménydarab***

**6.4.7.17** Annak a küldeménydarabnak, amelyet gázok számára terveztek, meg kell akadályoznia a radioaktív tartalom elvesztését vagy szétterjedését, ha a küldeménydarabot alávetnék a 6.4.16 szakaszban meghatározott vizsgálatoknak. A trícium gáz vagy nemesgázok befogadására tervezett A típusú küldeménydarabot mentesíteni kell ez alól a követelmény alól.

**6.4.8 A B(U) típusú küldeménydarabokra vonatkozó követelmények**

**6.4.8.1** A B(U) típusú küldeménydarabokat úgy kell tervezni, hogy kielégítsék a 6.4.2 szakaszban meghatározott követelményeket, továbbá a 6.4.7.2 – 6.4.7.15 bekezdés követelményeit, kivéve a 6.4.7.14 a) pontban meghatározottakat, és ezenkívül kielégítsék a 6.4.8.2 – 6.4.8.15 bekezdésben meghatározott követelményeket.

**6.4.8.2** A küldeménydarabot úgy kell megtervezni, hogy a 6.4.8.5 és a 6.4.8.6 bekezdésben meghatározott környezeti feltételek mellett a radioaktív tartalom által a küldeménydarabon belül fejlesztett hő 6.4.15 szakasz szerinti normális szállítási feltételek között oly módon nem befolyásolhatja kedvezőtlenül a küldeménydarabot, hogy az a zártságra és sugárárnyékolásra vonatkozó követelményeket ne teljesítse, ha a küldeménydarab egy hétig felügyelet nélkül marad. Különösen a hő hatására kell figyelmet fordítani, ami:

- a) megváltoztathatja a radioaktív tartalom elhelyezkedését, geometriai alakját vagy fizikai állapotát; vagy ha az anyag fémtokba vagy tartályba van zárva (pl. tokozott fűtőelemek), előidézhetheti a fémtok, tartály vagy a radioaktív anyag deformációját vagy megolvadását; vagy

- b) csökkenti a csomagolás hatékonyságát a sugárnyékoló anyag eltérő hőtágulása, repedése vagy megolvadása miatt; vagy
- c) nedvesség jelenlétében gyorsítja a korróziót.

**6.4.8.3** A küldeménydarabot úgy kell tervezni, hogy a 6.4.8.5 bekezdésben meghatározott környezeti feltételek között és napbesugárzás nélkül a küldeménydarab hozzáférhető felületének hőmérséklete ne haladja meg az 50 °C-ot, kivéve, ha a küldeménydarabot kizárólagos használat mellett szállítják.

**6.4.8.4** A kizárólagos használat mellett szállított küldeménydarab szállítás alatt könnyen hozzáférhető bármely felületének legmagasabb hőmérséklete napbesugárzás nélkül, a 6.4.8.5 bekezdésben meghatározott környezeti körülmények között nem haladhatja meg a 85 °C-ot. Figyelembe vehetők a személyek védelmét szolgáló védőfalak vagy árnyékolások is anélkül, hogy a védőfalat vagy az árnyékolást vizsgálatnak kellene alávetni.

**6.4.8.5** A környezeti hőmérsékletet 38 °C-nak kell feltételezni.

**6.4.8.6** A napbesugárzási körülményeket a 6.4.8.6 táblázatban meghatározottak szerint kell feltételezni.

**6.4.8.6 táblázat Napbesugárzási adatok**

| Eset | A felület alakja és elhelyezkedése  | Napi 12 óra napbesugárzás (W/m <sup>2</sup> ) |
|------|---|---|
| 1    | Szállítás közben vízszintesen elhelyezkedő és lefelé néző, sík felületek  | 0   |
| 2    | Szállítás közben vízszintesen elhelyezkedő és felfelé néző, sík felületek | 800   |
| 3    | Szállítás közben függőlegesen elhelyezkedő felületek                      | 200 <sup>a)</sup>                             |
| 4    | Egyéb (nem vízszintesen elhelyezkedő) lefelé néző felületek               | 200 <sup>a)</sup>                             |
| 5    | Minden más felület  | 400 <sup>a)</sup>                             |

a) Szükség esetén szinusz függvényt lehet használni egy felvett elnyelési együtthatóval, és a szomszédos tárgytól származó lehetséges reflexió hatásai elhanyagolhatók.

**6.4.8.7** Az olyan hővédelemmel rendelkező küldeménydarabot, amely megfelel a 6.4.17.3 bekezdésben ismertetett hőpróba előírásainak, úgy kell kialakítani, hogy a hővédelem hatásos maradjon, ha a küldeménydarabot alávetik a 6.4.15 szakaszban meghatározott vizsgálatnak és a 6.4.17.2 a) és b), ill. a 6.4.17.2 b) és c) pontban meghatározott próbáknak, attól függően, melyik alkalmasabb. A küldeménydarab külsején levő ilyen védelem felszakítás, vágás, kaparás, dörzsölés vagy durva kezelés révén nem válhat hatástalanná.

**6.4.8.8** A küldeménydarabot úgy kell megtervezni, hogy ha alávetnék:

- a) a 6.4.15 szakaszban meghatározott próbáknak, a radioaktív tartalom vesztesége nem lenne több, mint  $10^{-6}A_2/h$ ; és
- b) a 6.4.17.1, a 6.4.17.2 b) a 6.4.17.3 és a 6.4.17.4 bekezdésben meghatározott vizsgálatoknak, és ezenkívül:
  - i) a 6.4.17.2 c) pontban meghatározott próbának, ha a küldeménydarab tömege nem több, mint 500 kg, külső méretei alapján átlagos sűrűsége nem nagyobb 1000 kg/m<sup>3</sup>-nél, és radioaktív tartalma – nem különleges formájú radioaktív anyagból – meghaladja az 1000A<sub>2</sub> értéket; vagy
  - ii) a 6.4.17.2 a) pontban meghatározott próbának minden más küldeménydarab esetén,

akkor kielégítené a következő követelményeket:

- elegendő árnyékoló hatása maradna, amely biztosítja, hogy a sugárzási szint a



küldeménydarab felületétől 1 m távolságban nem haladja meg a 10 mSv/h értéket a legnagyobb radioaktív tartalom esetén, amelynek befogadására a küldeménydarabot tervezték; és

- a radioaktív tartalom halmozott vesztesége egy hét alatt 85-kripton esetén nem lenne több, mint  $10A_2$ , ill. minden más radionuklidból  $A_2$ .

Amikor különféle radionuklid keverékek vannak jelen, a 2.2.7.2.2.4 – 2.2.7.2.2.6 pont szerinti módszert kell alkalmazni, kivéve a 85-kripton esetében, ahol  $A_2(i)$  tényleges értékének  $10A_2$  használható. Az előző a) pont szerinti esetben számításba kell venni a 4.1.9.1.2 pont szerinti külső szennyezettségi határokat.

- 6.4.8.9** A  $10^5A_2$ -nél nagyobb aktivitású radioaktív tartalomra tervezett küldeménydarabokat úgy kell kialakítani, hogy ha alávetnék a 6.4.18 szakaszban ismertetett fokozott vízbe merítési próbának, a biztonsági tartály nem repedne meg.
- 6.4.8.10** Az aktivitás-kibocsátás engedélyezett határát a szűrőktől, ill. a mechanikus hűtőrendszerrel függetlenül be kell tartani.
- 6.4.8.11** A küldeménydarabban a biztonsági tartályon nem lehet nyomás csökkentő szerkezet, amelyen keresztül a radioaktív tartalom a 6.4.15 és a 6.4.17 szakaszban meghatározott vizsgálatok körülményei között a környezetbe juthatna.
- 6.4.8.12** A küldeménydarabot úgy kell kialakítani, hogy ha a legnagyobb üzemi nyomáson alávetnék a 6.4.15 és a 6.4.17 szakaszban meghatározott vizsgálatoknak, a biztonsági tartályban a feszültség nem érne el olyan értéket, amely a küldeménydarabot olyan módon befolyásolná hátrányosan, hogy az nem tudná a vonatkozó követelményeket teljesíteni.
- 6.4.8.13** A küldeménydarab legnagyobb normális üzemi nyomása nem haladhatja meg a 700 kPa (túlnyomás) értéket.
- 6.4.8.14** A kis mértékben diszpergálódó radioaktív anyagot tartalmazó küldeménydarabot úgy kell kialakítani, hogy bármely, a kis mértékben diszpergálódó radioaktív anyaghoz hozzátett, de annak részét nem képező szerkezet, ill. a csomagolóeszköz bármely belső eleme ne befolyásolja kedvezőtlenül a kis mértékben diszpergálódó radioaktív anyag viselkedését.
- 6.4.8.15** A küldeménydarabot  $-40...+38$  °C környezeti hőmérsékletre kell tervezni.

#### **6.4.9 A $B(M)$ típusú küldeménydarabokra vonatkozó követelmények**

- 6.4.9.1** A  $B(M)$  típusú küldeménydaraboknak meg kell felelniük a 6.4.8.1 bekezdésben a  $B(U)$  típusú küldeménydarabokra vonatkozó követelményeknek, azzal a kivétellel, hogy azoknál a küldeménydaraboknál, amelyeket kizárólag meghatározott országokba vagy meghatározott országok között szállítanak, az ezen országok illetékes hatóságainak engedélyével a 6.4.7.5, a 6.4.8.5, a 6.4.8.6 és a 6.4.8.9 – 6.4.8.15 bekezdésben megadottaktól eltérő körülmények feltételezhetők. A 6.4.8.9 – 6.4.8.15 bekezdésben a  $B(U)$  típusú küldeménydarabokra meghatározott követelményeket azonban – amennyire csak lehetséges – be kell tartani.
- 6.4.9.2** A  $B(M)$  típusú küldeménydarabok szállítás alatti szakaszos szellőztetése engedélyezhető, amennyiben a szellőztetés működésének ellenőrzési gyakorlata az érintett illetékes hatóság számára elfogadható.

#### **6.4.10 A $C$ típusú küldeménydarabokra vonatkozó követelmények**

- 6.4.10.1** A  $C$  típusú küldeménydarabokat úgy kell kialakítani, hogy megfeleljenek a 6.4.2 szakaszban meghatározott követelményeknek, a 6.4.7.2 – 6.4.7.15 bekezdés követelményeinek, kivéve a 6.4.7.14 a) pontot, a 6.4.8.2 – 6.4.8.6, a 6.4.8.10 – 6.4.8.15, továbbá a 6.4.10.2 – 6.4.10.4 bekezdésben meghatározott követelményeknek.

**6.4.10.2** A küldeménydarabnak meg kell felelnie a 6.4.8.8 b) és a 6.4.8.12 bekezdésben szereplő vizsgálatokra előírt értékelési kritériumoknak  $0,33 \text{ W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$  hővezetéssel és  $38^\circ\text{C}$  hőmérséklettel jellemezhető környezetbe történő beágyazást követően, az egyensúly beállta után. Az értékelés során kiindulási körülményként azt kell feltételezni, hogy a küldeménydarab mindenféle hőszigetelése sértetlen marad, a küldeménydarab legnagyobb normál üzemi nyomáson van és a környezeti hőmérséklet  $38^\circ\text{C}$ .

**6.4.10.3** A küldeménydarabot úgy kell kialakítani, hogy ha az a legnagyobb normál üzemi nyomáson lenne és alávetnék:

- a) a 6.4.15 szakaszban meghatározott próbáknak, akkor a radioaktív tartalom vesztesége legfeljebb  $10^{-6} A_2/\text{h}$  lenne; és
- b) a 6.4.20.1 bekezdésben meghatározott próbának, kielégítené a következő követelményeket:
  - i) elegendő mértékű árnyékolása maradna ahhoz, hogy a sugárzási szint a küldeménydarab felületétől 1 m távolságban ne legyen több, mint  $10 \text{ mSv/h}$  a legnagyobb radioaktív tartalom esetében, aminek megtartására a küldeménydarabot tervezték; és
  - ii) a radioaktív tartalom halmozott vesztesége egy hét alatt 85-kripton esetén nem lenne több, mint  $10A_2$ , illetve minden más radionuklid esetén  $A_2$ .

Amikor különféle radionuklidok keverékei vannak jelen, a 2.2.7.2.2.4 – 2.2.7.2.2.6 pont előírásait kell alkalmazni, kivéve a 85-kripton esetében, ahol  $A_2(i)$  értékűül  $10A_2$  használható. Az előző a) pont szerinti esetben számításba kell venni a 4.1.9.1.2 pont szerinti külső szennyezettségi határokat.

**6.4.10.4** A küldeménydarabot úgy kell kialakítani, hogy a 6.4.18 szakaszban ismertetett fokozott vízbe merítési próba elvégzése után a biztonsági tartály ne repedjen meg.

#### **6.4.11 A hasadóanyagot tartalmazó küldeménydarabokra vonatkozó követelmények**

**6.4.11.1** A hasadóanyagot úgy kell szállítani, hogy:

- a) a szubkritikus állapot fennmaradjon mind normális szállítási körülmények között, mind baleset esetén; különösen a következő eshetőségekre kell tekintettel lenni:
  - i) víz szivárgása a küldeménydarabba vagy a küldeménydarabból;
  - ii) a beépített neutronelnyelők vagy moderátorok hatékonyságának elvesztése;
  - iii) a radioaktív tartalom lehetséges átrendeződése vagy a küldeménydarabon belül, vagy a küldeménydarabból való kiszóródás eredményeként;
  - iv) a távolság csökkenése a küldeménydarabokon belül vagy a küldeménydarabok között;
  - v) a küldeménydarabok vízbe merülése vagy hóba temetődése; és
  - vi) a hőmérséklet-változások; és
- b) megfelelően:
  - i) a hasadóanyagot tartalmazó küldeménydarabokra a 6.4.7.2 bekezdés előírásainak;
  - ii) az ADR máshol található előírásainak, amelyek az anyag radioaktív tulajdonságai miatt vonatkoznak rájuk; és
  - iii) a 6.4.11.3 – 6.4.11.12 bekezdésben meghatározott követelményeknek, kivéve, ha a 6.4.11.2 bekezdés mentességet ad ezek alól.

**6.4.11.2** A 2.2.7.2.3.5 pont a) – d) alpontja valamelyikének megfelelő hasadóanyagot nem szükséges olyan küldeménydarabokban szállítani, amely megfelel a 6.4.11.3 – 6.4.11.12 bekezdés előírásainak, ill. az ilyen hasadóanyag mentesül az ADR egyéb, hasadóanyagokra vonatkozó

követelményei alól. Küldeményenként csak egy fajta mentesítés engedélyezhető.

- 6.4.11.3** Ha a kémiai vagy fizikai forma, az izotóp összetétel, a tömeg vagy koncentráció, a moderálási arány vagy sűrűség, vagy a geometriai elrendezés nem ismeretes, a 6.4.11.7 – 6.4.11.12 bekezdés szerinti értékelést kell elvégezni, feltételezve, hogy minden ismeretlen értékű paraméter értéke a legnagyobb neutron sokszorozódást adó érték, amely az ezen értékelésben ismert feltételeknek és paramétereknek felel meg.
- 6.4.11.4** A besugárzott nukleáris üzemanyag esetében a 6.4.11.7 – 6.4.11.12 bekezdés szerinti értékelésnek a demonstrált izotóp összetételen kell alapulnia, amely biztosítja:
- a besugárzás története során a legnagyobb neutronsokszorozódást; vagy
  - a küldeménydarab értékeléséhez a neutron sokszorozódás óvatos becslését. Besugárzás után, de a szállítást megelőzően mérést kell végezni az izotóp összetétel konzervatív voltának bizonyítására.
- 6.4.11.5** A küldeménydarabnak olyannak kell lennie, hogy miután alávetették a 6.4.15 szakaszban meghatározott vizsgálatnak, egy 10 cm élhosszúságú kocka nem tud belehatolni.
- 6.4.11.6** A küldeménydarabot  $-40\text{ °C} \dots +38\text{ °C}$  környezeti hőmérsékletre kell tervezni, kivéve, ha az illetékes hatóság mást ír elő a küldeménydarab-minta engedélyében.
- 6.4.11.7** Az egyenként szigetelt küldeménydaraboknál azt kell feltételezni, hogy víz tud be- vagy kiszivárogni a küldeménydarab valamennyi üreges részébe, beleértve a biztonsági tartályt. Azonban, ha a kialakítás olyan, hogy egyes üreges részekbe a víz be- vagy kiszivárgásának megakadályozására különleges megoldással rendelkezik – még akkor is, ha emberi tévedés történne –, az ilyen üreges részekre vonatkozóan feltételezni lehet a szivárgásmentességet. Különleges megoldások közé tartozik:
- többrétegű, megbízható vízszigetelés, amelyek mindegyike hézagmentes maradna, ha a küldeménydarabot alávetnék a 6.4.11.12 b) pontban meghatározott vizsgálatoknak; szigorú minőségellenőrzés a küldeménydarabok gyártása, karbantartása és javítása során; és különleges vizsgálatok valamennyi küldeménydarab szállítás előtti zártságának kimutatására; vagy
  - csak a legfeljebb 5 tömeg% urán-235 dúsítású urán-hexafluoridot tartalmazó küldeménydarabokra:
    - a küldeménydaraboknál a 6.4.11.12 b) pontban előírt vizsgálatok után nincs fizikai érintkezés a szelep és a csomagolás bármely más része között, kivéve a csatlakozások eredeti pontjait, és ezenkívül a 6.4.17.3 bekezdésben előírt próba után a szelepek szivárgásmentesek maradnak; és
    - a csomagolóeszközök gyártásánál, karbantartásánál és javításánál magas szintű minőségellenőrzés vizsgálatokkal összekapcsolva minden küldeménydarab tömörségének bizonyítására az egyes szállítások előtt.
- 6.4.11.8** Fel kell tételezni, hogy a biztonsági tartályt a közvetlenül körülvevő legalább 20 cm-es vízréteg (vagy ezzel egyenértékű más anyag) által létrehozott reflexió vagy olyan nagyobb járulékos reflexió éri, amelyet a csomagolást körülvevő anyag biztosít. Azonban, ha bizonyítható, hogy a biztonsági tartály a 6.4.11.12 b) pontban leírt vizsgálatok után is a csomagolásban marad, a 6.4.11.9 c) pontban feltételezhető a küldeménydarab legalább 20 cm-es vízréteg általi közvetlen reflexiója.
- 6.4.11.9** A küldeménydarabnak szubkritikusnak kell lennie a 6.4.11.7 és a 6.4.11.8 bekezdés körülményei között és a legnagyobb neutron sokszorozódást eredményező küldeménydarab feltételek mellett, ami felléphet
- normális szállítási feltételek között (esemény mentes);
  - a 6.4.11.11 b) pontban előírt vizsgálatok során;
  - a 6.4.11.12 b) pontban előírt vizsgálatok során.

**6.4.11.10** (fenntartva)

**6.4.11.11** A normális szállítási feltételekre egy  $N$  számot kell képezni oly módon, hogy az  $N$  küldeménydarab ötszöröse az elrendezésre és a küldeménydarab azon feltételeire nézve szubkritikus legyen, amelyek a legnagyobb neutronsokszorozódást eredményezik összhangban a következőkkel:

- a) nincs semmi a küldeménydarabok között és a küldeménydarabok halmazát minden oldalról legalább 20 cm-es reflektáló vízréteg veszi körül; és
- b) küldeménydarabok állapotának feltételezetten vagy demonstráltan olyannak kell lennie, mintha alávettették volna azokat a 6.4.15 szakaszban meghatározott próbáknak.

**6.4.11.12** A szállítás baleseti feltételeire egy  $N$  számot kell képezni oly módon, hogy az  $N$  küldeménydarab kétszerese az elrendezésre és a küldeménydarab azon feltételeire nézve szubkritikus legyen, amelyek a legnagyobb neutronsokszorozódást eredményezik összhangban a következőkkel:

- a) hidrogéntartalmú moderátor van a küldeménydarabok között és a halmazt minden oldalról legalább 20 cm vastag reflektáló vízréteg veszi körül; és
- b) a 6.4.15 szakaszban meghatározott próbákkal, amelyeket a következők közül a jobban korlátozó követ:
  - i) a 6.4.17.2 b) pontban meghatározott próba és vagy a 6.4.17.2 c) pontban meghatározott próba, ha a küldeménydarab tömege nem több, mint 500 kg, külső méretei alapján átlagos sűrűsége nem nagyobb  $1000 \text{ kg/m}^3$ -nél, vagy a 6.4.17.2 a) pontban meghatározott próba minden más küldeménydarab esetén; amit a 6.4.17.3 bekezdésben meghatározott próba követ és végül a 6.4.19.1 – 6.4.19.3 bekezdésben meghatározott próbákkal zárul a vizsgálat; vagy
  - ii) a 6.4.17.4 bekezdésben meghatározott próba; és
- c) Ha a hasadóanyag bármely része kiszabadul a biztonsági tartályból a 6.4.11.12 b) pontban leírt próba után, akkor fel kell tételezni, hogy a hasadóanyag az elrendezésben levő minden küldeménydarabból kiszabadul és minden hasadóanyagot olyan konfigurációban és moderációban kell elrendezni, ami a legnagyobb neutron sokszorozódást eredményezi a legalább 20 cm-es vízréteg szoros reflexiójának megfelelő mértékben.

**6.4.11.13** A kritikussági biztonsági mutatószámot ( $CSI$ ) a hasadó anyagot tartalmazó küldeménydarabokra úgy kell meghatározni, hogy 50-et el kell osztani a 6.4.11.11 és a 6.4.11.12 bekezdésben levezetett két  $N$  érték közül a kisebbel (azaz  $CSI = 50/N$ ). A kritikussági biztonsági mutatószám lehet nulla, amennyiben a küldeménydarabok korlátlan száma kritikus alatti (szubkritikus) (azaz  $N$  mindkét esetben ténylegesen végtelen).

## **6.4.12 Vizsgálati eljárások és a megfeleléség bizonyítása**

**6.4.12.1** A 2.2.7.2.3.1.3, a 2.2.7.2.3.1.4, a 2.2.7.2.3.3.1, a 2.2.7.2.3.3.2, a 2.2.7.2.3.4.1, a 2.2.7.2.3.4.2 pontban és a 6.4.2 – 6.4.11 szakaszban előírt követelményeknek való megfelelést a következőkben felsorolt eljárások bármelyikével vagy valamely kombinációjukkal kell bizonyítani:

- a) *LSA-III* anyag vagy különleges formájú radioaktív anyag vagy kis mértékben diszpergálódó radioaktív anyag esetén a mintán, a prototípuson vagy a gyártásból kivett csomagoláson elvégzett vizsgálatokkal, amikor is a vizsgálatokhoz felhasznált mintadarab vagy csomagolás tartalmának, amennyire csak lehetséges hasonlítani kell a radioaktív tartalom várható összetételére, és a vizsgálandó mintadarabot vagy csomagolást úgy kell előkészíteni, ahogyan azt szállításra átadják.
- b) Megfelelő mértékben hasonló esetben korábban elvégzett bizonyítási eljárásra való

hivatkozással.

- c) Olyan modelleken végzett vizsgálatokkal, amelyek mérethűen tartalmazzák a vizsgált mintadarab lényeges jellemzőit, olyan esetekben, amikor a mérnöki tapasztalat szerint az ilyen vizsgálatok eredményei tervezési célokra alkalmasak. Amennyiben ilyen modellt használnak, bizonyos vizsgálati paramétereket, mint pl. az átdőfő rúd átmérőjét vagy a halmazolási terhelést, megfelelően módosítani kell.
- d) Számítással vagy ésszerű indokok alapján, amennyiben a számítási eljárások és a paraméterek általánosan elfogadottak, megbízhatók vagy hagyományosak.

**6.4.12.2** Miután a mintadarab, prototípus vagy minta vizsgálata megtörtént, megfelelő értékelési módszert kell alkalmazni annak tanúsítására, hogy a 2.2.7.2.3.1.3, a 2.2.7.2.3.1.4, a 2.2.7.2.3.3.1, a 2.2.7.2.3.3.2, a 2.2.7.2.3.4.1, a 2.2.7.2.3.4.2 pont vizsgálatokra vonatkozó előírásait és a 6.4.2 – 6.4.11 szakasz követelményeit betartották.

**6.4.12.3** Minden mintadarabot a próbák előtt azonosítás céljából meg kell vizsgálni, és a hiányosságokat vagy sérüléseket jegyzőkönyvezni kell a következők szerint:

- a) eltérés a gyártási mintától;
- b) gyártási hibák;
- c) korrózió vagy más elhasználódás; és
- d) külső alakváltozás.

A küldeménydarab biztonsági tartályának egyértelműen azonosíthatónak kell lennie. A mintadarab külső jellegzetességeinek egyértelműen azonosíthatónak kell lennie, hogy a mintadarab bármely részére egyszerűen és világosan hivatkozni lehessen.

#### **6.4.13 A biztonsági tartály és a sugárnyékolás sértetlenségének vizsgálata és a biztonsági kritikusság értékelése**

A 6.4.15 – 6.4.21 szakaszban meghatározott minden egyes alkalmazható próba után:

- a) a hibákat és a sérülést azonosítani és jegyzőkönyvezni kell;
- b) meg kell határozni, hogy a biztonsági tartály és a sugárnyékolás megőrizte-e zártágát a vizsgált küldeménydarabra vonatkozóan a 6.4.2 – 6.4.11 szakaszban előírt mértékben; és
- c) hasadóanyagot tartalmazó küldeménydaraboknál meg kell határozni, hogy a 6.4.11.1 – 6.4.11.12 bekezdésben előírt értékelésnél az egy vagy több küldeménydarabra alkalmazott feltételezések és körülmények érvényesek-e.

#### **6.4.14 Ütközőlap ejtési vizsgálatokhoz**

A 2.2.7.2.3.3.5 a), a 6.4.15.4, a 6.4.16 a), a 6.4.17.2 és a 6.4.20.2 bekezdésben meghatározott ejtési vizsgálatokhoz az ütközőlapnak olyan jellegű sima, vízszintes felületűnek kell lennie, hogy a mintadarab felütközése során létrejött elmozdulás vagy alakváltozás által okozott ellenállás növekedése ne növelje észrevehető módon a mintadarab károsodását.

#### **6.4.15 Vizsgálat a normális szállítási körülmények elviselésének bemutatására**

**6.4.15.1** A vizsgálat vízpermet, szabadejtési, halmazolási és átdőfési próbából áll. A küldeménydarab mintadarabjait alá kell vetni a szabadejtési, halmazolási és átdőfési próbáknak, előtte azonban minden esetben el kell végezni a vízpermet-próbát. Egy mintadarabot lehet használni az összes vizsgálatához, feltéve, hogy a 6.4.15.2 bekezdés követelményei teljesülnek.

**6.4.15.2** A vízpermet-próba és az utána következő vizsgálat közötti időtartamnak annyinak kell lennie, hogy a víz beszívódása a legnagyobb mértékű legyen a mintadarab külsejének

észrevehető száradása nélkül. Ha semmi nem szól ellene, akkor ennek az időtartamnak két órának kell lennie, ha a vízpermet egyszerre négy irányból hat. Nem kell szünetet tartani, ha a vízpermet a négy irányból egymás után éri a mintadarabot.

**6.4.15.3** *Vízpermetpróba:* A mintadarabot úgy kell alávetni a vízpermetpróbának, hogy az ki legyen téve legalább egy óra hosszat tartó, óránként mintegy 5 cm intenzitású esőnek megfelelő hatásnak.

**6.4.15.4** *Szabadejtési próba:* a mintadarabot úgy kell az ütközőlapra ejteni, hogy a vizsgálandó – biztonsági szempontból legfontosabb – részeket a legnagyobb károsodás érje.

- A mintadarab legalsó pontjától az ütközőlap felső felületéig mért ejtési magasság nem lehet kevesebb, mint a 6.4.15.4 táblázatban a tömeg függvényében megadott távolság. Az ütközőlapnak olyannak kell lennie, ahogyan a 6.4.14 szakaszban meg van határozva.
- Az 50 kg-nál nem nagyobb tömegű, szögletes, papírlemez vagy fa küldeménydarabok egy külön példányát 0,3 m magasságból mindegyik sarkára le kell ejteni.
- A 100 kg-nál nem nagyobb tömegű hengeres papírlemez küldeménydarabok egy külön példányát 0,3 m magasságból mindkét végén a kör alakú perem minden egyes körnegyedére le kell ejteni.

**6.4.15.4 táblázat Ejtési magasságok a küldeménydarabok normális szállítási körülményeinek vizsgálatához**

| A küldeménydarab tömege (kg)              | Szabad ejtési magasság (m) |
|---|----------------------------|
| a küldeménydarab tömege < 5 000           | 1,2                        |
| 5 000 ≤ a küldeménydarab tömege < 10 000  | 0,9                        |
| 10 000 ≤ a küldeménydarab tömege < 15 000 | 0,6                        |
| 15 000 ≤ a küldeménydarab tömege          | 0,3                        |

**6.4.15.5** *Halmazolási próba:* kivéve azokat az eseteket, amikor a csomagolás alakja a halmazolást nem teszi lehetővé, a mintadarabot 24 órán át olyan nyomóterhelés hatásának kell kitenni, amely a következők közül a nagyobb:

- a tényleges küldeménydarab tömegének ötszöröse; és
- a küldeménydarab függőleges vetületi felülete szorozva 13 kPa-lal.

A terhelésnek egyenletesen kell a mintadarab két, egymással szemben levő oldalára hatnia, amelyek közül az egyik az alaplappal legyen, amelyen a küldeménydarab általában nyugszik.

**6.4.15.6** *Átdőfési próba:* A mintadarabot kemény, sík, vízszintes lapra kell helyezni, amelynek nem szabad észrevehető módon elmozdulnia a próba végrehajtása során.

- A 3,2 cm-es átmérőjű hengeres, félgömbben végződő, 6 kg tömegű rudat hossztengetyével függőlegesen úgy kell a mintadarab leggyengébb részének közepére ejteni, hogy ha elég mélyen hatol be, éppen a biztonsági tartályt találja el. A próba végrehajtása során a rúd nem szenvedhet észrevehető alakváltozást.
- Az ejtési magasságnak a rúd alsó végétől a mintadarab felső felületén azon pontig, ahová az ejtés irányul, 1 m-nek kell lennie.

**6.4.16** *Folyadékok és gázok szállítására tervezett A típusú küldeménydarabok kiegészítő vizsgálata*

Egyetlen vagy más-más mintadarabot kell a következő próbák mindegyikének alávetni, kivéve, ha a próbák valamelyike bizonyíthatóan szigorúbb a kérdéses mintadarabra, mint a többi. Ez utóbbi esetben egy mintadarabot kell a legszigorúbb próbának alávetni.

- Szabadejtési próba:* A mintadarabot úgy kell az ütközőlapra ejteni, hogy a védelmet a legnagyobb károsodás érje. Az ejtési magasságnak a mintadarab legalsó részétől az



ütközőlap felső felületéig 9 m-nek kell lennie. Az ütközőlapnak olyannak kell lennie, ahogy a 6.4.14 szakaszban meg van határozva.

- b) **Átdőfési próba:** A mintadarabot alá kell vetni a 6.4.15.6 bekezdésben meghatározott próbának, azzal az eltéréssel, hogy az ejtési magasságot a 6.4.15.6 b) pontban meghatározott 1 m-ről 1,7 m-re kell növelni.

#### **6.4.17 Vizsgálatok a szállítás közben bekövetkező balesetekkel szembeni ellenálló képesség bemutatására**

**6.4.17.1** A mintadarabot a 6.4.17.2 és a 6.4.17.3 bekezdésben meghatározott próbák halmozott hatásának kell alávetni a felsorolás sorrendjében. A próbákat követően vagy ugyanezt vagy egy másik mintadarabot vízbe merítési próbá(k)nak kell alávetni a 6.4.17.4 bekezdésben és ha alkalmazható, a 6.4.18 szakaszban meghatározottak szerint.

**6.4.17.2** **Mechanikai próba:** A mechanikai próba három különböző ejtési vizsgálatból áll. Minden mintadarabot a 6.4.8.8 vagy a 6.4.11.12 bekezdésben meghatározott ejtéseknek kell alávetni. Az ejtési próbák sorrendjét úgy kell megválasztani, hogy a mechanikai vizsgálat befejezése után a mintadarab károsodása az azt követő hőpróba során a legnagyobb mértékű legyen.

- a) Az 1. ejtés során a mintadarabot úgy kell az ütközőlapra ejteni, hogy az a legnagyobb sérülést szenvedje el, és az ejtési magasságnak a mintadarab legalsó pontjától az ütközőlap felső felületéig 9 m-nek kell lennie. Az ütközőlapnak olyannak kell lenni, ahogy a 6.4.14 szakaszban meg van határozva.
- b) A 2. ejtés során a mintadarabot oly módon kell ejteni, hogy abban az ütközőlapra függőlegesen rögzített hegyes rúd a legnagyobb sérülést okozza. Az ejtési magasságnak a mintadarab ütközésre szánt pontja és a rúd felső felülete között 1 m-nek kell lennie. A rúdnak szerkezeti acélból készült, tömör hengeres testnek kell lennie, amelynek átmérője  $15 \text{ cm} \pm 0,5 \text{ cm}$ , és hosszúsága 20 cm, hacsak hosszabb rúd nem idézhet elő nagyobb károsodást. Ez esetben a legnagyobb károsodást okozó, elegendő hosszúságú rudat kell alkalmazni. A rúd felső végének sík, vízszintes felületűnek kell lennie, szélének lekerekítési sugara ne legyen több, mint 6 mm. Az ütközőlapnak, amelyből a rúd kiemelkedik, a 6.4.14 szakasz szerintinek kell lennie.
- c) A 3. ejtés során a mintadarabot dinamikus összenyomási próbának kell alávetni; a mintadarabot ütközőlapra kell fektetni, és úgy kell ráejteni 9 m magasból 500 kg tömeget, hogy a mintadarab a legnagyobb károsodást szenvedje el. A tömegnek 1 m x 1 m-es szilárd szerkezeti acél lapnak kell lennie, és vízszintes helyzetben kell leesnie. Az ejtési magasságot a tömeg alsó lapja és a mintadarab legmagasabb pontja között kell mérni. Az ütközőlapnak, amelyen a mintadarab elhelyezkedik, a 6.4.14 szakasz szerintinek kell lennie.

**6.4.17.3** **Hőpróba:** A mintadarabnak 38 °C-os környezeti hőmérsékleten termikus egyensúlyban kell lennie a 6.4.8.6 táblázatban meghatározott napbesugárzási körülmények és a radioaktív tartalomtól a küldeménydarab belsejében történő – a tervezésnél alapul vett – legnagyobb mértékű hőfejlődés feltételei mellett. Alternatívaként ezen paraméterek bármelyike eltérő értékű is lehet a próba előtt és alatt, amennyiben a küldeménydarab megfelelő reakciójának értékelése során ezt figyelembe veszik.

A hőpróbanak a következőkből kell állnia:

- a) a mintadarab teljes egészét 30 percig olyan termikus környezetbe kell helyezni, ami legalább akkora hőfluxust biztosít, mint a szénhidrogén-levegő keverék lángja kellően nyugodt környezeti körülmények mellett, legalább 800 °C közepes lánghőmérséklet és legalább 0,9 közepes kisugárzási tényező esetén; a mintát teljesen lánggal körülvéve a felület abszorpciós tényezőjének vagy 0,8-nak vagy olyan értékűnek kell lennie, amelyet a küldeménydarab a meghatározott tűz hatására feltételezhetően mutatna; majd ezt követően
- b) a mintát elegendően hosszú ideig 38 °C-os környezeti hőmérsékletnek kell kitenni, a

6.4.8.6 táblázatban meghatározott napbesugárzási körülményeknek és a radioaktív tartalomtól a küldeménydarab belsejében történő legnagyobb mértékű hőfejlődés feltételei mellett, hogy a hőmérséklet a küldeménydarabban mindenütt csökkenjen és/vagy elérje a kezdeti állandósult körülményeket. Alternatívaként ezen paraméterek bármelyike eltérő értékű is lehet a próba előtt és alatt, amennyiben a küldeménydarab viselkedésének értékelése során ezt megfelelő módon figyelembe veszik.

A próba alatt és után a mintát nem kell mesterségesen hűteni és a minta anyagának esetleges égését hagyni kell természetes módon folytatódni.

**6.4.17.4** *Vízbe merítési próba:* A mintadarabot legalább 15 m vízoszlop nyomásával azonos nyomású víz alatt kell tartani legalább nyolc órán keresztül olyan helyzetben, amelyik a legnagyobb sérüléshez vezet. Ilyen nyomásnak tekinthető a legalább 150 kPa külső nyomás (túlnyomás).

**6.4.18** **Fokozott vízbe merítési próba a  $10^5 A_2$ -nél nagyobb aktivitást tartalmazó  $B(U)$  és  $B(M)$  típusú küldeménydarabokra és  $C$  típusú küldeménydarabokra**

*Fokozott vízbe merítési próba:* A mintadarabot legalább 200 m vízoszlop nyomásával azonos nyomású vízben (víz alatt) kell tartani legalább egy órán keresztül. Ilyen nyomásnak tekinthető a legalább 2 MPa külső nyomás (túlnyomás).

**6.4.19** **Hasadóanyagot tartalmazó küldeménydarabok vízszivárgás-próbája**

**6.4.19.1** Az olyan küldeménydarabokat, amelyeknél a víz beszivárgást és kiszivárgást a legnagyobb reaktivitást eredményezőnek feltételezték a 6.4.11.7 – 6.4.11.12 bekezdés szerinti értékelés céljából, mentesíteni kell a próba alól.

**6.4.19.2** Mielőtt a mintadarabot a következőkben ismertetett vízszivárgási próbának alávetnék, el kell végezni rajta a 6.4.17.2 b) pont szerinti próbát és a 6.4.17.2 a) vagy c) pont szerinti próbát, mint azt a 6.4.11.12 bekezdés előírja, továbbá a 6.4.17.3 bekezdésben előírt próbát.

**6.4.19.3** A mintadarabot legalább 0,9 m vízoszlop nyomásával azonos víznyomás alatt kell tartani legalább nyolc órán keresztül olyan helyzetben, amelynél a legnagyobb szivárgás várható.

**6.4.20** **A  $C$  típusú küldeménydarabok vizsgálata**

**6.4.20.1** A küldeménydarabokat meghatározott sorrendben alá kell vetni a következő próbáknak:

- a) a 6.4.17.2 a), a 6.4.17.2 c), a 6.4.20.2 és a 6.4.20.3 bekezdésben előírt próbák; és
- b) a 6.4.20.4 bekezdésben előírt próba.

Az a) és b) pont szerinti próbákat nem szükséges ugyanazon a mintadarabon végrehajtani.

**6.4.20.2** *Átlyukasztási/felhasítási próba:* A mintát szerkezeti acélból készült, tömör acéltest károsító hatásának kell kitenni. Az acéltest helyzetének a minta felületéhez képest olyannak kell lennie, hogy a 6.4.20.1 a) pontban meghatározott vizsgálatssorozat eredményeként a legnagyobb sérülés következzen be.

- a) A 250 kg-nál kisebb tömegű küldeménydarabot képviselő mintát az ütközőlapra kell helyezni és ki kell tenni a kiválasztott ütközési pont felett 3 m magasból leeső 250 kg tömegű acéltest hatásának. Ennél a próbánál az acéltestnek 20 cm átmérőjű, 30 cm hosszú hengeres rúdnak kell lennie, amelynek egyenes csonkakúp alakú felütköző végénél az átmérő 2,5 cm, szélének lekerekítési sugara ne legyen több, mint 6 mm. Az ütközőlapnak, amelyre a mintát állítani kell, a 6.4.14 szakasz szerintinek kell lennie;
- b) 250 kg vagy nagyobb tömegű küldeménydarab esetén az acéltestet a felütköző végével felfelé az ütközőlapra kell állítani és a mintát kell ráejteni. Az ejtési magasságnak a minta felütközési pontjától az acéltest felső felületéig mérve 3 m-nek kell lennie. Ehhez a próbához az acéltestnek ugyanolyan jellemzőkkel és méretekkkel kell bírnia,



mint ahogy az előző a) bekezdésben meg van határozva, azzal az eltéréssel, hogy az acéltest hosszának és tömegének olyannak kell lennie, ami a minta legnagyobb mértékű sérülését okozza. Az ütközőlapnak, amelyre az acéltestet alapjával rá kell állítani, a 6.4.14 szakasz szerintinek kell lennie.

**6.4.20.3** *Fokozott hőpróba:* a próbát a 6.4.17.3 bekezdésben meghatározott körülmények között kell végrehajtani, azzal az eltéréssel, hogy a mintadarabot a termikus környezetnek 60 perc időtartamra kell kitenni.

**6.4.20.4** *Ütőpróba:* a mintát a legnagyobb sérülést okozó helyzetben legalább 90 m/s felütközési sebességgel kell az ütközőlapnak ütköztetni. Az ütközőlapnak a 6.4.14 szakasz szerintinek kell lennie azzal az eltéréssel, hogy az ütközőfelület bármilyen irányban elhelyezhető, ha merőleges a minta pályájára.

**6.4.21 A 0,1 kg vagy annál több urán-hexafluoridot tartalmazó csomagolóeszközök vizsgálata**

**6.4.21.1** Minden csomagolóeszközt és üzemi, ill. szerkezeti szerelvényeit vagy együttesen vagy külön-külön első alkalommal az üzembe helyezés előtt és később időszakonként meg kell vizsgálni. Ezt a vizsgálatot az illetékes hatóság egyetértésével kell végrehajtani és tanúsítani.

**6.4.21.2** Az üzembe helyezés előtti vizsgálat a gyártási típus vizsgálatából, szerkezetvizsgálatból, tömörségvizsgálatból, víztérfogat-meghatározásból és az üzemi szerelvények kielégítő működésének vizsgálatából áll.

**6.4.21.3** Az időszakos vizsgálat szemrevételezésből, szerkezetvizsgálatból, tömörségvizsgálatból és az üzemi szerelvények kielégítő működésének vizsgálatából áll. Az időszakos vizsgálat határideje legfeljebb öt év. Azokat a csomagolóeszközöket, amelyek ezen ötéves időtartamon belül nem kerültek vizsgálatra, szállítás előtt az illetékes hatóság által jóváhagyott program szerint kell felülvizsgálni. Ezek csak az időszakos vizsgálatra vonatkozó teljes körű program végrehajtása után tölthetők meg ismét.

**6.4.21.4** A gyártási típus vizsgálatnak bizonyítania kell a gyártási típus és a gyártási program előírásainak betartását.

**6.4.21.5** A 0,1 kg vagy annál több urán-hexafluorid befogadására szolgáló csomagolóeszközöket legalább 1,38 MPa nyomással folyadéknyomás-próbának kell alávetni, de ha a próbanyomás 2,76 MPa-nál kevesebb, a minta többoldalú jóváhagyást igényel. A csomagolóeszközök ismételt vizsgálatára más, azonos értékű, roncsolásmentes vizsgálat többoldalú jóváhagyás esetén alkalmazható.

**6.4.21.6** A tömörségvizsgálatot olyan eljárással kell végezni, amely biztonsági tartálynál 0,1 Pa-l/s ( $10^{-6}$  bar-l/s) érzékenységgel képes a szivárgás megállapítására.

**6.4.21.7** A csomagolóeszköz víztérfogatát 15 °C-ra vonatkoztatva  $\pm 0,25\%$  pontossággal kell meghatározni. A térfogatot a 6.4.21.8 bekezdésben előírt táblán fel kell tüntetni.

**6.4.21.8** Minden csomagolóeszközt nem korrodáló fémből készült táblát kell tartós módon egy könnyen hozzáférhető helyre erősíteni. A tábla felerősítésének módja nem befolyásolhatja a csomagolóeszköz szilárdságát. A táblára legalább a következő adatokat kell beütéssel vagy más hasonló eljárással felvinni:

- az engedély száma;
- a gyártó sorozatszám;
- legnagyobb üzemi nyomás (túlnyomás);
- próbanyomás (túlnyomás);
- tartalom: urán-hexafluorid;
- úrtartalom literben;
- az urán-hexafluorid töltet megengedett legnagyobb tömege;

- saját tömeg;
- az üzembe helyezés előtti vizsgálat és az utoljára végrehajtott időszakos vizsgálat időpontja (hónap, év);
- a vizsgálatot végző szakértő bélyegzőlenyomata.

#### **6.4.22 A küldeménydarab minták és anyagok engedélyezése**

**6.4.22.1** A 0,1 kg vagy annál több urán-hexafluoridot tartalmazó küldeménydarabok mintáinak engedélyezésénél:

- a) minden mintához, amely kielégíti a 6.4.6.4 bekezdés követelményeit, többoldalú engedély szükséges;
- b) minden mintához, amely kielégíti a 6.4.6.1–6.4.6.3 bekezdés előírásait a minta származási országa illetékes hatóságának egyoldalú engedélye szükséges, kivéve, ha az ADR-ben egyébként többoldalú engedély van előírva.

**6.4.22.2** Minden egyes  $B(U)$  és  $C$  típusú küldeménydarab mintához egyoldalú engedély kell, kivéve:

- a) a hasadó anyag küldeménydarab mintáját, ami a 6.4.22.4, a 6.4.23.7 bekezdés és az 5.1.5.2.1 pont hatálya alá esik és amelyhez többoldalú engedély kell; és
- b) a kis mértékben diszpergálódó radioaktív anyag  $B(U)$  típusú küldeménydarab mintáját, amelyhez többoldalú engedély kell.

**6.4.22.3** Minden  $B(M)$  típusú küldeménydarab mintához, beleértve a hasadó anyagot tartalmazót, amely a 6.4.22.4, a 6.4.23.7 bekezdés és az 5.1.5.2.1 pont hatálya alá is esik, és a kis mértékben diszpergálódó radioaktív anyagot tartalmazókat, többoldalú engedély szükséges.

**6.4.22.4** Minden olyan hasadó anyagot tartalmazó küldeménydarab mintához, amely a 6.4.11.2 bekezdés szerint nincs mentesítve a hasadó anyagot tartalmazó küldeménydarabokra vonatkozó előírások alól, többoldalú engedély szükséges.

**6.4.22.5** A különleges formájú radioaktív anyag mintájához egyoldalú engedély kell. A kis mértékben diszpergálódó radioaktív anyag mintájához többoldalú engedély szükséges (lásd a 6.4.23.8 bekezdést is).

**6.4.22.6** Valamely ADR Szerződő Félől származó bármely mintát, amelyhez egyoldalú engedély kell, ezen állam illetékes hatóságának kell engedélyeznie. Amennyiben az az állam, amelyben a küldeménydarabot tervezték, nem ADR Szerződő Fél, a szállítás csak akkor engedélyezett, ha:

- a) ez az állam tanúsítványt állít ki, amely szerint a küldeménydarab megfelel az ADR műszaki előírásainak és ezt a tanúsítványt a küldemény által érintett első ADR Szerződő Fél illetékes hatósága elismeri;
- b) amennyiben nincs semmiféle tanúsítvány mellékelve, a küldeménydarab mintáját a küldemény által érintett első ADR Szerződő Fél illetékes hatóságai engedélyezik.

**6.4.22.7** Az átmeneti előírások alapján engedélyezett mintákra lásd az 1.6.6 szakaszt.

#### **6.4.23 Engedély iránti kérelmek és engedélyek a radioaktív anyagok szállításához**

**6.4.23.1** (fenntartva)

**6.4.23.2** A szállítási engedély iránti kérelemnek tartalmaznia kell:

- a) a szállítási időszakot, amelyre az engedélyt kérik;
- b) a tényleges radioaktív tartalom adatait, a tervezett szállítási módokat, a járműtípust és a lehetséges vagy tervezett szállítási útvonalat; és

- c) annak részletezését, hogy milyen módon hajtják végre a küldeménydarab-mintának az 5.1.5.2.1 pont szerint kiállított engedélyokiratában nevesített óvőrendszabályokat és adminisztratív vagy üzemi ellenőrzéseit.

**6.4.23.3**

A külön megegyezés alapján történő szállításra vonatkozó engedély iránti kérelemnek minden olyan információt tartalmaznia kell, ami szükséges az illetékes hatóság meggyőzésére, bizonyítva, hogy a szállítás során az általános biztonság legalább annak megfelel, amely fennállna akkor, ha az ADR minden vonatkozó előírását betartották volna.

Az engedély iránti kérelemnek tartalmaznia kell:

- a) felvilágosítást arra, hogy a szállítást milyen vonatkozásban és milyen okokból nem lehet az ADR vonatkozó előírásaival teljes összhangban végrehajtani;
- b) adatokat a különleges biztonsági előírásokra vagy különleges adminisztratív vagy üzemi ellenőrzésekre, amelyeket a szállítás során végre kell hajtani, hogy az ADR vonatkozó előírásaitól való eltéréseket ellensúlyozzák.

**6.4.23.4**

A *B(U)* típusú vagy *C* típusú küldeménydarab minta engedélyezése iránti kérelemnek tartalmaznia kell:

- a) a tervezett radioaktív tartalom részletes leírását, adatokat annak fizikai és kémiai állapotára és a kibocsátott sugárzás fajtájára;
- b) a gyártási minta részletes leírását, beleértve a teljes körű szerkezeti rajzokat, anyagjegyzéket és az alkalmazandó gyártási eljárást;
- c) jegyzőkönyvet a vizsgálatokról és azok eredményeiről, vagy számítási eljárásról vagy más bizonyítékot arra, hogy a minta a vonatkozó előírásoknak megfelel;
- d) a javasolt üzemelési és karbantartási utasításokat a küldeménydarab használatához;
- e) ha a küldeménydarab 100 kPa túlnyomásnál nagyobb legnagyobb normál üzemi nyomásra van kialakítva, az engedély iránti kérelemnek ki kell térni a biztonsági tartály gyártásához felhasznált anyagokra, azok specifikációira, a mintavételre és az elvégzendő vizsgálatokra;
- f) ha a tervezett radioaktív tartalom besugárzott fűtőelem, a kérelmezőnek a biztonsági vizsgálatokban szereplő minden feltételezést, amely a fűtőelem tulajdonságaira vonatkozik, ki kell fejtenie és igazolnia kell, és le kell írnia az esetleges szállítást megelőző intézkedéseket, mint azt a 6.4.11.4 b) pont előírja;
- g) minden különleges rakodási feltételt, amely a küldeménydarabból a biztonságos hőelvezetéshez szükséges, figyelembe véve az alkalmazásra kerülő különböző szállítási módokat, jármű- és konténertípusokat;
- h) a küldeménydarabot ábrázoló, 21 x 30 cm-nél nem nagyobb, másolható képet, ami bemutatja a küldeménydarab összeállítását; és
- i) az alkalmazott minőségbiztosítási program specifikációját, mint azt az 1.7.3 szakasz előírja.

**6.4.23.5**

A *B(M)* típusú küldeménydarab mintára vonatkozó engedély iránti kérelemnek a 6.4.23.4 bekezdésben a *B(U)* típusú küldeménydarabra előírt adatokon kívül kiegészítésként a következőket kell tartalmaznia:

- a) a 6.4.7.5, a 6.4.8.5, a 6.4.8.6 és a 6.4.8.9 – 6.4.8.15 bekezdésben meghatározott azon követelmények felsorolását, amelyeknek a küldeménydarab nem felel meg;
- b) a kiegészítésként tervezett üzemeltetési óvintézkedéseket, amelyeket a szállítás alatt kell végrehajtani, és amelyeket az ADR egyébként nem ír elő, de szükségesek ahhoz, hogy a küldeménydarab biztonsága megmaradjon vagy az előző a) pontban felsorolt hiányosságok ellensúlyozásához;
- c) a szállítási módokra vonatkozó bármilyen korlátozás bejelentését, és az esetleges különleges berakási, szállítási, kirakási vagy kezelési eljárásokat; és

- d) a szállítás alatt várhatóan fellépő különböző környezeti feltételeket (hőmérséklet, napsugárzás), amelyeket a tervezés során figyelembe vettek.

**6.4.23.6** A 0,1 kg vagy annál több urán-hexafluoridot tartalmazó küldeménydarabok mintáira vonatkozó engedély kérelemnek tartalmaznia kell minden információt, amely az illetékes hatóságot meggyőzheti arról, hogy a minta megfelel a 6.4.6.1 bekezdés előírásainak és az alkalmazott minőségbiztosítási program leírását, mint azt az 1.7.3 szakasz előírja.

**6.4.23.7** A hasadó anyagot tartalmazó küldeményre vonatkozó engedély kérelemnek tartalmaznia kell minden információt, amely az illetékes hatóságot meggyőzheti arról, hogy a minta megfelel a 6.4.11.1 bekezdés előírásainak és az alkalmazott minőségbiztosítási program leírását, mint azt az 1.7.3 szakasz előírja.

**6.4.23.8** A különleges formájú radioaktív anyag és a kis mértékben diszpergálódó radioaktív anyag mintára vonatkozó engedély kérelemnek a következőket kell tartalmaznia:

- a radioaktív anyag, vagy ha kapszuláról van szó, a tartalom pontos leírását, különösen a fizikai és kémiai állapot megadásával;
- az alkalmazott kapszula gyártási típusának pontos leírását;
- jelentést az elvégzett vizsgálatokról és azok eredményeiről, vagy a számításokról, amelyek bizonyítják, hogy a radioaktív anyag megfelel az előírásoknak, vagy más bizonyítékot arra, hogy a különleges formájú radioaktív anyag vagy a kis mértékben diszpergálódó radioaktív anyag kielégíti az ADR vonatkozó előírásait;
- az alkalmazott minőségbiztosítási program leírását, mint azt az 1.7.3 szakasz előírja; és
- a különleges formájú radioaktív anyag vagy a kis mértékben diszpergálódó radioaktív anyag feladása során a szállítás előtt elvégezni javasolt teendőket.

**6.4.23.9** Az illetékes hatóság által kiadott minden engedélyokiratot egy azonosító jelöléssel kell ellátni. Ennek a jelölésnek a következő általános alakúnak kell lennie:

Az állam jele/szám/típus kód:

- A 6.4.23.10 b) pontban előírtak kivételével annak az államnak a jele, amely az engedélyt kiadta a nemzetközi forgalomban résztvevő gépjárművek államjelzésének formájában<sup>1)</sup>.
- A számot az illetékes hatóságnak kell kiadnia és ez meghatározott mintára vagy meghatározott szállításra vonatkozik. A szállítási engedélyhez kiadott jelölésnek egyértelműen kapcsolatban kell lenni a küldeménydarab-minta engedélyéhez kiadott azonosító jelöléssel.
- A következő kódokat az engedélyokirat típusának jelölésére a következők szerint kell alkalmazni:

|             |  |
|-------------|--|
| <i>AF</i>   | A típusú küldeménydarab-minta hasadóanyagokhoz                         |
| <i>B(U)</i> | <i>B(U)</i> típusú küldeménydarab-minta [ <i>B(U)F</i> hasadóanyaghoz] |
| <i>B(M)</i> | <i>B(M)</i> típusú küldeménydarab-minta [ <i>B(M)F</i> hasadóanyaghoz] |
| <i>C</i>    | <i>C</i> típusú küldeménydarab-minta [ <i>CF</i> hasadóanyaghoz]       |
| <i>IF</i>   | Ipari küldeménydarabok hasadóanyagokhoz                                |
| <i>S</i>    | Különleges formájú radioaktív anyagok                                  |
| <i>LD</i>   | Kis mértékben diszpergálódó radioaktív anyagok                         |
| <i>T</i>    | Szállítás  |
| <i>X</i>    | Külön megegyezés.  |

Nemhasadó vagy hasadó-engedményes urán-hexafluoridra vonatkozó küldemény-

1) Lásd a Közúti közlekedésről szóló Bécsi Egyezményt (Bécs, 1968).

darab-minta esetében, ha az előző kódokat nem használják, a következő kódokat kell használni:

$H(U)$  Egyoldalú engedély

$H(M)$  Többoldalú engedély.

- d) A küldeménydarab mintákra és a különleges formájú radioaktív anyagokra vonatkozó engedélyokiratokban, az 1.6.6.2 és az 1.6.6.3 bekezdés átmeneti előírásai szerinti kibocsátott engedélyek kivételével, és a kis mértékben diszpergálódó radioaktív anyagokra vonatkozó engedélyokiratokban a típus kódhoz a „-96” szimbólumot hozzá kell fűzni.

#### 6.4.23.10

Ezeket a kódokat a következőképpen kell alkalmazni:

- a) Minden okiratot és minden küldeménydarabot el kell látni a megfelelő jelöléssel, amely a 6.4.23.9 a), b), c) és d) pontban előírt szimbólumokból áll, azzal a kivétellel, hogy küldeménydaraboknál csak a megfelelő gyártási típuskódot, adott esetben a „-96” szimbólumot is beleértve, kell a második ferde vonal után feltüntetni, azaz a T vagy X nem jelenik meg a küldeménydarab jelölésében. Amennyiben a küldeménydarab mintára és a szállításra vonatkozó engedélyek egyetlen okirattá vannak összefogva, a megfelelő kódokat nem kell megismételni. Például:

A/132/B(M)F-96:  $B(M)$  típusú küldeménydarab hasadóanyaghoz, amelyhez többoldalú engedély szükséges és amelyhez az illetékes ország, Ausztria hatósága a 132 azonosító jelölést adta ki (A küldeménydarabra fel kell vinni és a küldeménydarab-minta engedélyokiratába be kell írni);

A/132/B(M)F-96T: szállítási engedély az előzőekben megjelölt azonosítóval ellátott küldeménydarabra kiadva (Csak az engedélyokiratban kell feltüntetni);

A/137/X: külön megegyezés, melyet Ausztria illetékes hatósága fogadott el és a 137 azonosító jelöléssel látott el. (Csak az engedélyokiratban kell feltüntetni);

A/139/IF-96: hasadóanyagokat tartalmazó ipari küldeménydarab-minta, melyet Ausztria illetékes hatósága engedélyezett és a 139 azonosító jelöléssel látott el (mind a küldeménydarabon, mind a küldeménydarab minta engedélyében fel kell tüntetni); és

A/145/H(U)-96: küldeménydarab minta hasadó engedélyezett urán-hexafluoridra, amelyet Ausztria illetékes hatósága engedélyezett és a 145 azonosító jelöléssel látott el (mind a küldeménydarabon, mind a küldeménydarab minta engedélyében fel kell tüntetni).

- b) Amennyiben egy többoldalú engedély a 6.4.23.16 bekezdés szerint érvényességi záradékkal lett kiadva, csak azt a jelölést kell alkalmazni, amelyet a küldeménydarab-minta származási vagy feladási országa adott ki. Amennyiben egy többoldalú engedélyt a különböző országokban egymásután kiállított engedélyokiratok révén adnak ki, akkor minden engedélyokiratban fel kell tüntetni a megfelelő azonosító jelölést és a küldeménydarabokat, amelynek gyártási típusa ebben a formában engedélyezett lett, el kell látni minden megfelelő azonosító jelöléssel.

Például a küldeménydarab

A/132/B(M)F-96

CH/28/B(M)F-96

jelölése osztrák eredetre utal, amelyet azután egy további engedélyokirat révén Svájc is engedélyezett. Az esetleges további jelöléseket a küldeménydarabon hasonló módon egymás alatt kell feltüntetni.

- c) Az engedélyokirat felülvizsgálatát a jelölés mellett közvetlenül zárójelben kell feltüntetni. Például az A/132/B(M)F-96(Rev.2) a küldeménydarabra vonatkozó osztrák engedélyokirat második felülvizsgálatát, vagy az A/132/B(M)F-96(Rev.0) a küldeménydarab osztrák engedélyének eredeti okiratát jelenti. Az első alkalommal történő kiadás zárójelben való feltüntetése fakultatív, a Rev.0 helyett más szavak is, pl. „eredeti kiadás” alkalmazhatók. Engedély felülvizsgálati számot csak az eredeti engedélyt kibocsátó ország adhat.
- d) A jelölés végéhez kiegészítő szimbólumok fűzhetők zárójelben (ha ezt az egyes országokban előírják), pl. A/132/B(M)F-96 (SP503).
- e) Nem szükséges, hogy a jelölést a csomagoláson az engedélyokirat minden felülvizsgálatakor megváltoztassák. Az ilyen jellegű jelölésváltoztatás csak akkor szükséges, ha az engedélyokirat felülvizsgálata a küldeménydarab-minta második ferde vonal utáni betű kódjának megváltozásával jár.

**6.4.23.11**

Az illetékes hatóság által a különleges formájú radioaktív anyagokra vagy kis mértékben diszpergálódó radioaktív anyagokra kiadott valamennyi engedélyokiratnak a következő információkat kell tartalmaznia:

- a) az igazolás fajtáját;
- b) az illetékes hatóság által kiadott azonosító jelét;
- c) a kiadás időpontját és az érvényesség időtartamát;
- d) az alkalmazott belföldi és nemzetközi szabályzatok felsorolását, beleértve a NAÜ „Szabályzat a radioaktív anyagok biztonságos szállítására” kiadványát, amelynek alapján a különleges formájú radioaktív anyagot vagy a kis mértékben diszpergálódó radioaktív anyagot engedélyezték;
- e) a különleges formájú radioaktív anyag vagy a kis mértékben diszpergálódó radioaktív anyag azonosítását;
- f) a különleges formájú radioaktív anyag vagy a kis mértékben diszpergálódó radioaktív anyag leírását;
- g) a különleges formájú radioaktív anyag vagy a kis mértékben diszpergálódó radioaktív anyag tervének részletes leírását, amely tartalmazhat rajzokra való hivatkozásokat;
- h) a radioaktív tartalom részletes leírását, amely tartalmazza a szóban forgó aktivitások értékét, és tartalmazhatja a fizikai és kémiai állapotának leírását;
- i) az alkalmazott minőségbiztosítási program részletes leírását, mint az az 1.7.3 szakaszban elő van írva;
- j) a kérelmező által szolgáltatandó, a szállítás előtt végrehajtandó különleges tevékenységekre vonatkozó információkra való hivatkozást;
- k) ha az illetékes hatóság szükségesnek tartja, hivatkozást a kérelmező kilétére;
- l) az igazolást kiállító hivatalnak nevét és aláírását.

**6.4.23.12**

Az illetékes hatóság által a külön megegyezésekről kiadott valamennyi jóváhagyási igazolásnak a következő információkat kell tartalmaznia:

- a) az igazolás fajtáját;
- b) az illetékes hatóság által kiadott azonosító jelet;
- c) a kiadás időpontját és az érvényesség időtartamát;
- d) a szállítási módo(ka)t;
- e) bármilyen korlátozást a szállítási módra, a szállító jármű, ill. a konténer típusára és szükség esetén az útvonalra vonatkozó utasításokat;
- f) az alkalmazott belföldi és nemzetközi szabályzatok felsorolását, beleértve a NAÜ „Szabályzat a radioaktív anyagok biztonságos szállítására” kiadványát, amelyek



alapján a külön megegyezést jóváhagyták;

- g) a következő nyilatkozatot: „Ez az igazolás nem mentesíti a feladót azon előírások teljesítése alól, amelyet bármelyik ország kormánya hozott, amelyen keresztül vagy ahova a küldeménydarabot szállítják”;
- h) hivatkozást egy alternatív radioaktív tartalomra vonatkozó igazolásra, egy illetékes hatóság másik engedélyére, vagy kiegészítő műszaki adatokra vagy információra, ha ezt az illetékes hatóság szükségesnek tartja;
- i) a csomagolás leírását, hivatkozással a tervrajzokra vagy a tervek részletes ismertetésére. Ha az illetékes hatóság megfelelőnek tartja, a küldeménydarab összeállítását mutató, 21 cm x 30 cm-nél nem nagyobb tervrajz másolat csatolása is elfogadható a csomagolás rövid leírásának mellékelésével, amely tartalmazza a gyártási anyagokat, a bruttó tömeget, a főbb külső méreteket és a megjelenést;
- j) az engedélyezett radioaktív tartalom leírását, beleértve a radioaktív tartalom bármilyen korlátozását, amely a csomagolás természetéből nem magától értetődő. Ennek tartalmaznia kell a fizikai és a kémiai tulajdonságok leírását, a vele járó aktivitásokat (beleértve az izotópváltozatok ilyen tulajdonságait, ha ilyenek vannak), a mennyiségeket grammban (hasadóanyagoknál), és azt, hogy különleges formájú anyagról vagy kis mértékben diszpergálódó radioaktív anyagról van-e szó;
- k) a hasadóanyagok számára tervezett küldeménydaraboknál kiegészítésként:
  - i) az engedélyezett radioaktív tartalom részletes leírását;
  - ii) a kritikussági biztonsági mutatószám értékét;
  - iii) hivatkozást olyan dokumentációra, amely bizonyítja a tartalom kritikussági biztonságát;
  - iv) minden különleges sajátosságot, amelynek alapján a víz hiányát feltételezték üres terekben a kritikussági értékelés során;
  - v) a kritikussági értékelésnél figyelembe vett neutron sokszorozódás megengedett változtatását (a 6.4.11.4 b) pont szerint) a tényleges besugárzási tapasztalatok alapján;
  - vi) a környezeti hőmérséklet tartományt, amelyet a külön megegyezés tartalmaz;
- l) a járulékos üzemeltetési intézkedések pontos felsorolását, amelyeket a küldemény - előkészítése, berakása, szállítása, kirakása és kezelése megkíván, beleértve a biztonságos hőelvezetésre vonatkozó minden különleges rakodási előírást;
- m) ha az illetékes hatóság szükségesnek tartja, a külön megegyezés indoklását;
- n) a külön megegyezés alapján történő szállítás miatti intézkedések leírását;
- o) hivatkozást azokra az információkra, amelyeket a kérelmező szolgáltatott a csomagolás használatára vonatkozóan vagy azokra a különleges intézkedésekre, amelyeket a szállítás megkezdése előtt el kell végezni;
- p) nyilatkozatot a tervezéskor feltételezett környezeti körülményekre vonatkozóan, ha azok nem felelnek meg a 6.4.8.5, a 6.4.8.6, illetve a 6.4.8.15 bekezdésben meghatározottaknak;
- q) minden vészhelyzeti intézkedést, amelyet az illetékes hatóság szükségesnek tart;
- r) az alkalmazott minőségbiztosítási program részletes leírását, amint az az 1.7.3 szakaszban elő van írva;
- s) ha az illetékes hatóság szükségesnek tartja, hivatkozást a kérelmező és a szállító kiletére;
- t) az igazolást kiállító hivatalnok nevét és aláírását.

#### 6.4.23.13

Az illetékes hatóság által kiadott valamennyi, a szállításra vonatkozó jóváhagyási

igazolásnak a következő információkat kell tartalmaznia:

- a) az igazolás fajtáját;
- b) az illetékes hatóság által kiadott azonosító jelet;
- c) a kiadás időpontját és az érvényesség időtartamát;
- d) az alkalmazott nemzeti és nemzetközi szabályzatok felsorolását, beleértve a NAÜ „Szabályzat a radioaktív anyagok biztonságos szállítására” kiadványát, amelyek alapján a szállítást jóváhagyták;
- e) bármilyen korlátozást a szállítási módra, a szállító jármű, ill. a konténer típusára és szükség esetén az útvonalra vonatkozó utasításokat;
- f) a következő nyilatkozatot: „Ez az igazolás nem mentesíti a feladót azon előírások teljesítése alól, amelyet bármelyik ország kormánya hozott, amelyen keresztül vagy ahova a küldeménydarabot szállítják”;
- g) a járulékos üzemeltetési intézkedések pontos felsorolását, amelyeket a küldemény - előkészítése, berakása, szállítása, kirakása és kezelése megkíván, beleértve a biztonságos hőelvezetésre vonatkozó minden különleges rakodási előírást;
- h) a kérelmező által szolgáltatott információkra való hivatkozást a szállítás előtt végrehajtandó különleges tevékenységekre;
- i) hivatkozást a vonatkozó küldeménydarab minta engedélyokirat(ok)ra;
- j) a tényleges radioaktív tartalom leírását, beleértve a radioaktív tartalom bármilyen korlátozását, amely a csomagolás természetéből nem magától értetődő. Ennek tartalmaznia kell a fizikai és a kémiai tulajdonságok leírását, a vele járó aktivitásokat (beleértve az izotópváltozatok ilyen tulajdonságait, ha ilyenek vannak), a mennyiségeket grammban (hasadóanyagoknál), és azt, hogy különleges formájú anyagról vagy kis mértékben diszpergálódó radioaktív anyagról van-e szó;
- k) minden vészhelyzeti intézkedést, amelyet az illetékes hatóság szükségesnek tart;
- l) az alkalmazott minőségbiztosítási program részletes leírását, amint az az 1.7.3 szakaszban elő van írva;
- m) ha az illetékes hatóság szükségesnek tartja, hivatkozást a kérelmező kilétére;
- n) az igazolást kiállító hivatalnok nevét és aláírását.

#### 6.4.23.14

Az illetékes hatóság által a küldeménydarab-mintákra kiadott valamennyi jóváhagyási igazolásnak a következő információkat kell tartalmaznia:

- a) az igazolás fajtáját;
- b) az illetékes hatóság által kiadott azonosító jelet;
- c) a kiadás időpontját és az érvényesség időtartamát;
- d) a szállítási mód esetleges korlátozását;
- e) az alkalmazott belföldi és nemzetközi szabályzatok felsorolását, beleértve a NAÜ „Szabályzat a radioaktív anyagok biztonságos szállítására” kiadványát, amelyek alapján a mintát jóváhagyták;
- f) a következő nyilatkozatot: „Ez az engedély nem mentesíti a feladót azon előírások teljesítése alól, amelyet bármely ország kormánya hozott, amelyen keresztül vagy ahova a küldeménydarabot szállítják”;
- g) hivatkozást egy alternatív radioaktív tartalomra vonatkozó igazolásra, egy illetékes hatóság másik engedélyére, vagy kiegészítő műszaki adatokra vagy információra, ha ezt az illetékes hatóság szükségesnek tartja;
- h) nyilatkozatot a szállítás engedélyezéséről, ha az 5.1.5.1.2 pont szerint a szállításhoz engedélyre van szükség, és ha az ilyen nyilatkozat elegendő;



- i) a csomagolóeszköz azonosítóját;
- j) a csomagolás leírását, hivatkozással a rajzokra vagy a tervek részletes ismertetésére. Ha az illetékes hatóság megfelelőnek tartja, a küldeménydarab összeállítását mutató, 21 cm x 30 cm-nél nem nagyobb tervrajz másolat csatolása is elfogadható a csomagolás rövid leírásának mellékelésével, amely tartalmazza a gyártási anyagokat, a bruttó tömeget, a főbb külső méreteket és a megjelenést;
- k) a minta ismertetését hivatkozással a rajzokra;
- l) az engedélyezett radioaktív tartalom leírását, beleértve a radioaktív tartalom bármilyen korlátozását, amely a csomagolás természetéből nem magától értetődő. Ennek tartalmaznia kell a fizikai és a kémiai tulajdonságok leírását, a vele járó aktivitásokat (beleértve az izotópváltozatok ilyen tulajdonságait, ha ilyenek vannak), a mennyiségeket grammban (hasadóanyagoknál), és azt, hogy különleges formájú anyagról vagy kis mértékben diszpergálódó radioaktív anyagról van-e szó;
- m) a biztonsági tartály leírását;
- n) a hasadóanyagokat tartalmazó küldeménydaraboknál kiegészítésként:
  - i) az engedélyezett radioaktív tartalom részletes leírását;
  - ii) a megtartó rendszer leírását;
  - iii) a kritikussági biztonsági mutatószám értékét;
  - iv) hivatkozást olyan dokumentációra, amely bizonyítja a tartalom kritikussági biztonságát;
  - v) minden különleges sajátosságot, amelynek alapján a víz hiányát feltételezték üres terekben a kritikussági értékelés során;
  - vi) a kritikussági értékelésnél figyelembe vett neutron sokszorozódás megengedett változtatását (a 6.4.11.4 b) pont szerint) a tényleges besugárzási tapasztalatok alapján;
  - vii) a környezeti hőmérséklet tartományt, amelyet a külön megegyezés tartalmaz;
- o) *B(M)* típusú küldeménydaraboknál a 6.4.7.5, 6.4.8.4, 6.4.8.5, 6.4.8.6 és 6.4.8.9 – 6.4.8.15 bekezdés azon előírásainak felsorolását, amelyeknek a küldeménydarab nem felel meg, és minden olyan kiegészítő információt, ami hasznos lehet más illetékes hatóságok számára;
- p) a 0,1 kg vagy annál több urán-hexafluoridot tartalmazó küldeménydaraboknál a 6.4.6.4 bekezdés rá vonatkozó előírásainak felsorolását (ha van ilyen), és minden olyan kiegészítő információt, ami hasznos lehet más illetékes hatóságok számára;
- q) a járulékos üzemeltetési intézkedések pontos felsorolását, amelyeket a küldemény előkészítése, berakása, szállítása, kirakása és kezelése megkíván, beleértve a biztonságos hőelvezetésre vonatkozó minden különleges rakodási előírást;
- r) hivatkozást azokra az információkra, amelyeket a kérelmező szolgáltatott a csomagolóeszköz használatára vonatkozóan vagy azokra a különleges intézkedésekre, amelyeket a szállítás megkezdése előtt el kell végezni;
- s) nyilatkozatot a tervezéskor feltételezett környezeti feltételekre vonatkozóan, ha azok nem felelnek meg a 6.4.8.5, a 6.4.8.6, illetve a 6.4.8.15 bekezdésben meghatározottaknak;
- t) az alkalmazott minőségbiztosítási program részletes leírását, amint az az 1.7.3 szakaszban elő van írva;
- u) minden vészhelyzeti intézkedést, amelyet az illetékes hatóság szükségesnek tart;
- v) ha az illetékes hatóság szükségesnek tartja, hivatkozást a kérelmező kilétére;
- w) az igazolást kiállító hivatalnok nevét és aláírását.

- 6.4.23.15** Az illetékes hatóságot értesíteni kell az általa az 1.6.6.2.1, az 1.6.6.2.2 pont, a 6.4.22.2, a 6.4.22.3 és a 6.4.22.4 bekezdés szerint jóváhagyott minta alapján gyártott minden csomagolóeszköz sorszámáról.
- 6.4.23.16** A többoldalú engedélyek a minta származási országa vagy a feladási ország illetékes hatóságai által kiadott eredeti engedélyokiratok érvényességi záradékolásával is létrejöhetnek. Ilyen érvényességi záradékolás történhet az eredeti engedélyokiratra vonatkozó egyetértési észrevételezéssel vagy egy külön egyetértési okirat, melléklet, kiegészítés stb. készítésével azon ország illetékes hatósága által, amelyen keresztül vagy amelybe a szállítás történik.

## 6.5 FEJEZET

**A NAGYMÉRETŰ CSOMAGOLÓESZKÖZÖK (IBC-k)  
GYÁRTÁSÁRA ÉS VIZSGÁLATÁRA VONATKOZÓ ELŐÍRÁSOK**

**6.5.1 Általános előírások****6.5.1.1 Az előírások hatálya**

**6.5.1.1.1** E fejezet előírásai azokra a nagyméretű csomagolóeszközökre (IBC-kre) vonatkoznak, amelyek használata bizonyos veszélyes anyagok szállításához a 3.2 fejezet „A” táblázat 8 oszlopában megadott csomagolási utasítások szerint engedélyezett. A 6.7, ill. a 6.8 fejezet követelményeit kielégítő mobil tartányok, ill. tankkonténerek nem tekinthetők IBC-nek. Az e fejezet követelményeit kielégítő IBC-k nem tekinthetők az ADR értelmében vett konténernek. A szöveg további részében a nagyméretű csomagolóeszközök megjelölésére csakis az IBC rövidítés szolgál.

**6.5.1.1.2** Az illetékes hatóság kivételesen jóváhagyhat olyan IBC-t, ill. üzemi szerelvényeket, amelyek szigorúan véve nem felelnek meg az itt szereplő követelményeknek, de elfogadható változatot jelentenek. Ezenkívül a tudományos és műszaki haladás figyelembe vétele érdekében az illetékes hatóság ugyancsak elfogadhat olyan alternatív megoldásokat, amelyek a szállított anyaggal való összeférhetőség tekintetében legalább olyan biztonságosak, mint a meglevő gyakorlat, ill. az ütdésekkel, a rakodási igénybevételekkel és a tűzzel szembeni ellenállóképességük azonos vagy nagyobb.

**6.5.1.1.3** Az IBC-k szerkezetéhez, szerelvényeihez, vizsgálatához, jelöléséhez és üzemeltetéséhez azon ország illetékes hatóságának a beleegyezése szükséges, amelyben az IBC-t jóváhagyták.

**6.5.1.1.4** Az IBC gyártójának és forgalmazójának információt kell nyújtania a követendő eljárásokra és a zárószerkezetek (beleértve a szükséges tömítéseket) típusára és méreteire és minden más alkatrészre, ami annak biztosításához szükséges, hogy a szállításra előkészített IBC képes legyen az e fejezet vonatkozó igénybevételi próbáinak elviselésére.

**6.5.1.2** (fenntartva)

**6.5.1.3** (fenntartva)

**6.5.1.4 Az IBC-k típusát jelölő kód**

**6.5.1.4.1** A kód a következőkből áll: két arab számjegyből, amint azt az a) pont meghatározza; ezt egy vagy több nagybetű követi a b) pont szerinti meghatározásnak megfelelően; ezt adott esetben egy arab számjegy követi, amely az IBC kategóriát jelöli.

| a) | Típus          | Szilárd anyagokhoz                                   |  | Folyékony anyagokhoz |
|----|----------------|--|--|----------------------|
|    |                | gravitációs úton történő töltésnél és/vagy ürítésnél | 10 kPa (0,1 bar) feletti nyomással történő töltésnél és/vagy ürítésnél |                      |
|    | Merev falú     | 11   | 21   | 31                   |
|    | Hajlékony falú | 13   | –  | –                    |

## b) Anyagok:

- A acél (bármilyen minőségű vagy felületkezelésű)
- B alumínium
- C fa
- D rétegelt falemez
- F farostlemez
- G papírlémez
- H műanyag
- L textil
- M papír, többrétegű
- N fém (acélt és alumíniumot kivéve)

**6.5.1.4.2** Összetett IBC-k esetén két latin nagybetűt kell egymás után használni a kód második helyén. Az első jelzi az IBC belső tartályának anyagát és a második az IBC külső csomagoló-eszközének anyagát.

**6.5.1.4.3** Az IBC-k típusai és kódjai a következők:

| Anyag                               | Kategória   | Kód  | Bekezdés |
|-------------------------------------|---|------|----------|
| <b>Fém</b>                          |   |      | 6.5.5.1  |
| A Acél                              | szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél | 11A  |          |
|                                     | szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél        | 21A  |          |
|                                     | folyadékokhoz   | 31A  |          |
| B Alumínium                         | szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél | 11B  |          |
|                                     | szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél        | 21B  |          |
|                                     | folyadékokhoz   | 31B  |          |
| N Fém (acélt és alumíniumot kivéve) | szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél | 11N  |          |
|                                     | szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél        | 21N  |          |
|                                     | folyadékokhoz   | 31N  |          |
| <b>Hajlékony falú</b>               |   |      | 6.5.5.2  |
| H Műanyag                           | műanyagszövet belső bevonat vagy bélés nélkül                           | 13H1 |          |
|                                     | műanyagszövet belső bevonattal  | 13H2 |          |
|                                     | műanyagszövet béléssel  | 13H3 |          |
|                                     | műanyagszövet belső bevonattal és béléssel                              | 13H4 |          |
|                                     | műanyagfólia  | 13H5 |          |
| L Textilszövet                      | belső bevonat vagy bélés nélkül   | 13L1 |          |
|                                     | belső bevonattal  | 13L2 |          |
|                                     | béléssel  | 13L3 |          |
|                                     | belső bevonattal és béléssel  | 13L4 |          |
| M Papír                             | többrétegű  | 13M1 |          |
|                                     | többrétegű, vízálló   | 13M2 |          |

| Anyag                                     | Kategória  | Kód   | Bekezdés |
|---|--|-------|----------|
| <b>Merev falú</b>                         |  |       | 6.5.5.3  |
| H műanyag                                 | szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél (vázszerkezettel)                        | 11H1  |          |
|   | szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél (önhordó)                                | 11H2  |          |
|   | szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél (vázszerkezettel)                               | 21H1  |          |
|   | szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél (önhordó)                                       | 21H2  |          |
|   | folyadékokhoz (vázszerkezettel)  | 31H1  |          |
|   | folyadékokhoz (önhordó)  | 31H2  |          |
| <b>Összetett</b>                          |  |       | 6.5.5.4  |
| HZ <sup>a)</sup> műanyag belső tartállyal | szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél, merev falú műanyag belső tartállyal     | 11HZ1 |          |
|   | szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél, hajlékony falú műanyag belső tartállyal | 11HZ2 |          |
|   | szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél, merev falú műanyag belső tartállyal            | 21HZ1 |          |
|   | szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél, hajlékony falú műanyag belső tartállyal        | 21HZ2 |          |
|   | folyadékokhoz, merev falú műanyag belső tartállyal   | 31HZ1 |          |
|   | folyadékokhoz, hajlékony falú műanyag belső tartállyal   | 31HZ2 |          |
| <b>Papírlemez</b>                         |  |       | 6.5.5.5  |
| G Papírlemez                              | szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél  | 11G   |          |
| <b>Fa</b>                                 |  |       | 6.5.5.6  |
| C Közönséges fa                           | szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél, béléssel                                | 11C   |          |
| D Rétegelt falemez                        | szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél béléssel                                 | 11D   |          |
| F Farostlemez                             | szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél, béléssel                                | 11F   |          |


a) Ezt a kódot ki kell egészíteni, a Z betűt helyettesítve, a 6.5.1.4.1 b) pont szerinti nagybetűvel, amely a külső burkolathoz használt anyag fajtáját jelzi.

**6.5.1.4.4** Egy „W” betű követheti az IBC kódot. A „W” betű jelzi, hogy az IBC, bár a kód által jelzett típus alá tartozik, de a 6.5.5 szakaszban előírtaktól eltérően gyártották és a 6.5.1.1.2 pont előírásai szerint azonos értékűnek tekinthető.

## **6.5.2 Jelölés**

### **6.5.2.1 Alapjelölés**

**6.5.2.1.1** Minden, az ADR előírásai szerint gyártott és ADR szerinti felhasználásra szánt IBC-n jelölésnek kell lennie, amely tartós, jól olvasható és jól látható helyen van. A betűk, számok és jelek magasságának legalább 12 mm-nek kell lennie a következő tartalommal:





- a) az Egyesült Nemzetek jele a csomagolóeszközön:  ;
- Ezt a jelet csak annak tanúsítására szabad használni, hogy a csomagolóeszköz megfelel a 6.1, a 6.2, a 6.3, a 6.5, ill. a 6.6 fejezetben található vonatkozó előírásoknak. Amennyiben a jelölést beütéssel viszik fel a fém csomagolóeszközökre, e jel helyett az „UN” nagybetűk is használhatók;
- b) az IBC típusát a 6.5.1.4 bekezdés szerint jelölő kód;
- c) egy nagybetű, amely a csomagolási csoporto(ka)t jelöli, amely(ek)re a gyártási típust jóváhagyták:
- i) X az I, a II és a III csomagolási csoporthoz (csak szilárd anyagokhoz használatos IBC-k esetén);
  - ii) Y a II és a III csomagolási csoporthoz;
  - iii) Z csak a III csomagolási csoporthoz;
- d) a gyártás időpontja: hónap és az év utolsó két számjegye;
- e) annak az államnak a jele, amely a jelölés alkalmazását engedélyezte, a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>1)</sup>;
- f) a gyártó neve vagy jele és az IBC-nek az illetékes hatóság által megállapított egyéb azonosító jele;
- g) a halmazolási próba során alkalmazott terhelés kg-ban, a halmazolásra nem tervezett IBC-knél „0”-t kell feltüntetni;
- h) a megengedett legnagyobb bruttó tömeg kg-ban.

Az előírt alapjelölést az előző pontok sorrendjében kell felvinni. A 6.5.2.2 bekezdésben előírt és az illetékes hatóság által engedélyezett minden más jelölést úgy kell elhelyezni, hogy a jelölés különböző elemei pontosan felismerhetők legyenek.

Az előző a) – h) pontban és a 6.5.2.2 bekezdésben előírt jelölés elemeket egyértelműen el kell választani egymástól, pl. ferde vonallal vagy szóközzel, hogy könnyen azonosíthatók legyenek.

#### 6.5.2.1.2

Az előző 6.5.2.1.1 a) – h) pont szerinti jelölések példái különböző IBC típusokra:

|   |   |  |
|---|---|--|
|  | 11A/Y/02 99<br>NL/Mulder 007<br>5500/1500   | Szilárd anyagok szállítására készült, acélból gyártott fém IBC gravitációs úton történő ürítéshez / a II és a III csomagolási csoporthoz / gyártási idő 1999. február / engedélyezve Hollandiában / a Mulder cég gyártmánya azon gyártási típusnak megfelelően, amelyet az illetékes hatóság a 007 sorozatszámmal látott el / a halmazolási próba terhelése kg-ban / a megengedett legnagyobb bruttó tömeg kg-ban. |
|  | 13H3/Z/03<br>01F/Meunier 1713<br>0/1500     | Szilárd anyagok szállítására készült, hajlékony falú IBC műanyagszövetből, béléssel ellátva, például gravitációs úton történő töltéshez / nem halmazolható.  |
|  | 31H1/Y/04<br>99GB/9099<br>10800/1200        | Folyadékok szállítására készült, merev falú műanyag IBC, amelyet a halmazolási terhelés elviselésére alkalmas szerkezeti elemekkel láttak el.  |
|  | 31HA1/Y/05<br>01D/Müller 1683<br>10800/1200 | Folyadékok szállítására készült összetett IBC merev falú műanyag belső tartállyal és külső acél burkolattal.   |

1) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.



11C/X/01 01  
S/Aurigny 9876  
3000/910

Szilárd anyagok szállítására készült fa IBC béléssel,  
amelyet az I, a II és a III csomagolási csoport szilárd  
anyagaihoz engedélyeztek

### 6.5.2.2 Kiegészítő jelölés

#### 6.5.2.2.1

Minden egyes IBC-n rajta kell lenni a 6.5.2.1 bekezdésben előírt jelölésnek és ezenkívül a következő adatoknak, amelyek feltüntethetők egy a felülvizsgálathoz könnyen hozzáférhető helyre tartósan felerősített, korrózióálló fémlapon:

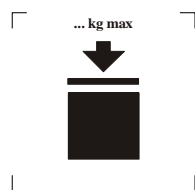
| Kiegészítő jelölés  | az IBC kategóriája |                    |           |             |    |
|---|--------------------|--------------------|-----------|-------------|----|
|   | Fém                | Merev falú műanyag | Összetett | Papír-lemez | Fa |
| Úrtartalom literben <sup>a)</sup> 20 °C-on  | X                  | X                  | X         |             |    |
| Saját tömeg kg-ban <sup>a)</sup>  | X                  | X                  | X         | X           | X  |
| Próbanyomás kPa-ban vagy bar-ban <sup>a)</sup> (ha van ilyen)                       |                    | X                  | X         |             |    |
| Legnagyobb töltési/ürítési nyomás kPa-ban vagy bar-ban <sup>a)</sup> (ha van ilyen) | X                  | X                  | X         |             |    |
| A test anyaga és legkisebb vastagsága mm-ben  | X                  |                    |           |             |    |
| Az utolsó tömörségi próba időpontja (hónap és év) (ha van ilyen)                    | X                  | X                  | X         |             |    |
| Az utolsó felülvizsgálat időpontja (hónap és év)                                    | X                  | X                  | X         |             |    |
| A gyártó sorozatszama   | X                  |                    |           |             |    |
| Legnagyobb megengedett halmazolási terhelés <sup>b)</sup>                           | X                  | X                  | X         | X           | X  |

a) A mértékegységet fel kell tüntetni.

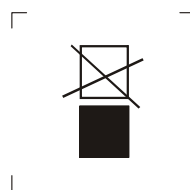
b) Lásd a 6.5.2.2.2 pontot. Ezt a kiegészítő jelölést minden, 2011. január 1. után gyártott, javított, ill. átalakított IBC-n fel kell tüntetni. (Lásd még az 1.6.1.15 pontot is.)

#### 6.5.2.2.2

Az IBC használata során megengedett legnagyobb halmazolási terhelést a következő jelképpel kell feltüntetni:



Halmazolható IBC-kre



Nem halmazolható IBC-kre

A jelképnek legalább 100 x 100 mm nagyságúnak, tartósnak és jól látható kell lennie. A tömeget legalább 12 mm magas számokkal, ill. betűkkel kell feltüntetni.

A jelkép fölött feltüntetett tömeg nem lehet nagyobb, mint a gyártási típus vizsgálat (lásd a 6.5.6.4 pontot) során alkalmazott terhelés és 1,8 hányszosa.

**Megjegyzés:** A 6.5.2.2.2 pont előírásait minden, 2011. január 1. után gyártott, javított, ill. átalakított IBC-re alkalmazni kell. (Lásd az 1.6.1.15 bekezdést is).

#### 6.5.2.2.3

A 6.5.2.1 bekezdésben előírt jelölésen kívül a hajlékony falú IBC-eket el lehet látni az ajánlott emelési módra utaló piktogrammal.

- 6.5.2.2.4** Az összetett IBC-k belső tartályát legalább a következő adatokkal kell megjelölni:
- a) a gyártó neve vagy jele és az IBC illetékes hatóság által meghatározott egyéb azonosítója, mint azt a 6.5.2.1.1 f) pont előírja;
  - b) IBC gyártási időpontja, mint azt a 6.5.2.1.1 d) pont előírja; és
  - c) annak az államnak a jele, amely a jelölés alkalmazását engedélyezte, mint azt a 6.5.2.1.1 e) pont előírja.
- 6.5.2.2.5** Amennyiben az összetett IBC úgy van kialakítva, hogy külső burkolata eltávolítható az üresen történő szállításhoz (pl. ha újrahasználát céljából az IBC-t az eredeti feladónak visszaküldik), minden levehető részen fel kell tüntetni a gyártási hónapot és évet, a gyártó nevét vagy jelét és az IBC-nek az illetékes hatóság által meghatározott egyéb azonosítóját [lásd a 6.5.2.1.1 f) pontot].
- 6.5.2.3** *A gyártási típusnak való megfelelés*
- A jelölés azt jelzi, hogy az IBC azonos a sikeresen bevizsgált gyártási típussal és a jóváhagyásban szereplő követelményeknek megfelel.
- 6.5.3** **Gyártási előírások**
- 6.5.3.1** *Általános előírások*
- 6.5.3.1.1** Az IBC-knek a külső környezet okozta károsodással szemben ellenállónak vagy alkalmas módon védettnek kell lenniük.
- 6.5.3.1.2** Az IBC-ket úgy kell gyártani és lezárni, hogy normális szállítási körülmények között, beleértve a rezgések, a hőmérséklet-, a páratartalom- vagy a nyomásváltozás hatását, a tartalomról semmi ne szabadulhasson ki.
- 6.5.3.1.3** Az IBC-ket és zárószerkezeteiket olyan anyagból kell gyártani, amely a tartalommal összeférhető, vagy belülről védeni kell, hogy ne álljon fenn a veszélye annak, hogy
- a) a tartalom az IBC-t megtámadva annak használatát veszélyessé teszi;
  - b) a tartalom reakciója vagy bomlása következik be, vagy az IBC anyagával káros vagy veszélyes vegyületek képződnek.
- 6.5.3.1.4** A tömítéseket, ha vannak, olyan anyagból kell készíteni, amelyet az IBC-ben szállított anyag nem támad meg.
- 6.5.3.1.5** Valamennyi üzemi szerelvényt úgy kell elhelyezni vagy védeni, hogy a szállított anyag kiszabadulásának kockázata a szállítás és kezelés során bekövetkező sérülések esetén a legcsekélyebb mértékűre korlátozódjék.
- 6.5.3.1.6** Az IBC-t, tartozékait, valamint az üzemi és szerkezeti szerelvényeit úgy kell kialakítani, hogy a tartalom elvesztése nélkül ellen tudjanak állni a tartalom belső nyomásának és azoknak az igénybevételeknek, amelyeknek normális kezelési és szállítási körülmények között ki vannak téve. A halmazolásra szánt IBC-ket ennek megfelelően kell kialakítani. Az IBC valamennyi rögzítő és emelő berendezésének megfelelő szilárdságúnak kell lennie ahhoz, hogy normális kezelési és szállítási körülmények között se jelentős alakváltozást, se meghibásodást ne szenvedjenek, és ezeket a berendezéseket úgy kell elhelyezni, hogy az IBC egyetlen része se legyen túlzott igénybevételnek kitéve.
- 6.5.3.1.7** Ha az IBC egy keretszerkezetben levő testből áll, azt oly módon kell kialakítani, hogy:
- a) a test ne ütődjön vagy dörzsölődjön úgy a keretszerkezethez, hogy az a test sérülését okozza;
  - b) a test mindig a keretszerkezeten belül maradjon;



- c) a szerelvényeket úgy kell elhelyezni és rögzíteni, hogy ne sérülhessenek meg, ha a test és a keretszerkezet közötti kapcsolat lehetővé teszi a relatív tágulást vagy elmozdulást.

**6.5.3.1.8** Ha az IBC-t alsó ürítőszeleppel szerelik fel, ennek zárt helyzetben rögzíthetőnek kell lennie és sérülés ellen az egész ürítőrendszert megfelelően védeni kell. Azokat a szelepeket, amelyek emeltyű segítségével záródnak, ill. nyitódnak, úgy kell kialakítani, hogy véletlen kinyílás ellen védhetők legyenek és nyitott vagy zárt helyzetük könnyen felismerhető legyen. A folyékony anyagok szállítására szolgáló IBC-ken az ürítő nyílásokat egy második zárószerkezettel is fel kell szerelni, pl. vakkarimával vagy ezzel egyenértékű készülékkel.

#### **6.5.4 Vizsgálat, tanúsítás és felülvizsgálat**

**6.5.4.1** *Minőségbiztosítás:* Annak biztosítására, hogy mindegyik IBC megfeleljen e fejezet előírásainak, az IBC-eket olyan minőségbiztosítási program szerint kell gyártani és bevizsgálni, amelyet az illetékes hatóság kielégítőnek tart.

*Megjegyzés:* Az alkalmazható eljárás(ok)ra megfelelő útmutatást ad az ISO 16106:2006 szabvány: „Csomagolás. Veszélyes áruk szállítási csomagolása. Veszélyes áruk csomagolásai, közepes méretű szállítótartályok (IBC-k) és nagyméretű csomagolások. Útmutató az ISO 9001 alkalmazásához”.

**6.5.4.2** *Vizsgálati követelmények:* Az IBC-eket gyártási típus vizsgálatnak kell alávetni, és ha szükséges, a 6.5.4.4 bekezdés szerinti, első alkalommal, ill. időszakosan végzendő vizsgálatoknak és felülvizsgálatoknak.

**6.5.4.3** *Tanúsítás:* Minden IBC gyártási típusra bizonyítványt kell kiállítani és jelölést kell hozzárendelni (lásd a 6.5.2 szakaszt), amely tanúsítja, hogy a gyártási típus a szerelvényeivel együtt kielégíti a vizsgálati követelményeket.

#### **6.5.4.4 Vizsgálat, felülvizsgálat**

*Megjegyzés:* A javított IBC-k vizsgálatára, felülvizsgálatára lásd a 6.5.4.5 bekezdést is.

**6.5.4.4.1** Minden fém, merev falú műanyag és összetett IBC-t az illetékes hatóság által elfogadott módon meg kell vizsgálni:

- a) az üzembe helyezés előtt (ill. átalakítás után) és azután legalább öt évenként az alábbiak tekintetében:
- a gyártási típusmintának való megfelelés, beleértve a jelöléseket;
  - a belső és külső állapot;
  - az üzemi szerelvények kifogástalan működése.

Az esetleges hőszigetelést csak olyan mértékben kell eltávolítani, amennyire az az IBC test megfelelő vizsgálatához szükséges;

- b) legalább két és fél évenként az alábbiak tekintetében:
- külső állapot;
  - az üzemi szerelvények kifogástalan működése.

Az esetleges hőszigetelést csak olyan mértékben kell eltávolítani, amennyire az az IBC test megfelelő vizsgálatához szükséges.

Minden IBC-nek minden szempontból meg kell felelnie a gyártási típusának.

**6.5.4.4.2** Minden olyan fém, merev falú műanyag és összetett IBC-t, amelyet folyadékokhoz vagy nyomás alatt töltött vagy ürtett szilárd anyagokhoz használnak

- a) a szállításhoz történő első használat előtt;

b) legfeljebb két és fél éves időközönként

a 6.5.6.7.3 pontban leírt próbával legalább azonos hatékonyságú, megfelelő tömörségi próbának kell alávetni, amelynek során a 6.5.6.7.3 pontban meghatározott vizsgálati szintnek kell megfelelnie.

Ehhez a vizsgálathoz az IBC-n rajta kell lenni az elsődleges, alsó zárószervezetének. Az összetett IBC belső tartálya a külső burkolat nélkül is vizsgálható, ha ez a vizsgálati eredményeket nem befolyásolja.

**6.5.4.4.3** Az egyes vizsgálatokról, felülvizsgálatokról készült jegyzőkönyvet az IBC tulajdonosának legalább a következő felülvizsgálat időpontjáig meg kell őriznie. A jegyzőkönyvnek tartalmaznia kell a vizsgálat, ill. felülvizsgálat eredményeit és a vizsgálatot, felülvizsgálatot végző azonosítását (lásd még a jelölési előírásokat a 6.5.2.2.1 pontban).

**6.5.4.4.4** Az illetékes hatóság bármely időpontban megkövetelheti annak bizonyítását – e fejezet előírásainak megfelelő próbák szerint eljárva –, hogy a IBC kielégíti a gyártási típus vizsgálatára vonatkozó előírásokat.

#### **6.5.4.5** *Javított IBC-k*

**6.5.4.5.1** Amennyiben az IBC ütközés (pl. baleset) révén vagy más okból megsérül, az IBC-t ki kell javítani vagy más módon helyre kell állítani (lásd az IBC rendszeres karbantartása meghatározást az 1.2.1 szakaszban), hogy a gyártási típusnak megfeleljen. A merev műanyag IBC megsérült testét, ill. az összetett IBC megsérült belső tartályát ki kell cserélni.

**6.5.4.5.2** Az ADR-ben előírt minden más vizsgálaton kívül az IBC-t javítás után a 6.5.4.4 bekezdésben előírt teljes körű vizsgálatnak kell alávetni és az előírt vizsgálati jegyzőkönyvet el kell készíteni.

**6.5.4.5.3** A gyártó által felvitt UN gyártási típus jelölés közelében tartós módon fel kell tüntetni a javítás utáni vizsgálatokat végző szervre utaló, következő jelöléseket:

- a) annak az államnak a jelét, ahol a vizsgálatokat végezték;
- b) a vizsgálatokat végző nevét vagy engedélyezett jelét; és
- c) a vizsgálatok időpontját (hónap, év).

**6.5.4.5.4** A 6.5.4.5.2 pont szerint végzett vizsgálatok úgy tekinthetők, hogy megfelelnek a két és fél évenként és az ötévenként végzendő időszakos vizsgálatokra vonatkozó előírásoknak.

#### **6.5.5** *Különleges követelmények az IBC-kre*

##### **6.5.5.1** *Különleges követelmények a fém IBC-kre*

**6.5.5.1.1** Ezek a követelmények a szilárd vagy folyékony anyagok szállítására szolgáló, fém IBC-kre vonatkoznak. A fém IBC-k három fajtája használatos:

- a) 11A, 11B, 11N a gravitációs úton töltött vagy ürített szilárd anyagok szállítására;
- b) 21A, 21B, 21N a 10 kPa-nál (0,1 bar-nál) nagyobb túlnyomással töltött vagy ürített szilárd anyagok szállítására;
- c) 31A, 31B, 31N a folyékony anyagok szállítására.

**6.5.5.1.2** A testet olyan alkalmas, alakítható fémből kell készíteni, amelynek hegeszthetősége bizonyított. A hegesztési varratokat szakszerűen kell elkészíteni és azoknak teljes biztonságot kell nyújtaniuk. Szükség esetén figyelembe kell venni az alacsony hőmérsékleten tanúsított viselkedést.

**6.5.5.1.3** Gondoskodni kell arról, hogy az egymással határos különböző fémek révén létrejövő

elektrolitikus korrózió elkerülhető legyen.

**6.5.5.1.4** Azokon az alumíniumból gyártott IBC-ken, amelyek gyúlékony folyékony anyagok szállítására szolgálnak, nem lehet védelem nélküli, nem rozsdamentes acélból készített mozgó rész, mit pl. fedelek, zárószervezetek stb., amelyek az alumíniumhoz való súrlódás vagy nekiütődés révén veszélyes reakciót válthatnának ki.

**6.5.5.1.5** A fém IBC-eket olyan fémből kell készíteni, amely teljesíti a következő követelményeket:

a) acél esetében a szakadási nyúlás %-os értéke nem lehet kisebb, mint

$$\frac{10000}{R_m}, \text{ de legalább } 20\%,$$

ahol

$R_m$  a használt acél minimális szavatolt szakítószilárdsága N/mm<sup>2</sup>-ben;

b) alumínium és ötvözetek esetében a szakadási nyúlás %-ban nem lehet kisebb, mint

$$\frac{10000}{6R_m}, \text{ de legalább } 8\%.$$

A szakadási nyúlás meghatározásához használt próbatesteket a hengerlési irányra merőlegesen kell kivágni és úgy kell befogni, hogy az

$$L_0 = 5d \text{ vagy } L_0 = 5,65\sqrt{A} \text{ legyen,}$$

ahol

$L_0$  = a próbatest mérési jeltávolsága a vizsgálat előtt;

$d$  = a próbatest átmérője;

$A$  = a próbatest keresztmetszeti területe.

**6.5.5.1.6** Legkisebb falvastagság

a) Az  $R_m \times A_0 = 10\,000$  értékkel bíró referencia acélnál a falvastagság nem lehet kisebb a következő értékeknél:

| Úrtartalom (C)<br>literben | Falvastagság (T)<br>mm-ben |                    |                                    |                    |
|----------------------------|----------------------------|--------------------|------------------------------------|--------------------|
|                            | 11A, 11B, 11N típus        |                    | 21A, 21B, 21N, 31A, 31B, 31N típus |                    |
|                            | nem védett                 | védett             | nem védett                         | védett             |
| $C \leq 1000$              | 2,0                        | 1,5                | 2,5                                | 2,0                |
| $1000 < C \leq 2000$       | $T = C/2000 + 1,5$         | $T = C/2000 + 1,0$ | $T = C/2000 + 2,0$                 | $T = C/2000 + 1,5$ |
| $2000 < C \leq 3000$       | $T = C/2000 + 1,5$         | $T = C/2000 + 1,0$ | $T = C/1000 + 1,0$                 | $T = C/2000 + 1,5$ |

ahol

$A_0$  = az alkalmazott referencia acél minimális szakadási nyúlása (százalékban) a szakítóvizsgálat során (lásd a 6.5.5.1.5 pontot);

b) az a) pontban említett referencia acéltól eltérő más fémeknél a legkisebb falvastagság a következő képlettel számítható:

$$e_1 = \frac{21,4 \times e_0}{\sqrt[3]{R_{m1} \times A_1}}$$

ahol

$e_1$  = a felhasznált fém szükséges azonos értékű falvastagsága, mm;

$e_0$  = a referencia acél szükséges minimális falvastagsága, mm;

$R_{mI}$  = a felhasználandó fém szavatolt minimális szakítószilárdsága, N/mm<sup>2</sup>; [lásd a c) pontot]

$A_I$  = a felhasznált fém minimális szakadási nyúlása (százalékban) a szakítóvizsgálat során (lásd a 6.5.5.1.5 pontot);

A falvastagság azonban semmilyen esetben sem lehet 1,5 mm-nél kisebb.

- c) A b) pontban leírt számítás céljából a felhasználandó fém szavatolt minimális szakítószilárdságának ( $R_{mI}$ ) a nemzeti vagy nemzetközi szabványok szerinti legkisebb értéknek kell lennie. Ausztenites acélok esetében azonban az anyagszabványok szerint meghatározott  $R_m$  legkisebb érték 15%-kal növelhető, ha az anyag minőségére vonatkozó bizonylatban nagyobb érték szerepel. Ha a szóban forgó anyagra nincs anyagszabvány, az  $R_m$  értékének az anyag minőségére vonatkozó bizonylatban szereplő legkisebb értéket kell venni.

**6.5.5.1.7** *Nyomáskiegyenlítési követelmények:* A folyadékok szállítására szolgáló IBC-nek elegendő mennyiségű gőzt kell tudni kiszabadítani ahhoz, hogy tűz hatására bekövetkező melegedése során elkerülhető legyen a csomagolóeszköz-test repedése. Ez hagyományos nyomáskiegyenlítő szerkezetekkel vagy más szerkezeti megoldással érhető el. Ezeknek a szerkezeteknek a működését kiváltó nyomás nem lehet nagyobb, mint 65 kPa (0,65 bar) és nem lehet kisebb, mint az IBC-ben előálló összes túlnyomás (azaz a töltet gőznyomása növelve a levegő vagy egyéb inert gáz parciális nyomásával és mindez csökkentve 100 kPa-lal (1 bar-ral) 55 °C-on, a 4.1.1.4 bekezdésében meghatározott maximális töltési fok mellett. A szükséges nyomáskiegyenlítő szerkezeteket a gőztérben kell elhelyezni.

#### **6.5.5.2** *Különleges követelmények a hajlékony falú IBC-kre*

**6.5.5.2.1** Ezeket a követelményeket a következő hajlékony falú IBC-kre kell alkalmazni:

- 13H1 Műanyagszövet belső bevonat vagy bélés nélkül
- 13H2 Műanyagszövet belső bevonattal
- 13H3 Műanyagszövet béléssel
- 13H4 Műanyagszövet, belső bevonattal és béléssel
- 13H5 Műanyagfólia
- 13L1 Textilszövet belső bevonat vagy bélés nélkül
- 13L2 Textilszövet belső bevonattal
- 13L3 Textilszövet béléssel
- 13L4 Textilszövet, belső bevonattal és béléssel
- 13M1 Papír, többrétegű
- 13M2 Papír, többrétegű, vízálló

A hajlékony falú IBC-k csak szilárd anyagok szállítására szolgálnak.

**6.5.5.2.2** A testet megfelelő anyagból kell gyártani. Az anyag szilárdságának és az IBC gyártási módszerének igazodnia kell az IBC úrtartalmához és rendeltetéséhez.

**6.5.5.2.3** A 13M1 és 13M2 típusú, hajlékony falú IBC-k gyártásához használt minden anyagnak legalább 24 órán át tartó, vízbe való merítés után meg kell őriznie annak a szakítószilárdságnak legalább 85%-át, amelyet az anyag kiegyenlített klimatizálása után 67% vagy ennél kisebb relatív nedvességtartalom mellett mértek.

**6.5.5.2.4** A egyesítéseket varrással, hőhegesztéssel, ragasztással vagy ezekkel egyenértékű eljárással kell elkészíteni. A varrással kialakított egyesítések minden végét el kell dolgozni.

**6.5.5.2.5** A hajlékony falú IBC-knek kielégítő ellenállással kell rendelkezniük az ultraibolya sugárzás hatására, a klimatikus hatásokra vagy a rendeltetés szerint szállított anyag hatására bekövetkező öregedéssel és gyengüléssel szemben.

- 6.5.5.2.6** Amennyiben a műanyagból készült, hajlékony falú IBC-t az ultraibolya sugarak ellen védeni kell, ennek korom vagy más alkalmas pigment vagy inhibitor hozzáadásával kell történnie. Az adalékoknak összeférhetőnek kell lenniük a tartalommal és hatásukat a csomagolóeszköz-test teljes élettartama alatt meg kell őrizniük. Olyan korom, pigment vagy inhibitor alkalmazásánál, amely különbözik a bevizsgált gyártási típus gyártásához használttól, a vizsgálatok megismétlésétől el lehet tekinteni, ha a megváltozott korom-, pigment vagy inhibitor tartalom a szerkezeti anyag fizikai tulajdonságait kedvezőtlenül nem befolyásolja.
- 6.5.5.2.7** A test anyagába adalékanyagok keverhetők, hogy az öregedéssel szembeni ellenálló-képességet javítsák, vagy más célokra, feltéve, hogy ezek az adalékok az anyag fizikai vagy kémia tulajdonságait kedvezőtlenül nem befolyásolják.
- 6.5.5.2.8** Az IBC test gyártásához már használt tartályokból származó anyag nem használható. Az ugyanazon gyártási sorozatból származó hulladékok vagy gyártási maradékok azonban felhasználhatók. Ismételten felhasználhatók az elemek, mint például rögzítők és rakodólap alapok, feltéve hogy ezek a korábbi használat során semmiféle módon nem károsodtak.
- 6.5.5.2.9** Megtöltött állapotban a magasság és a szélesség aránya nem haladhatja meg a 2:1 értéket.
- 6.5.5.2.10** A bélést alkalmas anyagból kell készíteni. A felhasznált anyag szilárdságának és a bélés kialakításának meg kell felelni az IBC ürtartalmának és rendeltetésének. Az egyesítéseknek és zárószervezeteknek portömörnek kell lenniük és ellen kell tudni állniuk a normális kezelési és szállítási feltételek mellett előforduló nyomásoknak és ütéseknek.
- 6.5.5.3** *Különleges követelmények a merev falú műanyag IBC-kre*
- 6.5.5.3.1** Ezek a követelmények a szilárd vagy folyékony anyagok szállítására szolgáló, merev falú műanyag IBC-kre vonatkoznak. A merev falú műanyag IBC-k következő típusai használatosak:
- 11H1 halmazoláskor a teljes terhelés elviselésére alkalmas vázszerkezetű, gravitációs úton töltött vagy ürített szilárd anyagokhoz való IBC
  - 11H2 önhordó típusú, gravitációs úton töltött vagy ürített szilárd anyagokhoz való IBC
  - 21H1 az IBC-k halmazoláskor a teljes terhelés elviselésére alkalmas vázszerkezetű, nyomás alatt töltött vagy ürített szilárd anyagokhoz való IBC
  - 21H2 önhordó típusú, nyomás alatt töltött vagy ürített szilárd anyagokhoz való IBC
  - 31H1 az IBC halmazoláskor a teljes terhelés elviselésére alkalmas kialakítású vázszerkezettel rendelkező IBC folyadékokhoz
  - 31H2 önhordó típusú, folyadékokhoz való IBC.
- 6.5.5.3.2** A testet ismert minőségi jellemzőjű, alkalmas műanyagból kell gyártani és ürtartalmának és rendeltetésszerű felhasználási módjának megfelelő szilárdsággal kell rendelkeznie. Az anyagnak kielégítő ellenállást kell tanúsítania a tartalmazott anyag és esetleg az ultraibolya sugárzás hatására bekövetkező öregedéssel és gyengüléssel szemben. Szükség esetén figyelembe kell venni az alacsony hőmérsékleten tanúsított viselkedését. A benne levő tartalom esetleges áthatolása normális szállítási feltételek között nem okozhat veszélyt.
- 6.5.5.3.3** Amennyiben az ultraibolya sugarak ellen védelem szükséges, ennek korom vagy más alkalmas pigment vagy inhibitor hozzáadásával kell történnie. Ezeknek az adalékoknak összeférhetőnek kell lenniük a tartalommal és hatásukat a test teljes élettartama alatt meg kell őrizniük. Olyan korom, pigment vagy inhibitor alkalmazásánál, amely különbözik a bevizsgált gyártási típus gyártásához használttól, a vizsgálatok megismétlésétől el lehet tekinteni, ha a megváltozott korom-, pigment- vagy inhibitor tartalom a szerkezeti anyag fizikai tulajdonságait kedvezőtlenül nem befolyásolja.
- 6.5.5.3.4** A test anyagába adalékanyagok keverhetők, hogy az öregedéssel szembeni ellenálló-képességet javítsák, vagy más célokra, feltéve, hogy ezek az adalékok az anyag fizikai vagy

kémia tulajdonságait kedvezőtlenül nem befolyásolják.

- 6.5.5.3.5** A merev falú műanyag IBC gyártásához az ugyanazon gyártási eljárásból származó gyártási maradékok vagy örlemények kivételével más használt anyag nem használható fel.

**6.5.5.4** *Különleges követelmények az összetett IBC-kre belső műanyag tartállyal*

- 6.5.5.4.1** Ezeket a követelményeket a szilárd anyagok és folyadékok szállítására szolgáló, következő típusú IBC-kre kell alkalmazni:

11HZ1 összetett IBC merev falú műanyag belső tartállyal gravitációs úton töltött vagy ürített szilárd anyagokhoz

11HZ2 összetett IBC hajlékony falú műanyag belső tartállyal gravitációs úton töltött vagy ürített szilárd anyagokhoz

21HZ1 összetett IBC merev falú műanyag belső tartállyal nyomás alatt töltött vagy ürített szilárd anyagokhoz

21HZ2 összetett IBC hajlékony falú műanyag belső tartállyal nyomás alatt töltött vagy ürített szilárd anyagokhoz

31HZ1 összetett IBC merev falú műanyag belső tartállyal folyadékokhoz

31HZ2 összetett IBC hajlékony falú műanyag belső tartállyal folyadékokhoz.

Ezt a kódot ki kell egészíteni, a Z betűt helyettesítve, a 6.5.1.4.1 b) pont szerinti nagybetűvel, amely a külső burkolathoz használt anyag fajtáját jelzi.

- 6.5.5.4.2** A belső tartály nem arra szolgál, hogy a tartályfunkciót a külső burkolat nélkül betöltse. A „merev falú” belső tartály olyan tartály, amely üres állapotban, a zárószerkezet helyre tétele és a külső burkolat segítségével nélkül is megtartja szokásos alakját. A nem „merev falú” belső tartályokat „hajlékony falú”-nak kell tekinteni.

- 6.5.5.4.3** A külső burkolat normál esetben merev anyagból készül, és olyan alakú, hogy megvédje a belső tartályt a kezelés és szállítás során bekövetkező fizikai sérülésekkel szemben, de nem feladata a tartályfunkció betöltése. Ahol rakodólap alapzat szükséges, az is beleértendő.

- 6.5.5.4.4** A teljesen körbeérő külső burkolattal rendelkező összetett IBC-t úgy kell kialakítani, hogy a belső tartály sértetlensége a tömörségi és a hidraulikus nyomáspróbát követően könnyen megállapítható legyen.

- 6.5.5.4.5** A 31HZ2 típusú IBC-k ürtartalma nem haladhatja meg az 1250 litert.

- 6.5.5.4.6** A belső tartályt ismert minőségi jellemzőjű, alkalmas műanyagból kell gyártani és ürtartalmának és rendeltetésszerű felhasználási módjának megfelelő szilárdsággal kell rendelkeznie. Az anyagnak kielégítő ellenállást kell tanúsítania a tartalmazott anyag és esetleg az ultraibolya sugárzás hatására bekövetkező öregedéssel és gyengüléssel szemben. Szükség esetén figyelembe kell venni az alacsony hőmérsékleten tanúsított viselkedését. A benne levő tartalom esetleges áthatolása normális szállítási feltételek között nem okozhat veszélyt.

- 6.5.5.4.7** Amennyiben az ultraibolya sugárzás ellen védelem szükséges, ennek korom vagy más alkalmas pigment vagy inhibitor hozzáadásával kell történnie. Ezeknek az adalékoknak összeférhetőnek kell lenniük a tartalommal és hatásukat a test teljes élettartama alatt meg kell őrizniük. Olyan korom, pigment vagy inhibitor alkalmazásánál, amely különbözik a bevizsgált gyártási típus gyártásához használttól, a vizsgálatok megismétlésétől el lehet tekinteni, ha a megváltozott korom-, pigment- vagy inhibitor tartalom a szerkezeti anyag fizikai tulajdonságait kedvezőtlenül nem befolyásolja.

- 6.5.5.4.8** A belső tartály anyagába adalékanyagok keverhetők, hogy az öregedéssel szembeni ellenállóképességet javítsák, vagy más célokra, feltéve, hogy ezek az adalékok az anyag fizikai vagy kémia tulajdonságait kedvezőtlenül nem befolyásolják.



- 6.5.5.4.9** A belső tartály gyártásához az ugyanazon gyártási eljárásból származó gyártási maradékok vagy örlemények kivételével más, használt anyag nem használható fel.
- 6.5.5.4.10** A 31HZ2 típusú IBC-k belső tartályának legalább háromrétegű fóliából kell állnia.
- 6.5.5.4.11** A külső burkolat szerkezete és anyagának szilárdsága feleljen meg az összetett IBC űrtartalmának és rendeltetésszerű használatának.
- 6.5.5.4.12** A külső burkolatnak mentesnek kell lennie minden olyan kiszögelléstől, ami a belső tartályt megsérthetné.
- 6.5.5.4.13** A fém külső burkolatokat megfelelő vastagságú, alkalmas fémből kell készíteni.
- 6.5.5.4.14** A fából készült külső burkolathoz felhasznált fának jól kiérleltnek, kereskedelmi szárazságúnak és olyan hibától mentesnek kell lennie, ami a burkolat bármely részének szilárdságát csökkentené. A tető és fenék vízálló farostlemezről, pl. keménylemezről, faforgácslemezről vagy egyéb, alkalmas típusból is készíthető.
- 6.5.5.4.15** A rétegelt falemez burkolatokhoz felhasznált rétegelt falemezt jól kiérlelt, hántolással, vágással vagy fűrészeléssel nyert furnérből kell készíteni, amely kereskedelmi szárazságú és olyan hibáktól mentes, amelyek a burkolat bármely részének szilárdságát csökkentenék. A szomszédos rétegeket vízálló ragasztóval kell összeragasztani. A burkolat szerkezetében a rétegelt falemezzel együtt más alkalmas anyagok is használhatók. A burkolat lapjait a sarokoszlopokhoz vagy homloklapokhoz szilárdan hozzá kell szegezni vagy erősíteni, vagy azonos mértékben alkalmas eszközökkel össze kell erősíteni.
- 6.5.5.4.16** A farostlemezről készült külső burkolatok falait vízálló farostlemezről, pl. keménylemezről, faforgácslemezről vagy egyéb alkalmas típusból kell készíteni. A burkolatok egyéb részei más alkalmas anyagokból is készíthetők.
- 6.5.5.4.17** A papírlemez külső burkolatokhoz jó minőségű és ellenállóképességű, tömör- vagy hullámpapírlamezt (három vagy többrétegűt) kell használni, amely megfelel a burkolat űrtartalmának és rendeltetésszerű használatának. A külső felület vízállóságának olyan mértékűnek kell lennie, hogy a Cobb-módszerrel végzett vízfelvétel-próba 30 perce alatt a tömegnövekedés ne haladja meg a 155 g/m<sup>2</sup> értéket – lásd az ISO 535:1991 szabványt. A papírlameznek megfelelő hajlítósilárdsággal kell rendelkeznie. A papírlamezt úgy kell kiszabni, átmetszés nélkül völgyelni és réselni, hogy az összeállításnál ne repedjen meg, a felülete ne törjön meg és ne hasasodjon ki. A hullámpapírlemez hullámosított rétegét a fedőrétegekhez szilárdan hozzá kell ragasztani.
- 6.5.5.4.18** A papírlemez külső burkolat végei elláthatók fakerettel vagy teljes egészében fából készíthetők. Erősítésként falécek alkalmazhatók.
- 6.5.5.4.19** A papírlemez külső burkolatok palástillesztéseit vagy ragasztószalaggal kell leragasztani, vagy át kell lapolni és össze kell ragasztani, vagy fémkapoccsal össze kell tűzni. Az átlapolásnak kielégítő mértékűnek kell lennie. Ha a zárás ragasztással vagy ragasztószalaggal történik, vízálló ragasztót kell használni.
- 6.5.5.4.20** Amennyiben a külső burkolat műanyagból van, a 6.5.5.4.6 – 6.5.5.4.9 pont vonatkozó követelményeit kell alkalmazni annak figyelembevételével, hogy ebben az esetben a belső tartályra vonatkozó követelményeket kell az összetett IBC külső burkolatára is alkalmazni.
- 6.5.5.4.21** A 31HZ2 típusú IBC-k külső burkolatának a belső tartályt mindenütt teljesen körül kell vennie.
- 6.5.5.4.22** Az IBC szerves részét képező rakodólap alapzatnak ill. bármilyen különálló rakodólapnak alkalmasnak kell lennie a megengedett legnagyobb bruttó tömegig megtöltött IBC gépi kezelésére.
- 6.5.5.4.23** A rakodólapot, ill. az IBC szerves részét képező alapzatot úgy kell kialakítani, hogy az IBC alapján ne legyen semmilyen kiszögellés, ami a kezelés során sérülést okozhatna.

- 6.5.5.4.24** A külső burkolatot a különálló rakodólaphoz hozzá kell erősíteni, hogy biztosítva legyen a stabilitás a kezelés és a szállítás során. A különálló rakodólap felső felületének mentesnek kell lennie mindenféle éles kiszögelléstől, ami az IBC-t megsérthetné.
- 6.5.5.4.25** A halmazolás megkönnyítésére erősítő szerkezetek, mint pl. fa tartóelemek használhatók, de ezeket a belső tartályon kívül kell elhelyezni.
- 6.5.5.4.26** Amennyiben az IBC-t halmazolásra szánják, a teherviselő felületnek olyannak kell lennie, hogy a terhelés biztonságos módon elosztódjék. Az ilyen IBC-t úgy kell kialakítani, hogy a terhet ne a belső tartály hordja.
- 6.5.5.5** *Különleges követelmények a papírlemez IBC-kre*
- 6.5.5.5.1** Ezek a követelmények a gravitációs úton töltött vagy ürített szilárd anyagok szállítására szolgáló papírlemez IBC-kre vonatkoznak. A papírlemez IBC típusa:  
11G papírlemez IBC.
- 6.5.5.5.2** A papírlemez IBC-kbe nem szabad felülről emelő szerkezetet beépíteni.
- 6.5.5.5.3** Szilárd és jó minőségű, tömör- vagy hullámpapírlemezt (három vagy többretegűt) kell használni, amely megfelel az IBC úrtartalmának és rendeltetésszerű használatának. A külső felület vízállóságának olyan mértékűnek kell lenni, hogy a Cobb-módszerrel végzett vízfelvétel-próba 30 perce alatt a tömegnövekedés ne haladja meg a 155 g/m<sup>2</sup> értéket – lásd az ISO 535:1991 szabványt. A papírlemeznek megfelelő hajlítószilárdsággal kell rendelkeznie. A papírlemezt úgy kell kiszabni, átmetszés nélkül völgyelni és réselni, hogy az összeállításnál ne repedjen meg, a felülete ne törjön meg és ne hasasodjon ki. A hullámpapírlemez hullámosított rétegét a fedőrétegekhez szilárdan hozzá kell ragasztani.
- 6.5.5.5.4** Az oldalfalaknak, a tetőnek és a fenéknek minimálisan 15 J beszakítási szilárdsággal kell rendelkezniük, az ISO 3036:1975 szabvány szerint mérve.
- 6.5.5.5.5** A papírlemez IBC-testeken a palást illesztéseit megfelelő mértékben át kell lapolni és azokat ragasztószalaggal kell lezárni, le kell ragasztani vagy fémkapcsokkal kell tűzni, vagy legalább azonos hatékonyságú módszerrel kell egyesíteni. Ha az egyesítés ragasztással vagy ragasztószalaggal történik, vízálló ragasztót kell használni. A fémkapcsoknak minden összeerősítendő részen teljesen át kell hatolniuk és oly módon kell azokat kialakítani vagy védeni, hogy a bélést ne dörzsölhessék vagy ne szűrassák ki.
- 6.5.5.5.6** A bélést alkalmas anyagból kell készíteni. A használt anyag szilárdságának és a bélés szerkezetének meg kell felelnie az IBC úrtartalmának és rendeltetésszerű használatának. Az illesztéseknek és zárásoknak portömörnek kell lenniük és alkalmasnak kell lenniük a normális szállítási körülmények között fellépő nyomások és ütődések elviselésére.
- 6.5.5.5.7** Az IBC szerves részét képező rakodólap alapzatnak, ill. bármilyen különálló rakodólapnak alkalmasnak kell lennie a megengedett legnagyobb bruttó tömegig megtöltött IBC gépi kezelésére.
- 6.5.5.5.8** A rakodólapot, ill. az IBC szerves részét képező alapzatot úgy kell kialakítani, hogy az IBC alapján ne legyen semmilyen kiszögellés, ami a kezelés során sérülést okozhatna.
- 6.5.5.5.9** Az IBC-testet a különálló rakodólaphoz hozzá kell erősíteni, hogy biztosítva legyen a stabilitás a kezelés és a szállítás során. A különálló rakodólap felső felületének mentesnek kell lennie mindenféle éles kiszögelléstől, ami az IBC-t megsérthetné.
- 6.5.5.5.10** A halmazolás megkönnyítésére erősítő szerkezetek, mint pl. fa tartóelemek használhatók, de ezeket a béléstől kívül kell elhelyezni.
- 6.5.5.5.11** Amennyiben az IBC-t halmazolásra szánják, a teherviselő felületnek olyannak kell lennie, hogy a terhelés biztonságos módon elosztódjék.



**6.5.5.6 Különleges követelmények a fa IBC-kre**

**6.5.5.6.1** Ezeket a követelményeket a gravitációs úton töltött vagy ürített szilárd anyagok szállítására szolgáló fa IBC-kre kell alkalmazni. A fa IBC-k a következő típusúak:

11C közönséges fa IBC béléssel

11D rétegelt falemez IBC béléssel

11F farostlemez IBC béléssel

**6.5.5.6.2** A fa IBC-kbe nem szabad felülről emelő szerkezetet beépíteni.

**6.5.5.6.3** A felhasznált anyag szilárdsága és a test gyártás módja feleljen meg az IBC úrtartalmának és rendeltetésszerű használatának.

**6.5.5.6.4** A fának jól kiérleltnek, kereskedelmi szárazságúnak és olyan hibáktól mentesnek kell lennie, amelyek az IBC bármely részének szilárdságát csökkentenék. Az IBC minden egyes részét egyetlen darabból vagy ezzel egyenértékű módon kell gyártani. Az elemek akkor tekinthetők az egyetlen darabból készülttel egyenértékűnek, ha a következő ragasztásos kötés típusok valamelyikét alkalmazzák: Lindermann-illesztés (fecskefarok illesztés), hornyolás, átlapolás vagy tompaillesztés, minden csatlakozásnál legalább két, hullámosított fém rögzítőelemmel, vagy akkor, ha legalább azonos hatékonyságú más eljárást alkalmaznak.

**6.5.5.6.5** A rétegelt falemez testeknek legalább 3 rétegűnek kell lenniük. Jól kiérlelt, hántolással, vágással vagy fűrészeléssel nyert furnérból kell készíteni, amely kereskedelmi szárazságú és mentes az olyan hibáktól, amelyek a test bármely részének szilárdságát csökkentenék. A szomszédos rétegeket vízálló ragasztóval kell összeragasztani. A test szerkezetéhez a rétegelt falemezzel együtt más alkalmas anyagok is használhatók.

**6.5.5.6.6** A farostlemezről készült testeket vízálló farostlemezről, pl. keménylemezről, faforgácslemezről vagy egyéb alkalmas típusból kell készíteni.

**6.5.5.6.7** Az IBC-k lapjait szilárdan az élekhez vagy saroklécekhez kell szögezni vagy kapcsolni, vagy a homlokoldalukhoz kell szögezni vagy más alkalmas eszközökkel kell összeerősíteni.

**6.5.5.6.8** A bélést alkalmas anyagból kell készíteni. A használt anyag szilárdságának és a bélés szerkezetének meg kell felelnie az IBC úrtartalmának és rendeltetésszerű használatának. Az illesztéseknek és zárásoknak portömörnek kell lenniük és alkalmasnak kell lenniük a normális szállítási körülmények között fellépő nyomások és ütődések elviselésére.

**6.5.5.6.9** Az IBC szerves részét képező rakodólap alapzatnak, ill. bármilyen különálló rakodólapnak alkalmasnak kell lennie a megengedett legnagyobb bruttó tömegig megtöltött IBC gépi kezelésére.

**6.5.5.6.10** A rakodólapot, ill. az IBC szerves részét képező alapzatot úgy kell kialakítani, hogy az IBC alapján ne legyen semmilyen kiszögellés, ami a kezelés során sérülést okozhatna.

**6.5.5.6.11** A IBC testet a különálló rakodólaphoz hozzá kell erősíteni, hogy biztosítva legyen a stabilitás a kezelés és a szállítás során. A különálló rakodólap felső felületének mentesnek kell lennie mindenféle éles kiszögelléstől, ami az IBC-t megsérthetné.

**6.5.5.6.12** A halmazolás megkönnyítésére erősítő szerkezetek, mint pl. fa tartóelemek használhatók, de ezeket a bélésen kívül kell elhelyezni.

**6.5.5.6.13** Amennyiben az IBC-t halmazolásra szánják, a teherviselő felületnek olyannak kell lennie, hogy a terhelés biztonságos módon elosztodjék.

**6.5.6 Vizsgálati követelmények az IBC-kre****6.5.6.1 A vizsgálatok végrehajtása és gyakorisága**

**6.5.6.1.1** Minden egyes IBC gyártási típusnak sikeresen ki kell állnia az ebben a fejezetben előírt vizsgálatokat mielőtt az IBC-t használatba vennék és a jelölés felvitelét engedélyező illetékes hatóság jóváhagyná. Az IBC gyártási típusát kialakítása, nagysága, anyaga és falvastagsága, gyártásmódja és töltő- és ürítőberendezései határozzák meg; egy típushoz azonban különböző felületkezelés is tartozhat. Ugyanaz a típus magában foglalja azokat az IBC-ket is, amelyek csak csökkentett külméreteikben térnek el a gyártási típustól.

**6.5.6.1.2** A vizsgálatokat a szállításra előkészített IBC-ken kell végrehajtani. Az IBC-t a megfelelő szakaszokban előírtak szerint kell megtölteni. Az IBC-kben szállítandó anyagokat helyettesíteni lehet más anyagokkal, feltéve, hogy ez a vizsgálat eredményeit nem hamisítja meg. Ha szilárd anyagok esetében más anyagot használnak, ennek ugyanolyan fizikai jellemzőkkel (tömeg, szemcseméret stb.) kell rendelkeznie, mint a szállítandó anyagnak. A küldeménydarab megkövetelt össztömegének elérése érdekében használhatók kiegészítő töltetek is, pl. ólomsöréttel töltött zacskók, feltéve, hogy ezek úgy vannak elhelyezve, hogy nem befolyásolják a vizsgálati eredményeket.

**6.5.6.2 A gyártási típus vizsgálata**

**6.5.6.2.1** Minden egyes gyártási típusú, méretű, falvastagságú és kialakítású IBC-ből egy darabot alá kell vetni a 6.5.6.5 – 6.5.6.13 bekezdésben felsorolt próbáknak a 6.5.6.3.7 pont szerinti sorrendben. Ezeket a gyártási típus vizsgálatokat az illetékes hatóság előírásai szerint kell elvégezni.

**6.5.6.2.2** A halmazolásra kialakított, 31H2 típusú merev falú műanyag IBC-k, ill. 31HH1 és 31HH2 típusú összetett IBC-k esetén a szállítani kívánt anyaggal, ill. a standardfolyadékkal való kielégítő kémiai összeférhetőség 6.5.6.3.3, ill. 6.5.6.3.5 pont szerinti bizonyításához egy másik IBC-t lehet használni. Ebben az esetben ezt a másik IBC-t is előzetes tárolásnak kell alávetni.

**6.5.6.2.3** Az illetékes hatóság engedélyezheti azon IBC-k szelektív vizsgálatát, amelyek csak kis mértékben térnek el a már bevizsgált típustól, pl. külső méreteik valamivel kisebbek.

**6.5.6.2.4** Amennyiben a vizsgálatoknál különálló rakodólapokat használnak, a 6.5.6.14 bekezdés szerint kiadott vizsgálati jegyzőkönyvnek tartalmaznia kell a használt rakodólapok műszaki leírását is.

**6.5.6.3 Az IBC előkészítése a vizsgálathoz**

**6.5.6.3.1** A papír IBC-ket, a papírlemez IBC-ket és az összetett IBC-ket papírlemez külső burkolattal legalább 24 órán át olyan klímában kell tartani, amelynek hőmérséklete és relatív páratartalma szabályozott. Három lehetőség közül lehet választani. A legelőnyösebb vizsgálati klíma a  $23\text{ °C} \pm 2\text{ °C}$  és  $50\% \pm 2\%$  relatív páratartalom. A másik két lehetőség a  $20\text{ °C} \pm 2\text{ °C}$  és  $65\% \pm 2\%$  relatív páratartalom vagy a  $27\text{ °C} \pm 2\text{ °C}$  és  $65\% \pm 2\%$  relatív páratartalom.

**Megjegyzés:** Az átlagértékeknek ezen határok közé kell esniük. A rövid idejű ingadozások és a mérési korlátok az egyedi mérésektől legfeljebb  $\pm 5\%$  relatív páratartalom eltérést eredményezhetnek a vizsgálatok reprodukálhatóságának észrevehető csökkenése nélkül.

**6.5.6.3.2** Kiegészítő intézkedéseket kell tenni, annak ellenőrzésére, hogy a 31H1 és 31H2 típusú merev falú műanyag és a 31HZ1 és 31HZ2 típusú összetett IBC-k gyártására használt műanyag megfelel-e a 6.5.5.3.2 – 6.5.5.3.4, illetve a 6.5.5.4.6 – 6.5.5.4.9 pont előírásainak.

- 6.5.6.3.3** Annak bizonyítására, hogy kielégítő a kémiai összeférhetőség a tartalommal, az IBC mintát hat hónapos előzetes tárolásnak kell alávetni, amely alatt az IBC minta a szállítani kívánt anyaggal van töltve, vagy olyan anyaggal, amelyről ismeretes, hogy a kérdéses műanyagra legalább ugyanolyan mértékben fejt ki feszültségi repedést, duzzadás révén lágyulást okozó vagy molekuláris degradáló hatást. Ezután a mintát alá kell vetni a 6.5.6.3.7 táblázatban felsorolt próbáknak.
- 6.5.6.3.4** Amennyiben a műanyag viselkedését más módon határozták meg, az előző összeférhetőségi vizsgálatoktól el lehet tekinteni. Az ilyen más eljárásoknak legalább az előző összeférhetőségi vizsgálattal azonos értékűeknek és az illetékes hatóság által elismerteknek kell lenniük.
- 6.5.6.3.5** A 6.5.5.3 bekezdés szerinti, polietilénből készült, merev falú műanyag IBC-knél (31H1 és 31H2 típus) és a 6.5.5.4 bekezdés szerinti, polietilénből készült belső műanyag tartállyal rendelkező összetett IBC-knél (31HZ1 és 31HZ2 típus) a folyékony töltőanyaggal való kémiai összeférhetőség a 4.1.1.19 bekezdés alapján hozzárendelt standardfolyadék(ok)kal is bizonyítható a következők szerint (lásd a 6.1.6 szakaszt is).
- A standardfolyadékok a polietilénnél fellépő károsító folyamatok (így a lágyulás duzzadás révén, a feszültséghorrózió, a molekula degradációs reakciók és ezek kombinációi) szempontjából reprezentálják a szállítandó anyagot.
- Az IBC kielégítő kémiai összeférhetősége bizonyítható háromhetes 40 °C-on végzett tárolással a megfelelő standardfolyadék(ok)kal feltöltve; az ezen eljárással végzett tárolásra nincs szükség, ha standardfolyadékként víz van megadva. Ugyancsak nem szükséges tárolni a halmazolási próbához használt mintadarabokat, ha standardfolyadékként nedvesítőszer oldat vagy ecetsav van megadva. A tárolás után a mintadarabot a 6.5.6.4 – 6.5.6.9 bekezdésben előírt próbáknak kell alávetni.
- Az 5.2 osztályba tartozó, 40%-nál nagyobb peroxid-tartalmú terc-butil-hidroperoxid és a peroxi-ecetsavak esetében az összeférhetőségi vizsgálat standardfolyadékkal nem végezhető el. Ezeknél az anyagoknál a kielégítő kémiai összeférhetőség bizonyításához a mintadarabot a szállítani kívánt anyaggal megtöltve hat hónapon keresztül kell szobahőmérsékleten tárolni.
- A polietilénből készült IBC-kre e pont szerinti eljárás alapján kapott eredmények azokra a hasonló gyártási típusokra is elfogadhatók, amelyek belső felülete fluorozott.
- 6.5.6.3.6** Azoknál a 6.5.6.3.5 pont szerinti specifikációjú polietilénből készült IBC-knél, amelyek gyártási típusa kiállta a 6.5.6.3.5 pont szerinti próbát, valamely töltőanyaggal való kémiai összeférhetőség úgy is bizonyítható, hogy laboratóriumi vizsgálatokkal igazolják, hogy ennek a töltőanyagnak a hatása a mintadarabra – a figyelembe veendő károsodási folyamatok szempontjából – gyengébb, mint a standardfolyadék(ok)é. A relatív sűrűsége és a gőznyomásra az 4.1.1.19.2 pont feltételei érvényesek.
- 6.5.6.3.7** *A szükséges gyártási típus vizsgálatok és sorrendjük*

| Az IBC típusa                | Rázóvizsgálat <sup>f)</sup> | Emelés alulról   | Emelés felülről <sup>a)</sup> | Halmozás <sup>b)</sup> | Tömörség | Folyadéknyomás | Ejtés            | Továbbszakadás | Billentés | Felállítás <sup>c)</sup> |
|------------------------------|-----------------------------|------------------|-------------------------------|------------------------|----------|----------------|------------------|----------------|-----------|--------------------------|
| Fém:                         |                             |                  |                               |                        |          |                |                  |                |           |                          |
| 11A, 11B, 11N                | -                           | 1. <sup>a)</sup> | 2.                            | 3.                     | -        | -              | 4. <sup>e)</sup> | -              | -         | -                        |
| 21A, 21B, 21N                | -                           | 1. <sup>a)</sup> | 2.                            | 3.                     | 4.       | 5.             | 6. <sup>e)</sup> | -              | -         | -                        |
| 31A, 31B, 31N                | 1.                          | 2. <sup>a)</sup> | 3.                            | 4.                     | 5.       | 6.             | 7. <sup>e)</sup> | -              | -         | -                        |
| Hajlékony falú <sup>d)</sup> | -                           | -                | x <sup>c)</sup>               | x                      | -        | -              | x                | x              | x         | x                        |
| Merev falú műanyag:          |                             |                  |                               |                        |          |                |                  |                |           |                          |
| 11H1, 11H2                   | -                           | 1. <sup>a)</sup> | 2.                            | 3.                     | -        | -              | 4.               | -              | -         | -                        |
| 21H1, 21H2                   | -                           | 1. <sup>a)</sup> | 2.                            | 3.                     | 4.       | 5.             | 6.               | -              | -         | -                        |
| 31H1, 31H2                   | 1.                          | 2. <sup>a)</sup> | 3.                            | 4. <sup>g)</sup>       | 5.       | 6.             | 7.               | -              | -         | -                        |
| Összetett:                   |                             |                  |                               |                        |          |                |                  |                |           |                          |
| 11HZ1, 11HZ2                 | -                           | 1. <sup>a)</sup> | 2.                            | 3.                     | -        | -              | 4. <sup>e)</sup> | -              | -         | -                        |
| 21HZ1, 21HZ2                 | -                           | 1. <sup>a)</sup> | 2.                            | 3.                     | 4.       | 5.             | 6. <sup>e)</sup> | -              | -         | -                        |
| 31HZ1, 31HZ2                 | 1.                          | 2. <sup>a)</sup> | 3.                            | 4. <sup>g)</sup>       | 5.       | 6.             | 7. <sup>e)</sup> | -              | -         | -                        |
| Papírlemez                   | -                           | 1.               | -                             | 2.                     | -        | -              | 3.               | -              | -         | -                        |
| Fa                           | -                           | 1.               | -                             | 2.                     | -        | -              | 3.               | -              | -         | -                        |

- a) Az ilyen kezelési módra kialakított IBC-knél.
- b) Ha az IBC halmozásra van kialakítva.
- c) Ha az IBC felülről vagy oldalról történő emelésre van kialakítva.
- d) Ahol a szükséges próbát x jelzi, az azt jelenti, hogy az egyik próbát elviselt IBC-n a további próbák bármilyen sorrendben végrehajthatók.
- e) Az ejtőpróba azonos kialakítású másik IBC-n is végrehajtható.
- f) A rázóvizsgálat azonos kialakítású másik IBC-n is végrehajtható.
- g) Az egymás utáni sorrendtől eltérően a 6.5.6.2.2 pont szerinti másik IBC közvetlenül az előzetes tárolás után vizsgálható.

#### 6.5.6.4 Emelési próba alulról

##### 6.5.6.4.1 Alkalmazási terület

Gyártási típus vizsgálatként minden fa és papírlemez IBC-nél és minden olyan IBC típusnál, amely az alulról való emeléshez el van látva szerkezettel.

##### 6.5.6.4.2 Az IBC előkészítése a próbához

Az IBC-t meg kell tölteni. Egyenletesen elosztott kiegészítő terhelést kell alkalmazni. A megtöltött IBC és a kiegészítő terhelés együttes tömegének a megengedett legnagyobb bruttó tömeg 1,25-szorosát kell kitennie.

##### 6.5.6.4.3 Vizsgálati eljárás

Az IBC-t emelővillás targoncával kétszer fel kell emelni és le kell tenni. Ennek során a villákat központosan kell elhelyezni, és azoknak egymástól olyan távolságra kell lenniük, amely a bevezetés felőli oldalméret háromnegyed részének felel meg, (hacsak a bevezetési pontok nincsenek rögzítve). A villákat a bevezetés irányában háromnegyed részig kell bevezetni. A próbát minden lehetséges irányból meg kell ismételni.

##### 6.5.6.4.4 Elfogadási feltétel

Nem következhet be sem olyan tartós alakváltozás, amely az IBC (beleértve a rakodólap alapot is, ha ilyen van) biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.

**6.5.6.5 Emelési próba felülről****6.5.6.5.1 Alkalmazási terület**

Gyártási típus vizsgálatként minden olyan IBC típusnál, amely el van látva a felülről való emelésre szolgáló szerkezettel és a felülről vagy oldalról történő emeléshez kialakított hajlékony falú IBC-knél.

**6.5.6.5.2 Az IBC előkészítése a próbához**

A fém, a merev falú műanyag és az összetett IBC-t meg kell tölteni. Egyenletesen elosztott kiegészítő terhelést kell alkalmazni. A megtöltött IBC és a kiegészítő terhelés együttes tömegének a megengedett legnagyobb bruttó tömeg kétszeresét kell kitennie. A hajlékony falú IBC-t a töltőanyagot reprezentáló anyaggal megtöltve, a megengedett legnagyobb bruttó tömeg hatszorosaig kell – a terhelést egyenletesen elosztva – megterhelni.

**6.5.6.5.3 Vizsgálati eljárás**

A fém és a hajlékony falú IBC-t rendeltetésszerűen fel kell emelni, amíg az a talajtól elválik, és ebben a helyzetben kell tartani 5 perc időtartamig.

A merev falú műanyag és összetett IBC-ket a következőképpen kell felemelni:

- a) Az IBC-t mindegyik emelőszerkezet-párjánál (egymással átlósan szemben levő két emelőszerkezeténél) fogva öt perc időtartamig felemelve kell tartani, úgy hogy az emelő erők függőlegesen hassanak; és
- b) az IBC-t mindegyik emelőszerkezet-párjánál (egymással átlósan szemben levő két emelőszerkezeténél) fogva öt perc időtartamig felemelve kell tartani, úgy hogy az emelő erők a középpontra a függőlegeshez képest 45°-ban hassanak.

**6.5.6.5.4 A hajlékony falú IBC-knél a felülről történő emelés és az előkészítés legalább azonos hatékonyságú más módszerrel is történhet.****6.5.6.5.5 Elfogadási feltétel**

- a) Fém IBC-knél, merev falú műanyag IBC-knél és összetett IBC-knél: az IBC a normális szállítási körülmények között továbbra is biztonságos, nem következhet be sem észlelhető tartós alakváltozás az IBC-n (beleértve a rakodólap alapot, ha ilyen van), sem a tartalom elvesztése.
- b) Hajlékony falú IBC-knél: nem következhet be olyan sérülés sem az IBC-n, sem annak emelőszerkezetén, amely az IBC biztonságát a szállítás vagy kezelés szempontjából csökkentené, sem a tartalom elvesztése.

**6.5.6.6 Halmazolási próba****6.5.6.6.1 Alkalmazási terület**

Gyártási típus vizsgálatként minden olyan IBC típusnál, amelyek kialakításuknál fogva egymásra halmazolhatók.

**6.5.6.6.2 Az IBC előkészítése a próbához**

Az IBC-t a megengedett legnagyobb bruttó tömegéig kell megtölteni. Ha a vizsgálathoz használt termék sűrűsége ezt nem teszi lehetővé, az IBC-hez egyenletesen elosztott kiegészítő terhelést kell alkalmazni úgy, hogy a vizsgálatot a megengedett legnagyobb bruttó tömeggel terhelve végezzék.

**6.5.6.6.3 Vizsgálati eljárás**

- a) Az IBC-t alapzatával vízszintes, sík, kemény talajra kell állítani és egyenletesen elosztott próbaterhelést kell ráhelyezni (lásd a 6.5.6.6.4 pontot). A 31H2 típusú merev falú műanyag IBC-k, ill. a 31HH1 és 31HH2 típusú összetett IBC-k esetén a

halmazolási próbát a 6.5.6.3.3 pont szerint az eredeti töltőanyaggal, ill. a 6.5.6.3.5 pont szerint a standardfolyadékkal (lásd a 6.1.6 szakaszt) megtöltött, a 6.5.6.2.2 pont szerinti másik IBC-n kell végrehajtani az előzetes tárolás után. Az IBC-t a próbaterhelésnek legalább a következő időtartamig kell kitenni:

- i) a fém IBC-t 5 percig;
  - ii) a 11H2, 21H2 és 31H2 típusú merev falú műanyag IBC-t és az összetett IBC-t külső műanyag burkolattal, amely a halmazolási terhelést viseli (azaz a 11HH1, 11HH2, 21HH1, 21HH2, 31HH1 és 31HH2 típusúakat) 28 napig 40 °C-on;
  - iii) minden más IBC típust 24 óráig;
- b) A próbaterhelést a következő módok egyike szerint kell alkalmazni:
- i) a megengedett legnagyobb bruttó tömegig megtöltött egy vagy több, azonos típusú IBC-t kell a vizsgált IBC-re ráhelyezni;
  - ii) megfelelő tömeget kell egy sík lapra vagy az IBC alapzatának utánzatára helyezni, amelyet azután a vizsgálandó IBC-re kell felhelyezni.

#### **6.5.6.6.4** *A ráhelyezendő próbaterhelés kiszámítása*

A tehernek, amelyet az IBC-re helyeznek, meg kell egyeznie a szállítás során az IBC-re halmazolható hasonló IBC-k együttes megengedett legnagyobb bruttó tömegének legalább 1,8-szeresével.

#### **6.5.6.6.5** *Elfogadási feltétel*

- a) A hajlékony falú IBC kivételével minden más IBC-nél: nem következhet be sem olyan tartós alakváltozás, amely az IBC (beleértve a rakodólap alapot is, ha ilyen van) biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.
- b) Hajlékony falú IBC-nél: nem következhet be sem az IBC test olyan károsodása, ami az IBC biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.

#### **6.5.6.7** *Tömörségi próba*

##### **6.5.6.7.1** *Alkalmazási terület*

Gyártási típus vizsgálatként és időszakos vizsgálatként olyan IBC típusoknál, amelyeket folyadékokhoz vagy nyomás alatt töltött vagy ürített szilárd anyagokhoz használnak.

##### **6.5.6.7.2** *Az IBC előkészítése a próbához*

A próbát az esetleges hőszigetelés felhelyezése előtt kell végrehajtani. A szellőző zárószerkezeteket vagy hasonló, nem szellőző szerkezetekre kell kicserélni vagy tömören le kell zárni.

##### **6.5.6.7.3** *Vizsgálati eljárás és alkalmazandó próbanyomás*

A nyomáspróbát legalább 10 perc időtartamig legalább 20 kPa (0,2 bar) állandó túlnyomással kell végrehajtani. Az IBC légtömörségét megfelelő módszerrel, pl. légnyomás-különbség méréssel vagy az IBC vízbe merítésével vagy fém IBC-knél az egyesítési helyek és varratok szappan oldattal történő bekenésével kell megállapítani. Vízbe merítés esetén a hidrosztatikai nyomás figyelembe vételéhez korrekciós tényezőt kell alkalmazni.

##### **6.5.6.7.4** *Elfogadási feltétel*

Nem következhet be tömítetlenség.

**6.5.6.8 Belső (folyadék) nyomáspróba****6.5.6.8.1 Alkalmazási terület**

Gyártási típus vizsgálatként olyan IBC típusoknál, amelyeket folyadékokhoz vagy nyomás alatt töltött vagy ürített szilárd anyagokhoz használnak.

**6.5.6.8.2 Az IBC előkészítése a próbához**

A próbát az esetleges hőszigetelés felhelyezése előtt kell végrehajtani. A nyomáscsökkentő szerkezeteket hatástalanítani kell, vagy el kell távolítani és a nyílásokat le kell zárni.

**6.5.6.8.3 Vizsgálati eljárás**

A nyomáspróbát legalább 10 perc időtartamig kell végezni olyan hidraulikus nyomással, amely nem kisebb mint a 6.5.6.8.4 pontban megadott nyomás. Az IBC-t a próba végrehajtása alatt nem szabad megtámasztani.

**6.5.6.8.4 Alkalmazandó nyomás****6.5.6.8.4.1 Fém IBC-knél:**

- a) a 21A, 21B és 21N típusú IBC-knél, amelyeket az I csomagolási csoport szilárd anyagaihoz használnak, 250 kPa (2,5 bar) túlnyomás;
- b) a 21A, 21B, 21N, 31A, 31B és 31N típusú IBC-knél, amelyeket a II vagy a III csomagolási csoport anyagaihoz használnak, 200 kPa (2 bar) túlnyomás;
- c) kiegészítő vizsgálatként a 31A, 31B, 31N típusú IBC-knél 65 kPa (0,65 bar) túlnyomás. Ezt a vizsgálatot a 200 kPa-lal (2 bar-ral) végzett próba előtt kell elvégezni.

**6.5.6.8.4.2 Merev falú műanyag IBC-knél és összetett IBC-knél:**

- a) a 21H1, 21H2, 21HZ1 és 21HZ2 típusú IBC-knél: 75 kPa (0,75 bar) túlnyomás;
- b) a 31H1, 31H2, 31HZ1 és 31HZ2 típusú IBC-knél:  
a következő módszerekkel meghatározott első érték:
  - i) az IBC-ben mért össznyomást (azaz a betöltött anyag gőznyomásához hozzáadva a benne levő levegő vagy inert gáz parciális nyomását és 100 kPa-t levonva) 55 °C-on meg kell szorozni 1,5-ös biztonsági tényezővel; ezt az össznyomást a 4.1.1.4 bekezdés szerinti maximális töltési fok és 15 °C töltési hőmérséklet alapján kell meghatározni; vagy
  - ii) szállítandó anyag 50 °C-on fennálló gőznyomásának 1,75-szorosából le kell vonni 100 kPa-t, de minimálisan 100 kPa próbanyomás; vagy
  - iii) a szállítandó anyag 55 °C-on fennálló gőznyomásának 1,5-szereséből le kell vonni 100 kPa-t, de minimálisan 100 kPa próbanyomás;és a következő módszerrel meghatározott második érték:
  - iv) a szállítandó anyag statikus nyomásának kétszerese, de legalább a víz statikus nyomásának kétszerese  
közül a nagyobbik.

**6.5.6.8.5 Elfogadási feltétel**

- a) Azoknál a 21A, 21B, 21N, 31A, 31B és 31N típusú IBC-knél, amelyeket a 6.5.6.8.4.1 a) vagy b) pont szerinti nyomáspróbának tettek ki, nem következhet be szivárgás.
- b) Azoknál a 31A, 31B és 31N típusú IBC-knél, amelyeket a 6.5.6.8.4.1 c) pont szerinti próbanyomásnak tettek ki, sem olyan tartós alakváltozás, amely az IBC biztonságát a szállítás szempontjából csökkentené, sem pedig szivárgás nem következhet be.
- c) Merev falú műanyag IBC-knél és összetett IBC-knél: nem következhet be sem olyan



tartós alakváltozás, amely az IBC biztonságát a szállítás alatt befolyásolná, sem pedig szivárgás.

#### 6.5.6.9 Ejtési próba

##### 6.5.6.9.1 Alkalmazási terület

Gyártási típus vizsgálatként minden IBC típusnál.

##### 6.5.6.9.2 Az IBC előkészítése a próbához

- Fém IBC-nél: az IBC-t szilárd anyagok esetén legnagyobb űrtartalmának legalább 95%-áig, folyékony anyagok esetén legnagyobb űrtartalmának legalább 98%-áig kell megtölteni. A nyomáscsökkentő szerkezeteket hatástalanítani kell, vagy el kell távolítani és a nyílásokat le kell zárni.
- Hajlékony falú IBC-nél: az IBC-t megengedett legnagyobb bruttó tömegéig kell – a tartalmat egyenletesen elosztva – megtölteni.
- Merev falú műanyag IBC-nél és összetett IBC-nél: az IBC-t szilárd anyagok esetén legnagyobb űrtartalmának legalább 95%-áig, folyékony anyagok esetén legnagyobb űrtartalmának legalább 98%-áig kell megtölteni. A nyomáscsökkentő szerkezeteket hatástalanítani kell, vagy el kell távolítani és a nyílásokat le kell zárni. Az IBC-k vizsgálatát olyan állapotban kell elvégezni, amikor a vizsgálati minta és a tartalom hőmérsékletét  $-18\text{ °C}$ -ra vagy az alá csökkentették. A minta ilyen előkészítése esetén a 6.5.6.3.1 pontban meghatározott kondicionálástól összetett IBC-nél el lehet tekinteni. A vizsgálatnál használt folyadékot folyékony állapotban kell tartani, szükség esetén fagyásgátló hozzáadásával. Ettől a kondicionálástól el lehet tekinteni, ha a kérdéses anyagok hajlékonysága és szakítószilárdsága  $-18\text{ °C}$ -on vagy az alatt jelentősen nem csökken.
- Papírfólia és fa IBC-nél: az IBC-t legnagyobb űrtartalmának legalább 95%-áig kell megtölteni.

##### 6.5.6.9.3 Vizsgálati eljárás

Az IBC-t olyan módon kell 6.1.5.3.4 pont követelményeinek megfelelő, rugalmatlan, vízszintes, sima, masszív és szilárd felületre, a fenekére ejteni, ami biztosítja, hogy az IBC alapfelületének leggyengébbnek tekintett részén ütközzön fel. A  $0,45\text{ m}^3$  vagy annál kisebb űrtartalmú IBC-t ezenkívül a következőképpen is le kell ejteni:

- a fém IBC-t az első ejtési próbánál vizsgált, az alapfelület leggyengébbnek tekintett részétől eltérő, legsérülékenyebb részre;
- a hajlékony falú IBC-t a legsérülékenyebb oldalára;
- a merev falú műanyag, az összetett, a papírfólia és a fa IBC-t: laposan az oldallapra, laposan a tetőlapra és az egyik sarokra.

Az egyes ejtésekhez ugyanazon vagy másik IBC is használható.

##### 6.5.6.9.4 Ejtési magasság

Szilárd és folyékony anyagoknál, ha a próbát a szállítandó szilárd vagy folyékony anyaggal vagy lényegében azonos fizikai jellemzőkkel bíró egyéb anyaggal végzik:

| I csomagolási csoport | II csomagolási csoport | III csomagolási csoport |
|-----------------------|------------------------|-------------------------|
| 1,8 m                 | 1,2 m                  | 0,8 m                   |

Folyékony anyagoknál, ha a vizsgálatot vízzel hajtják végre:



- a) olyan szállítandó anyagok esetén, amelyeknek relatív sűrűsége nem haladja meg az 1,2 értéket:

| II csomagolási csoport | III csomagolási csoport |
|------------------------|-------------------------|
| 1,2 m                  | 0,8 m                   |

- b) olyan szállítandó anyagok esetén, amelyeknek relatív sűrűsége meghaladja az 1,2 értéket, az ejtési magasságot a szállítandó anyag relatív sűrűségéből a következő módon kell kiszámítani (egy tizedesre felkerekítve):

| II csomagolási csoport         | III csomagolási csoport         |
|--------------------------------|---------------------------------|
| relatív sűrűség $\times$ 1,0 m | relatív sűrűség $\times$ 0,67 m |

#### 6.5.6.9.5 *Elfogadási feltétel*

- a) Fém IBC-knél: nem következhet be a tartalom elvesztése;
- b) Hajlékony IBC-knél: nem következhet be a tartalom elvesztése. A tartalom kismértékű elfolyása a záráson vagy a varrásokon keresztül a felütközéskor nem tekintendő az IBC tönkremenetelének, feltéve, hogy miután az IBC-t a talajról felemelték, további szivárgás nem következik be.
- c) Merev falú műanyag, összetett, papírlemez és fa IBC-knél: nem következhet be a tartalom elvesztése. A tartalom kismértékű elfolyása a záráson keresztül a felütközéskor nem tekintendő az IBC tönkremenetelének, feltéve, hogy további szivárgás nem következik be.
- d) Az összes IBC-nél: nem következhet be sem olyan sérülés, ami miatt nem lenne biztonságos az IBC mentési vagy ártalmatlanítási célból történő szállítása, sem a tartalom elvesztése. Ezenkívül alkalmasnak kell lennie arra, hogy valamilyen alkalmas eszközzel öt perc időtartamra teljesen el lehessen emelni a talajról.

#### 6.5.6.10 *Továbbszakadási próba*

##### 6.5.6.10.1 *Alkalmazási terület*

Gyártási típus vizsgálatként minden hajlékony falú IBC típusnál.

##### 6.5.6.10.2 *Az IBC előkészítése a próbához*

Az IBC-t ürtartalmának legalább 95%-áig és megengedett legnagyobb bruttó tömegéig kell – a tartalmat egyenletesen elosztva – megtölteni.

##### 6.5.6.10.3 *Vizsgálati eljárás*

Amikor az IBC már a talajon van, késsel 100 mm hosszú, teljesen áthatoló vágást kell az egyik széles oldalfalán ejteni az IBC fő tengelyére 45°-os szögben, mégpedig a fenék és a tartalom szintje közötti félmagasságban. Az IBC-re ezután a megengedett legnagyobb bruttó tömeg kétszeresével egyenlő terhelést kell – egyenletesen elosztva – helyezni. A terhelést legalább 5 percig kell rajta tartani. Az olyan IBC-t, amelyet felülről vagy oldalról emelésre alakítottak ki, a terhelés eltávolítása után fel kell emelni, amíg az a talajtól elválik, és ebben a helyzetben kell tartani 5 perc időtartamig.

##### 6.5.6.10.4 *Elfogadási feltétel*

A vágás eredeti hosszának 25%-ánál nagyobb mértékben nem növekedhet meg.

#### 6.5.6.11 *Billentési próba*

##### 6.5.6.11.1 *Alkalmazási terület*

Gyártási típus vizsgálatként minden hajlékony falú IBC típusnál.

**6.5.6.11.2** *Az IBC előkészítése a próbához*

Az IBC-t ürtartalmának legalább 95%-áig és megengedett legnagyobb bruttó tömegéig kell – a tartalmat egyenletesen elosztva – megtölteni.

**6.5.6.11.3** *Vizsgálati eljárás*

Az IBC-t oly módon kell átbillenteni, hogy felső része a merev, rugalmatlan, sima, sík és vízszintes felületnek ütközzön.

**6.5.6.11.4** *Billentési magasság*

| I csomagolási csoport | II csomagolási csoport | III csomagolási csoport |
|-----------------------|------------------------|-------------------------|
| 1,8 m                 | 1,2 m                  | 0,8 m                   |

**6.5.6.11.5** *Elfogadási feltétel*

Nem következhet be a tartalom elvesztése. A tartalom kismértékű kiszabadulása a záráson vagy a varrásokon keresztül a felütközéskor nem tekintendő az IBC tönkremenetelének, feltéve, hogy további szivárgás nem következik be.

**6.5.6.12** *Felállítási próba***6.5.6.12.1** *Alkalmazási terület*

Gyártási típus vizsgálatként minden hajlékony falú IBC-nél, amely felülről vagy oldalról való emelésre van kialakítva.

**6.5.6.12.2** *Az IBC előkészítése a próbához*

Az IBC-t ürtartalmának legalább 95%-áig és megengedett legnagyobb bruttó tömegéig kell – a tartalmat egyenletesen elosztva – megtölteni.

**6.5.6.12.3** *Vizsgálati eljárás*

Az egyik oldalára fektetett IBC-t egyik emelőszerkezeténél, vagy amennyiben négy van, két emelőszerkezeténél fogva legalább 0,1 m/s sebességgel függőleges helyzetbe kell felemelni, amíg a talajtól elválík.

**6.5.6.12.4** *Elfogadási feltétel*

Nem következhet be sem az IBC, sem emelőszerkezetének olyan sérülése, amely az IBC biztonságát a szállítás vagy kezelés során csökkentené.

**6.5.6.13** *Rázóvizsgálat***6.5.6.13.1** *Alkalmazási terület*

Gyártási típus vizsgálatként minden olyan IBC típusnál, amelyeket folyadékokhoz használnak.

**Megjegyzés:** Ezt a vizsgálatot a 2010. december 31. után gyártott IBC-k gyártási típusára kell alkalmazni (lásd még az 1.6.1.14 bekezdést is).

**6.5.6.13.2** *Az IBC előkészítése a próbához*

Egy IBC-t kell véletlenszerűen kiválasztani, és ugyanúgy kell előkészíteni és lezárni, mint a szállításra. Az IBC-t legnagyobb ürtartalmának legalább 98%-áig kell vízzel megtölteni.

**6.5.6.13.3** *Vizsgálati eljárás és a vizsgálat időtartama***6.5.6.13.3.1**

Az IBC-t a vizsgálóberendezés asztalának közepére kell helyezni, amely függőleges irányú, szinuszos rezgőmozgást végez, amelynek teljes amplitúdója (csúcstól-csúcsig kitérése) 25 mm ± 5%. Ha szükséges, az asztalhoz olyan kitámasztó eszközt kell erősíteni, amely

meggátolja, hogy a mintadarab vízszintes irányban elmozduljon az asztalon, anélkül, hogy a függőleges irányú mozgást akadályozná.

**6.5.6.13.3.2** A vizsgálatot egy órán át kell folytatni olyan frekvenciával, amelynél az IBC alapjának egy része minden periódus egy részében átmenetileg olyan mértékben felemelkedik a rázóasztalról, hogy egy fémlemezt időnként az IBC alapja és a vizsgáló asztal közé legalább egy ponton teljes egészében be lehessen csúsztatni. A kezdeti beállított frekvencia értéket – szükség esetén – úgy kell változtatni, hogy a csomagolóeszköz ne rezonáljon. Mindazonáltal a vizsgáló frekvenciának továbbra is lehetővé kell tennie a fémlemez behelyezését az IBC alá, ahogy e bekezdés azt előírja. A fémlemez folyamatos behelyezhetősége elengedhetetlen a vizsgálat elviselése szempontjából. Az ehhez a vizsgálathoz használt fémlemeznek legalább 1,6 mm vastagnak és 50 mm szélesnek kell lennie, és elég hosszúnak ahhoz, hogy a vizsgálat végrehajtása céljából az IBC és a rázóasztal közé legalább 100 mm-re becsúsztható legyen.

**6.5.6.13.4** *Elfogadási feltétel*

Sem szivárgás, sem törés nem következhet be. Ezenkívül a szerkezeti elemek nem törhetnek el, ill. nem hibásodhatnak meg, pl. a hegesztések nem törhetnek el, a rögzítések nem rongálódhatnak meg.

**6.5.6.14** *Vizsgálati jegyzőkönyv*

**6.5.6.14.1** A vizsgálatokról jegyzőkönyvet kell készíteni, amit az IBC felhasználói számára hozzáférhetővé kell tenni és amelynek legalább a következő adatokat kell tartalmaznia:

1. A vizsgálatot végző szerv neve és címe;
2. A vizsgálatot kérő neve és címe (ha szükséges);
3. A vizsgálati jegyzőkönyv egyedi azonosítója;
4. A vizsgálati jegyzőkönyv kelte;
5. Az IBC gyártója;
6. Az IBC típus leírása (pl. a méretek, az anyagok, a zárószervezetek, a falvastagság stb.), beleértve a gyártási módszert (pl. üreges test fúvás), ami rajzokkal és/vagy fényképekkel kiegészíthető;
7. Legnagyobb ürtartalom;
8. A vizsgálat alatti tartalom jellemzői, pl. folyadékoknál a viszkozitás és a relatív sűrűség és szilárd anyagoknál a szemcseméret;
9. A vizsgálatok leírása és eredményei;
10. A vizsgálati jegyzőkönyvet alá kell írni, az aláíró nevét és beosztását fel kell tüntetni.

**6.5.6.14.2** A vizsgálati jegyzőkönyvnek megállapítást kell tartalmaznia arra nézve, hogy a szállításra előkészített IBC a jelen fejezet megfelelő rendelkezéseivel összhangban került vizsgálatra és más csomagolási módszerek vagy alkotórészek használata azt érvénytelenné teheti. A vizsgálati jegyzőkönyv egy példányát az illetékes hatóságnak kell átadni.

## 6.6 FEJEZET

### A NAGYCSOMAGOLÁSOK GYÁRTÁSÁRA ÉS VIZSGÁLATÁRA VONATKOZÓ ELŐÍRÁSOK

#### 6.6.1 Általános előírások

##### 6.6.1.1 Ezen fejezet követelményei nem vonatkoznak:

- a gázt tartalmazó tárgyakhoz (beleértve az aeroszolókat) használt nagycsomagolások kivételével a 2 osztály anyagainak csomagolóeszközeire;
- az UN 3291 kórházi hulladékhoz használt nagycsomagolások kivételével a 6.2 osztály áruinak csomagolóeszközeire;
- a radioaktív anyagot tartalmazó, 7 osztályba tartozó küldeménydarabokra.

##### 6.6.1.2 Annak biztosítására, hogy mindegyik nagycsomagolás megfeleljen e fejezet előírásainak, a nagycsomagolásokat olyan minőségbiztosítási program szerint kell gyártani és bevizsgálni, amelyet az illetékes hatóság kielégítőnek tart.

*Megjegyzés:* Az alkalmazható eljárás(ok)ra megfelelő útmutatást ad az ISO 16106:2006 szabvány: „Csomagolás. Veszélyes áruk szállítási csomagolása. Veszélyes áruk csomagolásai, közepes méretű szállítótartályok (IBC-k) és nagyméretű csomagolások. Útmutató az ISO 9001 alkalmazásához”.

##### 6.6.1.3 A nagycsomagolásokra a 6.6.4 szakaszban felsorolt különleges követelmények a jelenleg használt nagycsomagolásokon alapulnak. A tudományos és műszaki haladás figyelembe vétele érdekében nincs akadálya olyan nagycsomagolások használatának, amelyek eltérnek a 6.6.4 szakaszban levő specifikációktól, ha azonos hatékonyságúak, az illetékes hatóság számára elfogadhatóak és képesek sikeresen kiállni a 6.6.5 szakaszban leírt vizsgálatokat. Az ADR-ben leírt vizsgálatoktól eltérő vizsgálatok is alkalmazhatók, ha azonos hatékonyságúak és az illetékes hatóság elfogadja.

##### 6.6.1.4 A csomagolóeszköz gyártójának és forgalmazójának információt kell nyújtania a követendő eljárásokra és a zárószervezetek (beleértve a szükséges tömítéseket) típusára és méreteire és minden más alkatrészre, ami annak biztosításához szükséges, hogy a szállításra előkészített küldeménydarab képes legyen az e fejezet vonatkozó igénybevételi próbáinak elviselésére.

#### 6.6.2 A nagycsomagolások típusát jelölő kód


##### 6.6.2.1 A nagycsomagolásokhoz használt kód a következőkből áll:

- a) két arab számjegy
  - 50 a merev falú nagycsomagolásokhoz; vagy
  - 51 a hajlékony falú nagycsomagolásokhoz; és
- b) egy latin nagybetű, amely az anyag fajtáját jelöli, pl. fa, acél stb. A használható nagybetűket a 6.1.2.6 bekezdés sorolja fel.

##### 6.6.2.2 A nagycsomagolások típusát jelölő kódot egy „W” betű követheti. A „W” betű azt jelenti, hogy a nagycsomagolás, bár a kód által jelzett típus alá tartozik, de a 6.6.4 szakaszban előírtaktól eltérően gyártották, és a 6.6.1.3 bekezdés előírásai szerint azonos értékűnek tekinthető.

**6.6.3 Jelölés****6.6.3.1 Alapjelölés**




Minden, az ADR előírásai szerint gyártott és ADR szerinti felhasználásra szánt nagycsomagolást tartósan és jól olvashatóan el kell látni a következő jelöléssel:

- a) az Egyesült Nemzetek jele a csomagolóeszközön:  ;
- Ezt a jelet csak annak tanúsítására szabad használni, hogy a csomagolóeszköz megfelel a 6.1, a 6.2, a 6.3, a 6.5, ill. a 6.6 fejezetben található vonatkozó előírásoknak. Amennyiben a jelölést beütéssel viszik fel a fém nagycsomagolásokra, e jel helyett az „UN” nagybetűk is használhatók;
- b) az „50” szám a merev falú nagycsomagolások esetében, ill. az „51” a hajlékony falú nagycsomagolások esetében, amit a 6.5.1.4.1 b) pont szerinti anyagfajta jelölése követ;
- c) egy nagybetű, amely a csomagolási csoporto(ka)t jelöli, amely(ek)re a gyártási típust jóváhagyták:
- X az I, a II és a III csomagolási csoporthoz;
- Y a II és a III csomagolási csoporthoz;
- Z csak a III csomagolási csoporthoz;
- d) a gyártási hónap és év (az utolsó két számjegy);
- e) annak az államnak a jele, amely a jelölés alkalmazását engedélyezte, a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>1)</sup>;
- f) a gyártó neve vagy jele, vagy a nagycsomagolásoknak az illetékes hatóság által megállapított egyéb azonosító jele;
- g) a halmazolási próba során alkalmazott terhelés kg-ban. A halmazolásra nem tervezett nagycsomagolásokon „0”-t kell feltüntetni;
- h) a megengedett legnagyobb bruttó tömeg kilogrammban.

Az alapjelölést az előző pontok sorrendjében kell felvinni.

Az előző a) – h) pontban előírt jelölés elemeket egyértelműen el kell választani egymástól, pl. ferde vonallal vagy szóközzel, hogy könnyen azonosíthatók legyenek.

**6.6.3.2 Példák a jelölésre**

|   |                                    |   |
|---|------------------------------------|---|
|  | 50A/X/05<br>01/N/PQRS<br>2500/1000 | Acél nagycsomagolásokhoz, amelyek halmazolhatók, a halmazolási próba során alkalmazott terhelés: 2500 kg; a megengedett legnagyobb bruttó tömeg: 1000 kg. |
|  | 50H/Y/04<br>02/D/ABCD 987<br>0/800 | Műanyag nagycsomagoláshoz, amely nem halmazolható, a megengedett legnagyobb bruttó tömeg: 800 kg.   |
|  | 51H/Z/06<br>01/S/1999<br>0/500     | Hajlékony falú nagycsomagoláshoz, amely nem halmazolható, a megengedett legnagyobb bruttó tömeg: 500 kg.  |

1) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.

**6.6.4 Különleges követelmények a nagycsomagolásokra****6.6.4.1 Különleges követelmények a fémből készült nagycsomagolásokra**

- 50A kódjelű acél nagycsomagolás  
50B kódjelű alumínium nagycsomagolás  
50N kódjelű fém (acélt és alumíniumot kivéve) nagycsomagolás

**6.6.4.1.1** A nagycsomagolást olyan alkalmas, alakítható fémből kell készíteni, amelynek hegeszthetősége bizonyított. A hegesztési varratokat szakszerűen kell elkészíteni és azoknak teljes biztonságot kell nyújtaniuk. Szükség esetén figyelembe kell venni az alacsony hőmérsékleten tanúsított viselkedést.

**6.6.4.1.2** Gondoskodni kell arról, hogy az egymással határos különböző fémek révén létrejövő elektrolitikus korrózió elkerülhető legyen.

**6.6.4.2 Különleges követelmények a hajlékony falú nagycsomagolásokra**

- 51H kódjelű hajlékony falú műanyag nagycsomagolás  
51M kódjelű hajlékony falú papír nagycsomagolás

**6.6.4.2.1** A nagycsomagolásokat megfelelő anyagokból kell gyártani. Az anyag szilárdságának és a hajlékony falú nagycsomagolás gyártási módszerének igazodnia kell a nagycsomagolás űrtartalmához és rendeltetéséhez.

**6.6.4.2.2** Az 51M típusú, hajlékony falú nagycsomagolások gyártásához használt minden anyagnak legalább 24 órán át tartó, vízbe való merítés után meg kell őriznie annak a szakítószilárdságnak legalább 85%-át, amelyet az anyag kiegyenlített klimatizálása után 67% vagy ennél kisebb relatív nedvességtartalom mellett mértek.

**6.6.4.2.3** A egyesítéseket varrással, hőhegesztéssel, ragasztással vagy ezekkel egyenértékű eljárással kell elkészíteni. A varrással kialakított egyesítések minden végét el kell dolgozni.

**6.6.4.2.4** A hajlékony falú nagycsomagolásnak kielégítő ellenállással kell rendelkeznie az ultraibolya sugárzás hatására, a klimatikus hatásokra vagy a rendeltetés szerint szállított anyag hatására bekövetkező öregedéssel és gyengüléssel szemben.

**6.6.4.2.5** Amennyiben a műanyagból készült, hajlékony falú nagycsomagolást az ultraibolya sugarak ellen védeni kell, ennek korom vagy más alkalmas pigment vagy inhibitor hozzáadásával kell történnie. Az adalékoknak összeférhetőnek kell lenniük a tartalommal és hatásukat a csomagolóeszköz-test teljes élettartama alatt meg kell őrizniük. Olyan korom, pigment vagy inhibitor alkalmazásánál, amely különbözik a bevizsgált gyártási típus gyártásához használttól, a vizsgálatok megismétlésétől el lehet tekinteni, ha a megváltozott korom-, pigment vagy inhibitor tartalom a szerkezeti anyag fizikai tulajdonságait kedvezőtlenül nem befolyásolja.

**6.6.4.2.6** A nagycsomagolás anyagába adalékanyagok keverhetők, hogy az öregedéssel szembeni ellenállóképességet javítsák, vagy más célokra, feltéve, hogy ezek az adalékok az anyag fizikai vagy kémia tulajdonságait kedvezőtlenül nem befolyásolják.

**6.6.4.2.7** Megtöltött állapotban a magasság és a szélesség aránya nem haladhatja meg a 2:1 értéket.

**6.6.4.3 Különleges követelmények a merev falú műanyag nagycsomagolásokra**

- 50H kódjelű merev falú műanyag nagycsomagolás

**6.6.4.3.1** A nagycsomagolást ismert minőségi jellemzőjű, alkalmas műanyagból kell gyártani és űrtartalmának és rendeltetészerű felhasználási módjának megfelelő szilárdsággal kell rendelkeznie. Az anyagnak kielégítő ellenállást kell tanúsítania a tartalmazott anyag és

esetleg az ultraibolya sugárzás hatására bekövetkező öregedéssel és gyengüléssel szemben. Szükség esetén figyelembe kell venni az alacsony hőmérsékleten tanúsított viselkedését. A benne levő tartalom esetleges áthatolása normális szállítási feltételek között nem okozhat veszélyt.

**6.6.4.3.2** Amennyiben az ultraibolya sugarak ellen védelem szükséges, ennek korom vagy más alkalmas pigment vagy inhibitor hozzáadásával kell történnie. Ezeknek az adalékoknak összeférhetőnek kell lenniük a tartalommal és hatásukat a test teljes élettartama alatt meg kell őrizniük. Olyan korom, pigment vagy inhibitor alkalmazásánál, amely különbözik a bevizsgált gyártási típus gyártásához használttól, a vizsgálatok megismétlésétől el lehet tekinteni, ha a megváltozott korom-, pigment- vagy inhibitor tartalom a szerkezeti anyag fizikai tulajdonságait kedvezőtlenül nem befolyásolja.

**6.6.4.3.3** A nagycsomagolás anyagába adalékanyagok keverhetők, hogy az öregedéssel szembeni ellenállóképességet javítsák, vagy más célokra, feltéve, hogy ezek az adalékok az anyag fizikai vagy kémia tulajdonságait kedvezőtlenül nem befolyásolják.

**6.6.4.4** *Különleges követelmények a papírlemez nagycsomagolásokra*

50G kódjelű merev falú papírlemez nagycsomagolás

**6.6.4.4.1** Szilárd és jó minőségű, tömör vagy hullámpapírlemezt (három vagy többretegűt) kell használni, amely megfelel a nagycsomagolás ürtartalmának és rendeltetésszerű használatának. A külső felület vízállóságának olyan mértékűnek kell lenni, hogy a Cobb-módszerrel végzett vízfelvétel-próba 30 perce alatt a tömegnövekedés ne haladja meg a 155 g/m<sup>2</sup> értéket – lásd az ISO 535:1991 szabványt. A papírlemeznek megfelelő hajlítószilárdsággal kell rendelkeznie. A papírlemezt úgy kell kiszabni, átmetszés nélkül völgyelni és réselni, hogy az összeállításnál ne repedjen meg, a felülete ne törjön meg és ne hasasodjon ki. A hullámpapírlemez hullámosított rétegét a fedőrétegekhez szilárdan hozzá kell ragasztani.

**6.6.4.4.2** Az oldalfalaknak, a tetőnek és a fenéknek minimálisan 15 J beszakítási szilárdsággal kell rendelkezniük, az ISO 3036:1975 szabvány szerint mérve.

**6.6.4.4.3** A nagycsomagolások külső burkolatain a palást illesztéseit megfelelő mértékben át kell lapolni és ragasztószalaggal kell lezárni, le kell ragasztani vagy fémkapcsokkal kell tűzni, vagy legalább azonos hatékonyságú módszerrel kell egyesíteni. Ha az egyesítés ragasztással vagy ragasztószalaggal történik, vízálló ragasztót kell használni. A fémkapcsoknak minden összeerősítendő részen teljesen át kell hatolniuk és oly módon kell azokat kialakítani vagy védeni, hogy a bélést ne dörzsölhessék vagy ne szúrhassák ki.

**6.6.4.4.4** A nagycsomagolás részét képező rakodólap alapzatnak, ill. bármilyen különálló rakodólapnak alkalmasnak kell lennie a megengedett legnagyobb bruttó tömegig megtöltött nagycsomagolás gépi kezelésére.

**6.6.4.4.5** A rakodólapot, ill. a nagycsomagolás részét képező alapzatot úgy kell kialakítani, hogy a nagycsomagolás alapján ne legyen semmilyen kiszögellés, ami a kezelés során sérülést okozhatna.

**6.6.4.4.6** A testet a különálló rakodólaphoz hozzá kell erősíteni, hogy biztosítva legyen a stabilitás a kezelés és a szállítás során. A különálló rakodólap felső felületének mentesnek kell lennie mindenféle éles kiszögelléstől, ami a nagycsomagolást megsérthetné.

**6.6.4.4.7** A halmazolás megkönnyítésére erősítő szerkezetek, mint pl. fa tartóelemek használhatók, de ezeket a bélésen kívül kell elhelyezni.

**6.6.4.4.8** Amennyiben nagycsomagolásokat halmazolásra szánják, a teherviselő felületnek olyannak kell lennie, hogy a terhelés biztonságos módon elosztodjon.



**6.6.4.5 Különleges követelmények a fa nagycsomagolásokra**

- 50C kódjelű közönséges fa nagycsomagolás  
50D kódjelű rétegelt falemez nagycsomagolás  
50F kódjelű farostlemez nagycsomagolás

**6.6.4.5.1** A felhasznált anyag szilárdsága és a test gyártási módja feleljen meg a nagycsomagolás ürtartalmának és rendeltetésszerű felhasználásának.

**6.6.4.5.2** A felhasznált fának jól kiérleltnek, kereskedelmi szárazságúnak és olyan hibáktól mentesnek kell lennie, ami a nagycsomagolás bármely részének szilárdságát csökkentené. A nagycsomagolás minden elemét egy darabból vagy ezzel egyenértékű módon kell gyártani. Az elemek akkor tekinthetők az egy darabból készülttel egyenértékűnek, ha a következő ragasztásos kötéstípusok valamelyikét alkalmazzák: Lindermann-illesztés (fecskefarok illesztés), hornyolt átlapolás vagy a tompa illesztés, minden csatlakozásnál legalább két, hullámosított fém rögzítőelemmel, vagy akkor, ha legalább azonos hatékonyság más eljárást alkalmaznak.

**6.6.4.5.3** A nagycsomagoláshoz felhasznált rétegelt falemeznek legalább háromrétegűnek kell lennie. Jól kiérlelt, hántolt vagy fűrészelt furnérból kell készíteni, amely kereskedelmi szárazságú és mentes olyan hibáktól, ami a test bármely részének szilárdságát csökkentené. A szomszédos rétegeket vízálló ragasztóval kell összeragasztani. A nagycsomagolás szerkezetéhez a rétegelt falemezzel együtt más alkalmas anyagok is használhatók.

**6.6.4.5.4** A farostlemez nagycsomagolásokat vízálló farostlemezről, pl. keménylemezről, faforgácslemezről vagy egyéb alkalmas típusból kell készíteni.

**6.6.4.5.5** A nagycsomagolások oldallapjait szilárdan a sarokoszlopokhoz vagy homloklapokhoz kell szegezni vagy erősíteni vagy azonos mértékben alkalmas eszközökkel kell összeerősíteni.

**6.6.4.5.6** A nagycsomagolás szerves részét képező rakodólap alapzatnak, ill. bármilyen különálló rakodólapnak alkalmasnak kell lennie a megengedett legnagyobb bruttó tömegig megtöltött nagycsomagolás gépi kezelésére.

**6.6.4.5.7** A rakodólapot, ill. a nagycsomagolás szerves részét képező alapzatot úgy kell kialakítani, hogy nagycsomagolás alapján ne legyen semmilyen kiszögellés, ami a kezelés során sérülést okozhatna.

**6.6.4.5.8** A testet a különálló rakodólaphoz hozzá kell erősíteni, hogy biztosítva legyen a stabilitás a kezelés és a szállítás során. A különálló rakodólap felső felületének mentesnek kell lennie mindenféle éles kiszögelléstől, ami a nagycsomagolást megsérthetné.

**6.6.4.5.9** A halmazolás megkönnyítésére erősítő szerkezetek, mint pl. fa tartóelemek használhatók, de ezeket a béléseken kívül kell elhelyezni.

**6.6.4.5.10** Amennyiben nagycsomagolásokat halmazolásra szánják, a teherviselő felületnek olyannak kell lennie, hogy a terhelés biztonságos módon elosztodjék.

**6.6.5 Vizsgálati követelmények a nagycsomagolásokra****6.6.5.1 A vizsgálatok végrehajtása és gyakorisága**

**6.6.5.1.1** Minden nagycsomagolás gyártási típusát a jelölés felvitelét engedélyező illetékes hatóság által meghatározott eljárás szerint, a 6.6.5.3 bekezdésben előírt vizsgálatoknak kell alávetni, és ugyanennek az illetékes hatóságnak jóvá kell hagyni.

**6.6.5.1.2** A nagycsomagolások gyártási típusának sikeresen ki kell állnia az e fejezetben előírt vizsgálatokat, mielőtt az adott típusú nagycsomagolást használatba vennék. A nagy-



csomagolás gyártási típusát kialakítása, nagysága, anyaga és falvastagsága, gyártásmódja és a csomagolási módszer határozzák meg; egy típushoz azonban különböző felületkezelés is tartozhat. Ugyanaz a típus magában foglalja azokat a nagycsomagolásokat is, amelyek a gyártási típustól csak kisebb szerkezeti magasságban térnek el.

**6.6.5.1.3** A vizsgálatokat a gyártásból vett mintákon az illetékes hatóság által meghatározott időközönként meg kell ismételni. Az ilyen vizsgálatoknál papírlemez nagycsomagolások esetén a szobahőmérsékleten való előkészítés azonosnak tekintendő a 6.6.5.2.4 pont előírásaival.

**6.6.5.1.4** A vizsgálatokat minden olyan módosítás után meg kell ismételni, ami megváltoztatja a nagycsomagolás kialakítását, anyagát vagy gyártásmódját.

**6.6.5.1.5** Az illetékes hatóság engedélyezheti azon nagycsomagolások szelektív vizsgálatát, amelyek csak kismértékben térnek el a már bevizsgálttól, pl. kisebb méretű belső csomagolásokat vagy kisebb nettó tömegű belső csomagolásokat tartalmaznak; és amelyek olyan nagycsomagolások, melyek a külső méret(ek)et tekintve valamivel kisebbek.

**6.6.5.1.6** (fenntartva)

**Megjegyzés:** *Különböző típusú belső csomagolóeszközök egy nagycsomagolásba való helyezésére, ill. a belső csomagolóeszköz változatokra vonatkozóan lásd a 4.1.1.5.1 pontot.*

**6.6.5.1.7** Az illetékes hatóság bármikor előírhatja, hogy a jelen szakasz előírásainak megfelelő próbákkal igazolják, hogy a sorozatban gyártott csomagolóeszközök megfelelnek a gyártási típus követelményeinek.

**6.6.5.1.8** Amennyiben a vizsgálat eredményeit nem befolyásolja és az illetékes hatóság hozzájárul, ugyanazon a mintán több vizsgálat is végezhető.

## **6.6.5.2 Előkészítés a vizsgálatokhoz**

**6.6.5.2.1** A próbákat szállításra kész csomagolásokon kell végrehajtani, beleértve az alkalmazott belső csomagolóeszközöket. A belső csomagolóeszközöket folyadékok esetén úrtartalmuk legalább 98%-áig, szilárd anyag esetén legalább 95%-áig kell megtölteni. Az olyan nagycsomagolásoknál, ahol a belső csomagolóeszközök folyadékokat és szilárd anyagokat egyaránt tartalmaznak, külön vizsgálat szükséges a folyadék és külön a szilárd anyag tartalomra. A belső csomagolóeszközben levő anyag, ill. a szállítandó tárgy helyettesíthető más anyaggal vagy tárggyal, kivéve, ha ez meghamisítaná a próbák eredményét. Amennyiben más belső csomagolóeszközt vagy tárgyat alkalmaznak, annak ugyanolyan fizikai jellemzői legyenek (tömeg stb.), mint a szállítandó anyagnak vagy tárgynak. Abból a célból, hogy elérjék a küldeménydarab megkövetelt össztömegét, kiegészítő terhek is használhatók, pl. ólomszemcsét tartalmazó zsákok, feltéve, hogy ezeket oly módon helyezik el, hogy nem hamisítják meg a próbák eredményét.

**6.6.5.2.2** Ha a folyadékra vonatkozó ejtőpróbánál helyettesítő anyagot használnak, ennek a szállítandó anyaggal azonos relatív sűrűségűnek és viszkozitásúnak kell lennie. Folyadékokra vonatkozó ejtőpróbánál helyettesítő anyagként víz is használható a következő feltételek mellett:

- ha a szállítandó anyag relatív sűrűsége nem haladja meg az 1,2 értéket, az ejtési magasságnak a 6.6.5.3.4.4 pontban levő táblázatban előírtnak kell lennie;
- ha a szállítandó anyag relatív sűrűsége meghaladja az 1,2 értéket, az ejtési magasságot a szállítandó anyag egy tizedesjegyre felkerekített relatív sűrűsége ( $d$ ) alapján a következők szerint kell kiszámítani:

| I csomagolási csoport    | II csomagolási csoport   | III csomagolási csoport   |
|--------------------------|--------------------------|---------------------------|
| $d \times 1,5 \text{ m}$ | $d \times 1,0 \text{ m}$ | $d \times 0,67 \text{ m}$ |

**6.6.5.2.3** A műanyagból készült nagycsomagolásokat és a műanyag belső csomagolóeszközöket – a szilárd anyagokat vagy tárgyakat tartalmazó zsákok kivételével – tartalmazó nagycsomagolásokat akkor kell az ejtőpróbának alávetni, amikor a vizsgálati minta és tartalma hőmérsékletét  $-18\text{ °C}$ -ra vagy az alá lehűtötték. Ezt a kondicionálást nem kell alkalmazni, ha a kérdéses anyagok alacsony hőmérsékleten elegendő hajlékonysággal és szakító-szilárdsággal bírnak. Ha a vizsgálandó mintát ily módon készítették elő, a 6.6.5.2.4 pont szerinti kondicionálás elhagyható. A vizsgálatához használt folyadékot szükség esetén fagyásgátló hozzáadásával folyékony állapotban kell tartani.

**6.6.5.2.4** A papírlemezről készült nagycsomagolásokat legalább 24 órán át szabályozott hőmérsékletű és relatív páratartalmú levegőn kell tartani. Három megoldás közül lehet választani. Az ajánlott érték  $23\text{ °C} \pm 2\text{ °C}$  hőmérséklet és  $50\% \pm 2\%$  páratartalom. A másik két lehetőség:  $20\text{ °C} \pm 2\text{ °C}$  hőmérséklet és  $65\% \pm 2\%$  páratartalom, illetve  $27\text{ °C} \pm 2\text{ °C}$  hőmérséklet és  $65\% \pm 2\%$  páratartalom.

***Megjegyzés:** Az átlagértékeknek ezen határok közé kell esniük. A rövid idejű ingadozások és a mérési korlátok az egyedi mérésektől legfeljebb  $\pm 5\%$  relatív páratartalom eltérést eredményezhetnek a vizsgálatok reprodukálhatóságának észrevehető csökkenése nélkül.*

### **6.6.5.3 Vizsgálati követelmények**

#### **6.6.5.3.1 Emelési próba alulról**

##### **6.6.5.3.1.1 Alkalmazási terület**

Gyártási típus vizsgálatként minden olyan nagycsomagolás típusnál, amely az alulról való emeléshez el van látva szerkezettel.

##### **6.6.5.3.1.2 A nagycsomagolás előkészítése a próbához**

A nagycsomagolást megengedett legnagyobb bruttó tömegének 1,25-szorosáig kell – a terhelést egyenletesen elosztva – megtölteni.

##### **6.6.5.3.1.3 Vizsgálati eljárás**

A nagycsomagolást emelővillás targoncával kétszer fel kell emelni és le kell tenni. Ennek során a villákat központosan kell elhelyezni, és azoknak egymástól olyan távolságra kell lenniük, amely a bevezetés felőli oldalméret háromnegyed részének felel meg, (hacsak a bevezetési pontok nincsenek rögzítve). A villákat a bevezetés irányában háromnegyed részig kell bevezetni. A próbát minden lehetséges irányból meg kell ismételni.

##### **6.6.5.3.1.4 Elfogadási feltétel**

Nem következhet be sem olyan tartós alakváltozás, amely a nagycsomagolás biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.

#### **6.6.5.3.2 Emelés felülről**

##### **6.6.5.3.2.1 Alkalmazási terület**

Gyártási típus vizsgálatként minden olyan nagycsomagolás típusnál, amely el van látva a felülről való emelésre szolgáló szerkezettel.

##### **6.6.5.3.2.2 A nagycsomagolás előkészítése a próbához**

A nagycsomagolást a megengedett legnagyobb bruttó tömeg kétszereséig kell megtölteni. A hajlékony falú nagycsomagolást a megengedett legnagyobb terhelés hatszorosáig kell – a terhelést egyenletesen elosztva – megtölteni.

##### **6.6.5.3.2.3 Vizsgálati eljárás**

A nagycsomagolást rendeltetésszerűen fel kell emelni, amíg az a talajtól elválík, és ebben a helyzetben kell tartani 5 perc időtartamig.

**6.6.5.3.2.4**    Elfogadási feltétel

- a) Fém és merev falú műanyag nagycsomagolásoknál: nem következhet be sem olyan tartós alakváltozás, amely a nagycsomagolás (beleértve a rakodólap alapot, ha ilyen van) biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.
- b) Hajlékony falú nagycsomagolásoknál: nem következhet be olyan sérülés sem a nagycsomagoláson, sem annak emelőszerkezetén, amely a nagycsomagolás biztonságát a szállítás vagy kezelés szempontjából csökkentené, sem a tartalom elvesztése.

**6.6.5.3.3**    *Halmazolási próba***6.6.5.3.3.1**    Alkalmazási terület

Gyártási típus vizsgálatként minden olyan nagycsomagolás típusnál, amelyek kialakításuknál fogva egymásra halmazolhatók.

**6.6.5.3.3.2**    A nagycsomagolás előkészítése a próbához

A nagycsomagolást megengedett legnagyobb bruttó tömegéig kell megtölteni.

**6.6.5.3.3.3**    Vizsgálati eljárás

A nagycsomagolást alapzatával vízszintes, sík, kemény talajra kell állítani és egyenletesen elosztott próbaterhelést kell ráhelyezni (lásd a 6.6.5.3.3.4 pontot) legalább 5 percig, fa, papírlemez és műanyag nagycsomagolások esetében 24 órán át.

**6.6.5.3.3.4**    *A ráhelyezendő próbaterhelés kiszámítása*

A tehernek, amelyet a nagycsomagolásra helyeznek, meg kell egyeznie a szállítás során a nagycsomagolásra halmazolható hasonló nagycsomagolások összes tömegének legalább 1,8-szeresével.

**6.6.5.3.3.5**    Elfogadási feltétel

- a) A hajlékony falú nagycsomagolás kivételével minden más nagycsomagolásnál: nem következhet be sem olyan tartós alakváltozás, amely a nagycsomagolás (beleértve az esetleges rakodólap alapot is, ha ilyen van) biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.
- b) Hajlékony falú nagycsomagolásnál: nem következhet be sem a test olyan károsodása, ami a nagycsomagolás biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.

**6.6.5.3.4**    *Ejtőpróba***6.6.5.3.4.1**    Alkalmazási terület

Gyártási típus vizsgálatként minden nagycsomagolás típusnál.

**6.6.5.3.4.2**    A nagycsomagolás előkészítése a próbához

A nagycsomagolást a 6.6.5.2.1 pont szerint kell megtölteni.

**6.6.5.3.4.3**    Vizsgálati eljárás

A nagycsomagolást oly módon kell a 6.1.5.3.4 pont követelményeinek megfelelő, rugalmatlan, vízszintes, sima, masszív és szilárd felületre ejteni, ami biztosítja, hogy a nagycsomagolás az alapfelület legérzékenyebbnek tekintett részén ütközzön fel.

**6.6.5.3.4.4**    Ejtési magasság

| I csomagolási csoport | II csomagolási csoport | III csomagolási csoport |
|-----------------------|------------------------|-------------------------|
| 1,8 m                 | 1,2 m                  | 0,8 m                   |

**Megjegyzés:** Az 1 osztály anyagaihoz és tárgyaihoz, a 4.1 osztály önreaktív anyagaihoz és az 5.2 osztály szerves peroxidjaihoz használandó nagycsomagolást a II

*csomagolási csoport igénybevételi szintjén kell vizsgálni.*

**6.6.5.3.4.5**      Elfogadási feltétel

**6.6.5.3.4.5.1**    Nem következhet be olyan sérülés, amely a szállítás biztonságát befolyásolná. A belső csomagolóeszközökben vagy tárgyakban levő anyag nem szivároghat.

**6.6.5.3.4.5.2**    Az 1 osztály tárgyaihoz használandó nagycsomagolás nem szenvedhet olyan törést, ami lehetővé teszi a nagycsomagolásból a robbanóanyag kifolyását vagy tárgyak kiszóródását.

**6.6.5.3.4.5.3**    A nagycsomagolás ejtési próbája során a minta megfelelőnek tekinthető, ha a teljes tartalmat megtartotta, még ha a zárás a továbbiakban nem is portömör.

**6.6.5.4**            *Bizonyítvány és vizsgálati jegyzőkönyv*

**6.6.5.4.1**        Minden nagycsomagolás gyártási típusra bizonyítványt kell kiállítani és (a 6.6.3 szakasz szerinti) jelölést kell hozzárendelni, tanúsítva, hogy a gyártási típus, beleértve annak szerelvényeit, kielégíti a vizsgálat követelményeit.

**6.6.5.4.2**        A vizsgálatokról legalább a következő adatokat tartalmazó jegyzőkönyvet kell készíteni, amit a nagycsomagolás felhasználói számára hozzáférhetővé kell tenni

1.    A vizsgálatot végző szerv neve és címe;
2.    A vizsgálatot kérő neve és címe (ha szükséges);
3.    A vizsgálati jegyzőkönyv egyedi azonosítója;
4.    A vizsgálati jegyzőkönyv kelte;
5.    A nagycsomagolás gyártója;
6.    A nagycsomagolás gyártási típusának leírása (pl. méretek, anyagok, zárószervezetek, falvastagságok stb.) és/vagy fénykép(ek);
7.    Legnagyobb úrtartalom / megengedett legnagyobb bruttó tömeg;
8.    A vizsgálat alatti tartalom jellemzői, pl. a belső csomagolóeszközök vagy tárgyak típusa és leírása;
9.    A vizsgálatok leírása és eredményei;
10.   A vizsgálati jegyzőkönyvet alá kell írni, az aláíró nevét és beosztását fel kell tüntetni.

**6.6.5.4.3**        A vizsgálati jegyzőkönyvnek megállapítást kell tartalmaznia arra nézve, hogy a szállításra előkészített nagycsomagolás ezen fejezet megfelelő rendelkezéseivel összhangban került vizsgálatra és más csomagolási módszerek vagy alkotórészek használata azt érvénytelenné teheti. A vizsgálati jegyzőkönyv egy példányát az illetékes hatóságnak kell átadni.

**6.7 FEJEZET****A MOBIL TARTÁNYOK ÉS AZ UN TÖBBELEMES  
GÁZKONTÉNEREK (UN MEG-KONTÉNEREK) TERVEZÉSÉRE,  
GYÁRTÁSÁRA ÉS VIZSGÁLATÁRA VONATKOZÓ ELŐÍRÁSOK**

**Megjegyzés:** A fémből gyártott, rögzített tartányokra (tartányjárművekre), leszerelhető tartányokra, tankkonténerekre és tartányos cserefelépítményekre, valamint a battériás járművekre és a többelemes gázkonténerekre (MEG-konténerekre) – az UN MEG-konténerek kivételével – lásd a 6.8 fejezetet; a szálvázaz műanyag tartányokra lásd a 6.9 fejezetet, a hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra lásd a 6.10 fejezetet.

**6.7.1 Alkalmazási terület és általános előírások**

**6.7.1.1** E fejezet követelményei a veszélyes áruk bármely alágazattal történő szállítására használt mobil tartányokra, ill. a 2 osztály nem mélyhűtött gázainak bármely alágazattal történő szállítására használt MEG-konténerekre vonatkoznak. Eltérő előírás hiányában, ha egy mobil tartány, ill. MEG-konténer a – többször módosított – „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) meghatározása szerint konténernek minősül, akkor e fejezet követelményein kívül a CSC egyezmény előírásait is be kell tartani. A nyílt tengeren kezelt „offshore” mobil tartányokra, ill. MEG-konténerekre kiegészítő követelmények is vonatkozhatnak.

**6.7.1.2** A tudományos és műszaki haladás figyelembe vétele érdekében e fejezet műszaki követelményei helyett alternatívaként más előírások is alkalmazhatók. Az alternatív kialakítású mobil tartánynak, ill. MEG-konténernek a szállított anyaggal való összeférhetőség, az ütdésekkel, a rakodási igénybevételekkel és a tűzzel szembeni ellenállóképesség tekintetében legalább olyan biztonságosnak kell lenniük, mintha e fejezet követelményeit teljesítették volna. Nemzetközi szállítás esetén az alternatív kialakítású mobil tartányt, ill. MEG-konténert az érintett illetékes hatóságoknak jóvá kell hagyniuk.

**6.7.1.3** Ha egy anyaghoz a 3.2 fejezet „A” táblázat 10 oszlopában nincs is mobil tartány utasítás (T1 – T23, T50 vagy T75) feltüntetve, a származási ország illetékes hatósága ideiglenes szállítási engedélyt adhat ki. Az engedélynek legalább azokat az információkat kell tartalmaznia, amelyek normál esetben a mobil tartány utasításban szerepelnek, és tartalmaznia kell az anyag szállítási feltételeit. Az engedélyt a küldemény okmányaihoz kell csatolni.

**6.7.2 Az 1 és a 3 – 9 osztály anyagainak szállításához használt mobil tartányok gyártására és vizsgálatára vonatkozó követelmények****6.7.2.1 Meghatározások**

E szakasz alkalmazásában:

Az *alternatív kialakítási engedély* az e fejezetben meghatározottaktól eltérő műszaki előírások alapján tervezett, gyártott vagy eltérő vizsgálati módszer szerint vizsgált (alternatív kialakítású) mobil tartányra vagy MEG-konténerre az illetékes hatóság által kiadott engedély.

A *mobil tartány* olyan multimodális tartány, amelyet az 1 és a 3 – 9 osztály anyagainak szállítására használnak. A mobil tartány fogalmába maga a tartány és a veszélyes anyag szállításához szükséges üzemi és szerkezeti szerelvényei tartoznak. A mobil tartánynak a szerkezeti szerelvények eltávolítása nélkül tölthetőnek és üríthetőnek kell lennie. A tartány külső részén stabilizáló elemeknek kell lenniük, és alkalmasnak kell lennie arra, hogy megtöltött állapotban felemeljék. Úgy kell kialakítani, hogy elsősorban közúti járműre,

vasúti kocsira, ill. tengerjáró vagy belvízi hajóba lehessen rakni, a gépi rakodás megkönnyítésére kerettel vagy egyéb szerkezetekkel kell ellátni. A közúti tartányjárművek, a vasúti tartálykocsik, a nem fémből készült tartányok és a nagyméretű csomagolóeszközök (IBC-k) e meghatározás értelmében nem minősülnek mobil tartálynak.

A *tartány* a mobil tartány azon része, amely a szállítandó anyag megtartására szolgál (maga a tartány), beleértve a nyílásokat és zárószerkezeteiket, de kizárva az üzemi szerelvényeket és a külső szerkezeti szerelvényeket.

Az *üzemi szerelvények* a töltő- és ürítő-, a szellőző-, a biztonsági, a fűtő-, a hűtő- és a hőszigetelő berendezések, valamint a mérőeszközök.

A *szerkezeti szerelvények* a tartány külső részén található erősítő-, rögzítő-, védő- vagy stabilizáló elemek.

A *megengedett legnagyobb üzemi nyomás* a tartány üzemi helyzetében, annak tetején mérhető nyomás, amely nem lehet kisebb, mint a következő két nyomás érték közül a nagyobbik:

- a) a tartányban a töltés, ill. ürítés során megengedett legnagyobb tényleges nyomás (túlnyomás); vagy
- b) a legnagyobb tényleges túlnyomás, amelyre a tartány méretezve van, ami nem lehet kevesebb, mint
  - i) az anyag abszolút gőznyomása (bar-ban) 65 °C-on mínusz 1 bar; és
  - ii) a folyadékszint feletti térben levő levegő, ill. egyéb gáz parciális nyomásai (bar-ban), amelyet a következők alapulvételével kell meghatározni: legfeljebb 65 °C hőmérsékletű folyadékszint feletti tér, valamint az átlagos hőmérséklet  $t_r - t_f$  értékű növekedéséből adódó folyadék-fázis táulás (ahol  $t_f$  = a töltési hőmérséklet, rendszerint 15 °C;  $t_r$  = a legnagyobb átlagos hőmérséklet, 50 °C).

A *tervezési nyomás* a nyomástartó edényekre vonatkozó szabályzat szerint a számításokhoz használandó nyomás. A tervezési nyomás nem lehet kisebb, mint a következő nyomások közül a legnagyobb:

- a) a tartányban a töltés, ill. ürítés során megengedett legnagyobb tényleges nyomás (túlnyomás); vagy
- b) a következők összege:
  - i) az anyag abszolút gőznyomása (bar-ban) 65 °C-on mínusz 1 bar;
  - ii) a folyadékszint feletti térben levő levegő, ill. egyéb gáz parciális nyomásai (bar-ban), amelyet a következők alapulvételével kell meghatározni: legfeljebb 65 °C hőmérsékletű folyadékszint feletti tér, valamint az átlagos hőmérséklet  $t_r - t_f$  értékű növekedéséből adódó folyadék-fázis táulás (ahol  $t_f$  = a töltési hőmérséklet, rendszerint 15 °C;  $t_r$  = a legnagyobb átlagos hőmérséklet, 50 °C); és
  - iii) a 6.7.2.2.12 pontban meghatározott statikus erők alapján meghatározott folyadéknyomás, de legalább 0,35 bar; vagy
- c) a 4.2.5.2.6 pontban, az alkalmazandó mobil tartány utasításban meghatározott legkisebb próbanyomás kétharmada.

A *próbanyomás* a tervezési nyomás legalább 1,5-szeresével végzett folyadéknyomás-próba alatt a legnagyobb túlnyomás a tartány tetején. Az egyes anyagokhoz használt mobil tartányokra a legkisebb próbanyomás értékét a 4.2.5.2.6 pontban az alkalmazandó mobil tartány utasítások határozzák meg.

A *tömörségi próba* az a gázzal végzett vizsgálat, amelynek során a tartányt az üzemi szerelvényeivel a megengedett legnagyobb üzemi nyomás legalább 25%-át elérő tényleges belső nyomásnak teszik ki.

A *megengedett legnagyobb bruttó tömeg* a mobil tartány saját tömege és a szállításra engedélyezett legnagyobb rakomány össztömege.



A *referencia acél* a 370 N/mm<sup>2</sup> szakítószilárdságú és 27% szakadási nyúlású acél.

A *szerkezeti acél* olyan acél, amelynek szavatolt legkisebb szakítószilárdsága 360...440 N/mm<sup>2</sup> között van, és szakadási nyúlása megfelel a 6.7.2.3.3.3 pontnak.

A *tervezési hőmérséklet-tartomány* a környezeti hőmérsékleten szállított anyagokhoz használt tartányok esetében -40 °C...+50 °C. A magas hőmérsékleten szállított egyéb anyagoknál a tervezési hőmérséklet nem lehet alacsonyabb, mint az anyag töltés, ürítés, ill. szállítás alatti legmagasabb hőmérséklete. Szélsőséges éghajlati körülményeknek kitett mobil tartányok esetében szigorúbb tervezési hőmérsékleteket kell alkalmazni.

A *finom szemcseszerkezetű acél* olyan acél, amelyben a ferrit szemcsék mérete az ASTM E 112-96 szabvány szerint meghatározva 6 vagy annál finomabb vagy az EN 10028-3 szabvány 3 részében meghatározott acél.

Az *olvadóbetét* egy hő hatására aktiválódó (kiolvadó), nem visszazárható nyomáscsökkentő szerkezet.

Az „*offshore*” *mobil tartány* olyan többször használható mobil tartány, amelyet speciálisan nyílt tengeri létesítményekhez, létesítményektől, ill. létesítmények közötti szállításra terveztek. Az „*offshore*” mobil tartányt a nyílt tengeren kezelt „*offshore*” konténerekre vonatkozó jóváhagyási útmutató szerint kell tervezni és gyártani, amit a Nemzetközi Tengerészeti Szervezet (IMO) MSC/Circ.860 dokumentuma tartalmaz.

#### **6.7.2.2** *Általános tervezési és gyártási követelmények*

##### **6.7.2.2.1**

A tartányokat az illetékes hatóság által elismert, a nyomástartó edényekre vonatkozó szabályzat előírásainak megfelelően kell tervezni és gyártani. A tartányt alakításra alkalmas fémes anyagból kell készíteni. Az anyagoknak általában a belföldi vagy nemzetközi anyagszabványoknak kell megfelelniük. Hegesztett tartányokhoz csak olyan anyagok használhatók, amelyek hegeszthetősége teljes mértékben szavatolt. A hegesztéseket szakszerűen kell elkészíteni, és teljesen biztonságosnak kell lenniük. Ha a gyártási folyamat vagy az anyag szükségessé teszi, a tartányt megfelelően hőkezelni kell, hogy a hegesztéseknél és a hőhatásnak kitett zónákban biztosítsák a kielégítő szívósságot. Az anyagok kiválasztásánál a ridegtörés veszélye, a feszültség alatti korróziós repedezések és az ütésállóság szempontjából figyelembe kell venni a tervezési hőmérséklet-tartományt. Finom szemcseszerkezetű acélok használata esetén a szavatolt folyáshatár nem lehet nagyobb, mint 460 N/mm<sup>2</sup>, és a szavatolt szakítószilárdság felső határa nem lehet nagyobb, mint 725 N/mm<sup>2</sup> az anyagspecifikáció szerint. Alumínium szerkezeti anyagként csak akkor használható, ha az adott anyagra a 3.2 fejezet „A” táblázat 11 oszlopában található mobil tartány utasítás erre utal, vagy ha az illetékes hatóság engedélyezte. Alumínium engedélyezése esetén a tartányt szigeteléssel kell ellátni, ami megakadályozza a fizikai tulajdonságok jelentős romlását olyan esetekben, amikor a tartányt legalább 30 percen át 110 kW/m<sup>2</sup> hőterhelés éri. A hőszigetelésnek 649 °C alatti minden hőmérsékleten hatásosnak kell maradnia, és olyan anyaggal kell burkolni, amelynek olvadáspontja legalább 700 °C. A mobil tartány anyagainak alkalmasnak kell lenniük ahhoz a külső környezethez, amelyben a tartányt szállíthatják.

##### **6.7.2.2.2**

A mobil tartányokat, a szerelvényeiket és a csövezetéseket olyan anyagból kell készíteni,

- a) amelyet a szállított anyag(ok) eleve nem támad(nak) meg; vagy
- b) amely kémiai reakció révén megfelelően passzíválódik vagy semlegesítődik; vagy
- c) amely a tartányhoz közvetlenül hozzáerősített vagy azzal egyenértékű módon hozzászerezelt korrózióálló anyaggal van bélelve.

##### **6.7.2.2.3**

A tömítéseket olyan anyagokból kell készíteni, amelyeket a szállítandó anyag(ok) nem támad(nak) meg.

##### **6.7.2.2.4**

Ha a tartány bélelt, a bélésanyagnak eleve olyannak kell lennie, amit a szállított anyag(ok) nem támad(nak) meg, ezenkívül homogénnek, hézag- és áttörésmentesnek és kellően rugalmasnak kell lennie, valamint igazodnia kell a tartány hőtágulási jellemzőihez. Ha a

tartányhoz külső szerelvény van hegesztve, a bélésnek folytonosan túl kell nyúlnia a szerelvényen keresztül a karima legkülső pereméig.

- 6.7.2.2.5** A bélés illesztéseit és varratait az anyag összeolvasztásával vagy más, azonos hatékonyságú módszerrel kell kialakítani.
- 6.7.2.2.6** Kerülni kell a különböző fémek érintkezését, ami a galvanikus hatás folytán károsodást okozhat.
- 6.7.2.2.7** A mobil tartány, a szerelvények, a tömítések, a bélések és a tartozékok anyaga nem gyakorolhat kedvezőtlen hatást a mobil tartányban szállítandó anyagokra.
- 6.7.2.2.8** A mobil tartányt megfelelő emelő és rögzítő szerelvényekkel és olyan tartószerkezettel kell tervezni és kialakítani, amely a szállítás során biztos alátámasztást nyújt.
- 6.7.2.2.9** A mobil tartányt olyanra kell tervezni, hogy a szállított anyag vesztesége nélkül ellenálljon legalább a szállított anyag által kifejtett belső nyomásnak és a normális szállítási és kezelési feltételek mellett fellépő statikus, dinamikus és hőterhelésnek. A tervezés során bizonyítani kell, hogy az ezen terheléseknek a mobil tartány várható élettartama alatti ismétlődése folytán kialakuló kifáradást figyelembe vették.
- 6.7.2.2.10** Azokat a tartányokat, amelyeket vákuumszeleppel látnak el, úgy kell tervezni, hogy maradó alakváltozás nélkül ellenálljanak akkora külső nyomásnak, amely a belső nyomásnál legalább 0,21 bar-ral nagyobb. A vákuumszelepeket úgy kell beállítani, hogy legfeljebb 0,21 bar vákuum hatására kinyissanak, kivéve, ha nagyobb külső túlnyomásra vannak méretezve, amikor is a felszerelendő szelepek nyitónyomása nem lehet nagyobb, mint a tartány tervezésénél figyelembe vett vákuum mértéke. Az illetékes hatóság engedélye alapján kisebb külső nyomásra is méretezhetők azok a tartányok, amelyeket kizárólag olyan szilárd (porszerű vagy szemcsés) anyagok szállítására használnak, amelyek a II vagy a III csomagolási csoportba tartoznak és a szállítás alatt nem válnak folyékonnyá. Ebben az esetben a vákuumszelep nyitását erre a kisebb nyomásra kell beállítani. Azokat a tartányokat, amelyeken nincs vákuumszelep, úgy kell tervezni, hogy maradó alakváltozás nélkül ellenálljanak akkora külső nyomásnak, amely a belső nyomásnál legalább 0,4 bar-ral nagyobb.
- 6.7.2.2.11** A 3 osztály kritériumainak megfelelő lobbanáspontú anyagok (beleértve a lobbanáspontjukon vagy annál magasabb hőmérsékleten szállított, magas hőmérsékletű anyagokat) szállítására szolgáló mobil tartányokon használt vákuumszelepeknek meg kell akadályozni a lángnak a tartányba történő közvetlen behatolását, vagy a mobil tartánynak alkalmasnak kell lennie arra, hogy szivárgás nélkül ellenálljon a lángnak a tartányba történő behatolása következtében fellépő belső robbanásnak.
- 6.7.2.2.12** A mobil tartányoknak és rögzítőelemeiknek a megengedett legnagyobb töltési tömeg mellett a következő, külön-külön fellépő, statikus erők elviselésére kell alkalmasnak lenniük:
- a) menetirányban: a megengedett legnagyobb bruttó tömeg kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>1)</sup>;
  - b) vízszintesen a menetirányra merőlegesen: a megengedett legnagyobb bruttó tömeg (amennyiben a menetirány nincs egyértelműen meghatározva, a megengedett legnagyobb bruttó tömeg kétszerese) szorozva a nehézségi gyorsulással ( $g$ )<sup>1)</sup>;
  - c) függőlegesen felfelé: a megengedett legnagyobb bruttó tömeg szorozva a nehézségi gyorsulással ( $g$ )<sup>1)</sup>; és
  - d) függőlegesen lefelé: a megengedett legnagyobb bruttó tömeg (összes terhelés beleértve a gravitáció hatását) kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>1)</sup>.
- 6.7.2.2.13** A 6.7.2.2.12 pontban felsorolt erőknél a következő biztonsági tényezőket kell figyelembe venni:

1) A számítások céljára  $g = 9,81 \text{ m/s}^2$ .



- a) határozott folyáshatárral rendelkező fémeknél a szavatolt folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt; vagy
- b) határozott folyáshatárral nem rendelkező fémeknél: a 0,2%-os (vagy ausztenites acéloknál az 1%-os) szavatolt, egyezményes folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt.

**6.7.2.2.14** A tényleges, ill. az egyezményes folyáshatár értékére a belföldi vagy nemzetközi anyagszabványok által meghatározott értékeket kell használni. Ausztenites acélok használata esetén a tényleges, ill. az egyezményes folyáshatárra az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket a vizsgálati bizonyítvány hitelesíti. Ha a szóban forgó fémre nincs anyagszabvány, a használt tényleges, ill. egyezményes folyáshatár értéket az illetékes hatóságnak jóvá kell hagynia.

**6.7.2.2.15** A mobil tartányoknak elektromosan földelhetőnek kell lenniük, ha a 3 osztály kritériumainak megfelelő lobbaspontú anyagok (beleértve a lobbaspontjukon vagy annál magasabb hőmérsékleten szállított, magas hőmérsékletű anyagokat) szállítására használják. Intézkedéseket kell tenni a veszélyes elektrosztatikus kisülések megakadályozására.

**6.7.2.2.16** Ha egy anyagra a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasítás szerint, vagy a 3.2 fejezet „A” táblázat 11 oszlopában feltüntetett és a 4.2.5.3 bekezdésben leírt mobil tartány különleges előírás szerint szükséges, akkor a mobil tartányt kiegészítő védelemmel kell ellátni, amely nagyobb falvastagságból, ill. nagyobb próbanyomásból állhat, a nagyobb falvastagságot, ill. a nagyobb próbanyomást az anyag szállításában rejlő veszélyek figyelembevételével kell meghatározni.

### **6.7.2.3 Tervezési kritériumok**

**6.7.2.3.1** A tartányt úgy kell megtervezni, hogy matematikailag vagy kísérleti úton (pl. nyúlásmérő bélyegek alkalmazásával vagy az illetékes hatóság által jóváhagyott más módszerrel) szilárdsági ellenőrzésnek, ill. vizsgálatnak lehessen alávetni.

**6.7.2.3.2** A tartányokat úgy kell tervezni és gyártani, hogy a tervezési nyomás legalább 1,5-szeresével végrehajtott folyadéknyomás-próbát kiállják. Bizonyos anyagokra különleges előírások találhatók a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasításokban vagy a 3.2 fejezet „A” táblázat 11 oszlopában feltüntetett és a 4.2.5.3 bekezdésben leírt mobil tartány különleges előírásokban. Ezeknél a tartányoknál tekintettel kell lenni a 6.7.2.4.1 – 6.7.2.4.10 pontban meghatározott, legkisebb falvastagságra vonatkozó követelményekre is.

**6.7.2.3.3** A határozott folyáshatárral rendelkező, ill. szavatolt, egyezményes folyáshatárral (általában a 0,2%-os, ausztenites acéloknál az 1%-os egyezményes folyáshatárral) jellemzett fémeknél a tartányban a próbanyomáson fellépő  $\sigma$  primer membránfeszültség nem haladhatja meg a  $0,75R_e$  vagy a  $0,50R_m$  értékek közül az alacsonyabbat, ahol

$R_e$  = a tényleges folyáshatár N/mm<sup>2</sup>-ben vagy a 0,2%-os vagy ausztenites acéloknál az 1%-os egyezményes folyáshatár;

$R_m$  = a legkisebb szakítószilárdság N/mm<sup>2</sup>-ben.

**6.7.2.3.3.1** Az  $R_e$  és  $R_m$  értékére a belföldi vagy nemzetközi anyagszabványok által meghatározott legkisebb értékeket kell használni. Ausztenites acélok használata esetén az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket az anyagvizsgálati bizonyítvány hitelesíti. Ha a szóban forgó fémre nincs anyagszabvány, a használt  $R_e$  és  $R_m$  értéket az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek kell jóváhagynia.

**6.7.2.3.3.2** Hegesztett tartányok gyártásához használt acéloknál 0,85-öt meghaladó  $R_e/R_m$  arány nem megengedett. Az anyagvizsgálati bizonyítványban szereplő értékeket kell alapul venni az egyes esetekben az  $R_e/R_m$  arány meghatározásához.

**6.7.2.3.3.3** A tartány gyártásához használt acélnál a szakadási nyúlás értéke %-ban nem lehet kisebb, mint  $10\,000/R_m$ , azonban finom szemcseszerkezetű acélok esetében 16%-nál, más acélok esetében 20%-nál semmi esetre sem lehet kisebb. Alumíniumötvözetek esetében a szakadási nyúlás értéke %-ban nem lehet kisebb, mint  $10\,000/6R_m$ , de 12%-nál semmi esetre sem lehet kisebb.

**6.7.2.3.3.4** Az anyagokra a tényleges értékek meghatározásánál figyelembe kell venni, hogy fémlemez esetén a szakítópróbához használt próbatest tengelye a hengerlési irányra merőleges legyen. A szakadási nyúlást négyzetű keresztmetszetű próbatesten kell mérni az ISO 6892:1998 szabvány szerint, 50 mm-es befogási hossz mellett.

#### **6.7.2.4** *Legkisebb falvastagság*

**6.7.2.4.1** A legkisebb falvastagságnak a következők szerint adódó legnagyobb vastagságnak kell lennie:

- a) a 6.7.2.4.2 – 6.7.2.4.10 pont szerint meghatározott legkisebb vastagság;
- b) a nyomástartó edényekre vonatkozó, elismert szabályzat és a 6.7.2.3 bekezdés követelményei szerint meghatározott legkisebb vastagság; és
- c) a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasításban vagy a 3.2 fejezet „A” táblázat 11 oszlopában feltüntetett és a 4.2.5.3 bekezdésben leírt mobil tartány különleges előírásban meghatározott legkisebb vastagság.

**6.7.2.4.2** Az 1,80 m-nél nem nagyobb átmérőjű tartányoknál a palást, a fenekek és a búvónyílás fedelek falvastagságának legalább 5 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből azzal egyenértékű vastagságúnak. Ha az átmérő meghaladja az 1,80 m-t, a falvastagságnak legalább 6 mm-nek kell lennie, kivéve a II és a III csomagolási csoportba tartozó, porszerű vagy szemcsés anyagok szállítására használt tartányok esetét, amikor is a legkisebb falvastagságot referencia acélra legfeljebb 5 mm-ig, illetve a felhasználandó fémből az azzal egyenértékű vastagságúra lehet csökkenteni.

**6.7.2.4.3** Ha a tartány a sérülések ellen védőszerkezettel van ellátva, a 2,65 bar-nál kisebb próbanyomású mobil tartány esetében az illetékes hatóság megengedheti a legkisebb falvastagságnak a nyújtott védelem arányában való csökkentését. Az 1,80 m-nél nem nagyobb átmérőjű tartányok falvastagságának azonban legalább 3 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből az azzal egyenértékű vastagságúnak. Az 1,80 m-nél nagyobb átmérőjű tartányoknál a legkisebb falvastagságának legalább 4 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből az azzal egyenértékű vastagságúnak.

**6.7.2.4.4** A tartány palást, a fenekek és a búvónyílás fedelek vastagsága a szerkezeti anyagtól függetlenül nem lehet 3 mm-nél kisebb.

**6.7.2.4.5** A 6.7.2.4.3 pontban említett kiegészítő védelem kialakítható teljes külső szerkezeti védelemként, pl. megfelelő szendvics szerkezet formájában, ahol a külső burkolat a tartányhoz van erősítve, vagy kettős falú szerkezettel, vagy úgy, hogy a tartányt egy hosszirányú és keresztirányú szerkezeti elemekkel rendelkező, teljes keretvázba erősítik.

**6.7.2.4.6** Valamely fém egyenértékű vastagságát, kivéve a 6.7.2.4.2 pontban a referencia acélra előírt vastagságot, a következő képlettel kell kiszámítani:

$$e_l = \frac{21,4e_0}{\sqrt[3]{R_{mI}A_I}},$$

ahol

$e_l$  = a felhasználandó fém esetén megkövetelt egyenértékű falvastagság (mm-ben);

$e_0$  = a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasításban vagy a 3.2 fejezet „A” táblázat 11 oszlopában feltüntetett és a 4.2.5.3 bekezdésben leírt mobil tartány különleges előírásban a referencia acélra meghatározott legkisebb falvastagság (mm-ben);

$R_{mI}$  = a felhasználandó fém szavatolt legkisebb szakítószilárdsága (N/mm<sup>2</sup>-ben, lásd a 6.7.2.3.3 pontot);

$A_I$  = a felhasználandó fém belföldi vagy nemzetközi szabványok szerinti szavatolt legkisebb szakadási nyúlása (%-ban).

**6.7.2.4.7** Figyelembe kell venni, hogy amennyiben az alkalmazandó mobil tartány utasításban a 4.2.5.2.6 pont szerint 8 mm vagy 10 mm legkisebb falvastagság van előírva, ez a vastagság a referencia acélra és 1,80 m tartány átmérőre vonatkozik. Szerkezeti acéltól (lásd a 6.7.2.1 bekezdést) eltérő fémek használata vagy nagyobb tartányátmérő esetén a vastagságot a következő képlettel kell meghatározni:

$$e_I = \frac{21,4e_0d_I}{1,8\sqrt[3]{R_{mI}A_I}},$$

ahol

$e_I$  = a felhasználandó fém esetén megkövetelt egyenértékű falvastagság (mm-ben);

$e_0$  = a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasításban vagy a 3.2 fejezet „A” táblázat 11 oszlopában feltüntetett és a 4.2.5.3 bekezdésben leírt mobil tartány különleges előírásban a referencia acélra meghatározott legkisebb falvastagság (mm-ben);

$d_I$  = a tartány átmérője (m-ben), de legalább 1,80 m;

$R_{mI}$  = a felhasználandó fém szavatolt legkisebb szakítószilárdsága (N/mm<sup>2</sup>-ben, lásd a 6.7.2.3.3 pontot);

$A_I$  = a felhasználandó fém belföldi vagy nemzetközi szabványok szerinti szavatolt legkisebb szakadási nyúlása (%-ban).

**6.7.2.4.8** A falvastagság semmilyen esetben sem lehet kisebb a 6.7.2.4.2, a 6.7.2.4.3 és a 6.7.2.4.4 pontban meghatározott értéknél. A tartány egyetlen részének sem lehet kisebb a falvastagsága, mint a 6.7.2.4.2 – 6.7.2.4.4 pontban meghatározott legkisebb vastagság. Ebbe a falvastagságba nem szabad beszámítani a korrózió miatti esetleges ráhagyásokat.

**6.7.2.4.9** Szerkezeti acél (lásd a 6.7.2.1 bekezdést) használata esetén a 6.7.2.4.6 pontban található képlettel való számításra nincs szükség.

**6.7.2.4.10** A lemezvastagságban nem lehet hirtelen változás ott, ahol a tartány hengeres része és a fenekek csatlakoznak.

## **6.7.2.5 Üzemi szerelvények**

**6.7.2.5.1** Az üzemi szerelvényeket úgy kell elhelyezni, hogy a szállítás és a kezelés során leszakadás vagy sérülés veszélye ellen biztosítva legyenek. Amennyiben a váz és a tartány közötti kapcsolat lehetővé teszi a szerkezeti részek egymáshoz képesti elmozdulását, a szerelvényeket úgy kell rögzíteni, hogy az ilyen elmozdulás a működő részek sérülésének veszélye nélkül lehetővé váljon. A külső üritő szerelvényeket (csőcsonkokat, záró-szerkezeteket), a belső zárószelepet és annak ülékét védeni kell a külső erők hatására történő leszakadás veszélyével szemben (például nyíródnó keresztmetszet kialakításával). A töltő- és üritő-szerkezeteket (beleértve a karimákat és a menetes dugókat is), valamint az esetleges védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.

**6.7.2.5.2** A mobil tartány minden töltő-, ill. üritőnyílását, a tartányhoz a lehető legközelebb elhelyezett, kézzel működtethető zárószeleppel kell ellátni. A többi nyílást, kivéve a

szellőző-, ill. nyomáscsökkentő szerkezetek nyílásait, a tartányhoz a lehető legközelebb elhelyezett zárószeleppel vagy más alkalmas zárószerkezettel kell ellátni.

**6.7.2.5.3** A belső részek vizsgálata, karbantartása és javítása céljából a mobil tartányokat megfelelő méretű búvónyílással vagy vizsgálónyílással kell ellátni. A kamrákra osztott mobil tartányok minden egyes kamráját el kell látni búvónyílással vagy vizsgálónyílással.

**6.7.2.5.4** A külső szerelvényeket – amennyire csak lehet – egy helyre csoportosítva kell elhelyezni. Hőszigetelt mobil tartányoknál a felső szerelvényeket megfelelő lefolyóval kialakított, a kiömlő folyadékot felfogó tartállyal kell ellátni.

**6.7.2.5.5** A mobil tartány minden csatlakozásán jól láthatóan fel kell tüntetni a rendeltetését.

**6.7.2.5.6** A zárószelepeket és zárószerkezeteket úgy kell tervezni és kialakítani, hogy a névleges nyomásuk legalább akkora legyen, mint a tartány megengedett legnagyobb üzemi nyomása, figyelembe véve a szállítás alatt várható hőmérsékleteket. A csavarorsós zárószelepeknek a kézikerek óramutató járásával megegyező irányba történő elforgatásával kell záródniuk. Másfajta zárószelepeknél a zárószelep (nyitott és zárt) állását és a zárás irányát jól láthatóan fel kell tüntetni. Minden zárószelepet úgy kell kialakítani, hogy akaratlanul ne lehessen kinyitni.

**6.7.2.5.7** Ha a 3 osztály kritériumainak megfelelő lobbanáspontú anyagok (beleértve a lobbanáspontjukon vagy annál magasabb hőmérsékleten szállított, magas hőmérsékletű anyagokat) szállítására szolgáló mobil tartány alumíniumból készült, akkor semmiféle olyan mozgatható rész, amely az alumínium tartánnyal ütközhet vagy súrlódhat (pl. fedél, zárórész stb.) nem gyártható bevonat nélküli, rozsdásodó acélból.

**6.7.2.5.8** A csővezetéseket úgy kell tervezni, gyártani és felszerelni, hogy ne jöjjön létre sérülésveszély a hőtágulás és összehúzódás, a mechanikai ütések és rezgések következtében. Minden csövet megfelelő fémes anyagból kell készíteni. Ahol csak lehetséges, hegesztett csökötetéseket kell alkalmazni.

**6.7.2.5.9** A rézcsövek csatlakozásait keményforrasztással kell készíteni vagy azzal azonos szilárdságú, fémes csökötetést kell alkalmazni. A forrasztófém (keményforrasztás) olvadáspontja nem lehet 525 °C-nál alacsonyabb. A kötések nem csökkenthetik a csővezeték szilárdságát, mint az csavarmentes kötéseknel előfordulhat.

**6.7.2.5.10** Egyetlen csővezeték és csőszerelvény repesztőnyomása sem lehet kisebb, mint a tartány megengedett legnagyobb üzemi nyomásának négyszerese és azon nyomás négyszerese közül a nagyobb, amelynek a használat során, szivattyú vagy egyéb szerkezet (kivéve a nyomáscsökkentő szerkezeteket) működése révén ki lehetnek téve.

**6.7.2.5.11** A szelepek és a tartozékok gyártásához kovácsolható fémet kell használni.

#### **6.7.2.6** *Alsó nyílások*

**6.7.2.6.1** Bizonyos anyagok nem szállíthatók alsó nyílással ellátott mobil tartányban. Ha a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasításokban alsó nyílás nem megengedett, akkor a megengedett legnagyobb töltési szint esetén a tartány folyadékszintje alatt nem lehetnek nyílások. Ha egy meglévő nyílást lezárnak, a zárást a tartányhoz kívülről és belülről hozzáhegesztett lemezzel kell kiképezni.

**6.7.2.6.2** Bizonyos kristályosodó vagy nagy viszkozitású anyagok szállítására használt mobil tartányok alsó ürítő nyílásait két, egymás mögött elhelyezett, egymástól független zárószerkezettel kell ellátni. A szerkezetet az illetékes hatóság vagy az általa felhatalmazott szervezet előírásai szerint kell kialakítani, és a következőkből kell állnia:

- a) a tartányhoz a lehető legközelebb felszerelt külső zárószelepből; és
- b) az ürítőcső végén levő folyadéktömör zárószerkezetből, ami lehet csavarozott vakkarima vagy csavarmentes kupak.

**6.7.2.6.3** Minden alsó ürítő nyílást, kivéve a 6.7.2.6.2 pontban meghatározottakat, három, egymás mögött elhelyezett, egymástól független zárószerkezettel kell ellátni. A szerkezetet az illetékes hatóság vagy az általa felhatalmazott szervezet előírásai szerint kell kialakítani, és a következőkből kell állnia:

- a) egy önzáró belső zárószelepből, azaz a tartány belsejébe vagy egy hegesztett karimába vagy ellenkarimába beépített zárószelepből, amely olyan, hogy:
  - i) a belső zárószelep működtető-szerkezete a szelep ütközésből vagy gondatlanságból bekövetkező, nem kívánt kinyílását megakadályozza;
  - ii) a belső zárószelep alulról vagy felülről működtethető;
  - iii) ha lehet, a belső zárószelep nyitott vagy zárt helyzete a talajszintről ellenőrizhető;
  - iv) a legfeljebb 1000 liter befogadóképességű mobil tartányok kivételével a szelepet el lehet zárni a mobil tartány olyan hozzáférhető helyéről, ami távol van magától a szeleptől; és
  - v) a külső működtető-szerkezet megsérülése esetén a belső zárószerkezet továbbra is hatásos marad;
- b) a tartányhoz a lehető legközelebb felszerelt külső zárószelepből; és
- c) az ürítőcső végén levő folyadéktömör zárószerkezetből, ami lehet csavarozott vakkarima vagy csavarmenetes kupak.

**6.7.2.6.4** Ha a tartány bélelt, a 6.7.2.6.3.a) pontban előírt belső zárószelep kiegészítő külső zárószeleppel helyettesíthető. A gyártónak be kell tartania az illetékes hatóság vagy az általa felhatalmazott szervezet előírásait.

#### **6.7.2.7** *Biztonsági szerkezetek*

**6.7.2.7.1** Minden mobil tartányt legalább egy nyomáscsökkentő szerkezettel kell ellátni. Minden nyomáscsökkentő szerkezetet úgy kell tervezni, gyártani és megjelölni, hogy az megfeleljen az illetékes hatóság vagy az általa felhatalmazott szervezet előírásainak.

#### **6.7.2.8** *Nyomáscsökkentő szerkezetek*

**6.7.2.8.1** Minden, 1900 liter vagy annál nagyobb befogadóképességű mobil tartányt, vagy független mobil tartány kamrát egy vagy több, rugóterhelésű nyomáscsökkentő szerkezettel kell ellátni, és a rugóterhelésű szerkezetekkel párhuzamosan hasadótárcsák vagy olvadóbetétek is használhatók, kivéve, ha a 4.2.5.2.6 pontban a mobil tartány utasításban a 6.7.2.8.3 pontra való hivatkozással ez tiltva van. A nyomáscsökkentő szerkezet teljesítményének elegendőnek kell lennie, hogy megakadályozza a tartány repedését a töltésből, ürítésből vagy a tartalom melegedéséből eredő túlnyomás vagy vákuum hatására.

**6.7.2.8.2** A nyomáscsökkentő szerkezeteket úgy kell kialakítani, hogy megakadályozzák az idegen anyagoknak a tartányba való bejutását, a folyadék kiszivárgását és mindenféle veszélyes túlnyomás kialakulását.

**6.7.2.8.3** Amennyiben a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasítás szerint bizonyos anyagra elő van írva, a mobil tartányt olyan nyomáscsökkentő szerkezettel kell ellátni, amit az illetékes hatóság jóváhagyott. A nyomáscsökkentő szerkezetnek egy rugóterhelésű nyomáscsökkentő szelepből és egy elhelyezett hasadótárcsából kell állnia, kivéve, ha – különleges rendeltetésű mobil tartány esetén – a szállított anyaggal összeférhető anyagból készült, jóváhagyott típusú nyomáscsökkentő szerkezet van a tartányon. Ha a nyomáscsökkentő szerkezet elé hasadótárcsa van elhelyezve, akkor a hasadótárcsa és a nyomáscsökkentő szerkezet közti térbe nyomásmérőt, vagy más, alkalmas jelzőeszközt kell csatlakoztatni, ami lehetővé teszi, hogy észleljék a hasadótárcsa repedését, kilyukadását vagy szivárgását, ami a nyomáscsökkentő rendszer hibás működését okozhatja. A hasadótárcsának a nyomás-

csökkentő szelep nyitónyomását 10%-kal meghaladó névleges nyomásnál kell felszakadnia.

**6.7.2.8.4** Minden, 1900 liternél kisebb befogadóképességű mobil tartányt nyomáscsökkentő szerkezettel kell ellátni, amely hasadótárcsa is lehet, amennyiben megfelel a 6.7.2.11.1 pont előírásainak. Ha nem rugóterhelésű nyomáscsökkentő szerkezetet alkalmaznak, akkor olyan hasadótárcsát kell alkalmazni, amely a próbanyomással megegyező névleges nyomáson szakad fel.

**6.7.2.8.5** Ha a tartány nyomással történő ürítésre van kialakítva, a bemenő csővezetékkel olyan alkalmas nyomáscsökkentő szerkezettel kell ellátni, amely a tartány megengedett legnagyobb üzemi nyomását meg nem haladó nyomáson lép működésbe, és a tartányhoz a lehető legközelebb zárószelepet kell elhelyezni.

#### **6.7.2.9** *A nyomáscsökkentő szerkezetek beállítása*

**6.7.2.9.1** Figyelembe kell venni, hogy a nyomáscsökkentő szerkezet csak túlzott hőmérséklet emelkedés esetén léphet működésbe, mivel a tartány normális szállítási feltételek között nem lehet túlzott nyomásingadozásnak kitéve (lásd a 6.7.2.12.2 pontot).

**6.7.2.9.2** Az előírt nyomáscsökkentő szerkezeteket úgy kell beállítani, hogy ha a tartány próbanyomása 4,5 bar-nál nem nagyobb, akkor a nyitónyomás a próbanyomás öthatodának megfelelő névleges nyomás legyen, illetve, ha a tartány próbanyomása 4,5 bar-nál nagyobb, akkor a próbanyomás kétharmadának 110%-a legyen a nyitónyomás. Lefúvás után a szerkezetnek a nyitónyomásánál legfeljebb 10%-kal alacsonyabb nyomáson záródnia kell. Minden, ennél alacsonyabb nyomáson a szerkezeteknek zárva kell maradnia. Ez a követelmény azonban nem tiltja vákuumszelepek, ill. egybeépített nyomáscsökkentő és vákuumszelepek használatát.

#### **6.7.2.10** *Olvadóbetétek*

**6.7.2.10.1** Az olvadóbetéteknek 110...149 °C közötti hőmérsékleten kell kiolvadniuk, azzal a feltétellel, hogy a betét kiolvadási hőmérsékletén a tartányban kialakuló nyomás nem lehet nagyobb, mint a tartány próbanyomása. Az olvadóbetétet a tartány felső részén kell elhelyezni úgy, hogy bemenete a gőztérben legyen, és a külső hőhatással szemben semmilyen esetben sem szabad árnyékolni. Az olvadóbetétek nem használhatók olyan tartányoknál, amelyek próbanyomása meghaladja a 2,65 bar-t. A magas hőmérsékletű anyagok szállítására szolgáló mobil tartányokon használt olvadóbetétet úgy kell kialakítani, hogy csak a szállítás során fellépő legnagyobb hőmérsékletnél magasabb hőmérsékleten olvadjon ki, és meg kell felelnie az illetékes hatóság vagy az általa felhatalmazott szervezet előírásainak.

#### **6.7.2.11** *Hasadótárcsák*

**6.7.2.11.1** A 6.7.2.8.3 pontban előírtak kivételével, a hasadótárcsáknak a teljes tervezési hőmérséklet-tartományban a tartány próbanyomásával megegyező névleges nyomáson kell felszakadniuk. Hasadótárcsa alkalmazása esetén különös figyelmet kell szentelni a 6.7.2.5.1 és a 6.7.2.8.3 pont követelményeinek.

**6.7.2.11.2** A hasadótárcsáknak el kell viselniük azt a vákuumot, amely a mobil tartányban kialakulhat.

#### **6.7.2.12** *A nyomáscsökkentő szerkezetek teljesítménye*

**6.7.2.12.1** A 6.7.2.8.1 pont szerinti rugóterhelésű nyomáscsökkentő szelep legkisebb átfolyási keresztmetszetének 31,75 mm átmérőjű szájnnyílásnak kell megfelelnie. Az esetleges vákuumszelepeknek legalább 284 mm<sup>2</sup> átfolyási keresztmetszettel kell rendelkezniük.

**6.7.2.12.2** A nyomáscsökkentő rendszer összes lefúvási teljesítményének (figyelembe véve az áramlás



csökkenését, ha a mobil tartányon a rugóterhelésű nyomáscsökkentő szerkezet előtt hasadótárcsa van vagy ha a rugóterhelésű nyomáscsökkentő szerkezet a láng áthatolását akadályozó szerkezettel – lángzárral – van ellátva) elégnek kell lennie ahhoz, hogy abban az esetben, ha a mobil tartányt teljesen elfedi a tűz, a tartányban a nyomás legfeljebb 20%-kal legyen nagyobb, mint a nyomáscsökkentő szerkezet nyitónyomása. A szükséges összes lefúvási teljesítmény eléréséhez vészlefúvó szerkezetek is használhatók. A vészlefúvó szerkezetek rugóterhelésűek, hasadótárcsás vagy olvadóbetétes típusúak lehetnek, vagy rugóterhelésű szerkezet és hasadótárcsa kombinációjából is állhatnak. A nyomáscsökkentő szerkezetek szükséges teljesítményét a 6.7.2.12.2.1 pontban található képlet vagy a 6.7.2.12.2.3 pontban levő táblázat használatával lehet meghatározni.

**6.7.2.12.2.1** A nyomáscsökkentő szerkezetek szükséges összes teljesítményének meghatározására, ami úgy tekintendő, mint az együttműködő szerkezetek egyedi teljesítményének összege, a következő képletet kell használni:

$$Q = 12,4 \frac{FA^{0,82}}{LC} \sqrt{\frac{ZT}{M}},$$

ahol

$Q$  = a szükséges legkisebb lefúvási teljesítmény légköbméter per sec-ban ( $\text{m}^3/\text{s}$ ) 1 bar és  $0^\circ\text{C}$  ( $273\text{ K}$ ) normálfeltételek mellett;

$F$  = együtttható, amelynek értéke a következő:

nem szigetelt tartányra  $F = 1$ ;

szigetelt tartányra  $F = U(649 - t)/13,6$ , de legalább 0,25,

ahol

$U$  = a szigetelőréteg hőátadási együttthatója,  $\text{kW}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ ,  $38^\circ\text{C}$ -on;

$t$  = anyag tényleges hőmérséklete a töltés alatt ( $^\circ\text{C}$ -ban); ha ez a hőmérséklet ismeretlen, akkor  $t = 15^\circ\text{C}$ ;

Szigetelt tartányra az előzőekben megadott  $F$  érték akkor használható, ha a szigetelés megfelel a 6.7.2.12.2.4 pont előírásainak;

$A$  = a tartány teljes külső felülete  $\text{m}^2$ -ben;

$Z$  = a gáz kompresszibilitási tényezője lefúváskor (ha ez a tényező ismeretlen,  $Z = 1$ );

$T$  = az abszolút hőmérséklet Kelvinben ( $^\circ\text{C} + 273$ ) a nyomáscsökkentő szerkezet felett lefúváskor;

$L$  = a folyadék látens párolgáshője  $\text{kJ/kg}$ -ban lefúváskor;

$M$  = a távozó gáz molekulatömege;

$C$  = a következő képletek egyikéből származtatott állandó, mint a fajhők aránya,  $k$ :

$$k = \frac{C_p}{C_v},$$

ahol

$C_p$  = a fajhő állandó nyomáson; és

$C_v$  = a fajhő állandó térfogaton.

Ha  $k > 1$ :

$$C = \sqrt{k \left( \frac{2}{k+1} \right)^{\frac{k+1}{k-1}}}$$

Ha  $k = 1$  vagy  $k$  ismeretlen:

$$C = \frac{1}{\sqrt{e}} = 0,607,$$

ahol az  $e$  matematikai állandó, melynek értéke 2,7183.

$C$  értékei a következő táblázatból is vehetők:

| k    | C     | k    | C     | k    | C     |
|------|-------|------|-------|------|-------|
| 1,00 | 0,607 | 1,26 | 0,660 | 1,52 | 0,704 |
| 1,02 | 0,611 | 1,28 | 0,664 | 1,54 | 0,707 |
| 1,04 | 0,615 | 1,30 | 0,667 | 1,56 | 0,710 |
| 1,06 | 0,620 | 1,32 | 0,671 | 1,58 | 0,713 |
| 1,08 | 0,624 | 1,34 | 0,674 | 1,60 | 0,716 |
| 1,10 | 0,628 | 1,36 | 0,678 | 1,62 | 0,719 |
| 1,12 | 0,633 | 1,38 | 0,681 | 1,64 | 0,722 |
| 1,14 | 0,637 | 1,40 | 0,685 | 1,66 | 0,725 |
| 1,16 | 0,641 | 1,42 | 0,688 | 1,68 | 0,728 |
| 1,18 | 0,645 | 1,44 | 0,691 | 1,70 | 0,731 |
| 1,20 | 0,649 | 1,46 | 0,695 | 2,00 | 0,770 |
| 1,22 | 0,652 | 1,48 | 0,698 | 2,20 | 0,793 |
| 1,24 | 0,656 | 1,50 | 0,701 |      |       |

**6.7.2.12.2.2** Az előző képletek helyett a folyadékok szállítására szolgáló tartányok nyomáscsökkentő szerkezeteinek mérete a 6.7.2.12.2.3 pontban levő táblázat szerint is meghatározható. Ez a táblázat feltételezi az  $F = 1$  szigetelési értéket, és ha a tartány szigetelt, akkor annak megfelelően kell az adatokat módosítani. A táblázat összeállításához használt többi érték a következő:

$$\begin{aligned} M &= 86,7 & T &= 394 \text{ K} \\ L &= 334,94 \text{ kJ/kg} & C &= 0,607 & Z &= 1 \end{aligned}$$

**6.7.2.12.2.3** A szükséges legkisebb lefűvási teljesítmény,  $Q$ , léghőméter per sec-ban ( $\text{m}^3/\text{s}$ ) 1 bar és  $0^\circ\text{C}$  (273 K) normálfeltételek mellett

| A<br>tartány felület ( $\text{m}^2$ ) | Q<br>(léghőméter/sec) | A<br>tartány felület ( $\text{m}^2$ ) | Q<br>(léghőméter/sec) |
|---------------------------------------|-----------------------|---------------------------------------|-----------------------|
| 2                                     | 0,230                 | 37,5                                  | 2,539                 |
| 3                                     | 0,320                 | 40                                    | 2,677                 |
| 4                                     | 0,405                 | 42,5                                  | 2,814                 |
| 5                                     | 0,487                 | 45                                    | 2,949                 |
| 6                                     | 0,565                 | 47,5                                  | 3,082                 |
| 7                                     | 0,641                 | 50                                    | 3,215                 |
| 8                                     | 0,715                 | 52,5                                  | 3,346                 |
| 9                                     | 0,788                 | 55                                    | 3,476                 |
| 10                                    | 0,859                 | 57,5                                  | 3,605                 |
| 12                                    | 0,998                 | 60                                    | 3,733                 |
| 14                                    | 1,132                 | 62,5                                  | 3,860                 |
| 16                                    | 1,263                 | 65                                    | 3,987                 |
| 18                                    | 1,391                 | 67,5                                  | 4,112                 |



| A<br>tartány felület (m <sup>2</sup> ) | Q<br>(légméter/sec) | A<br>tartány felület (m <sup>2</sup> ) | Q<br>(légméter/sec) |
|--|---------------------|--|---------------------|
| 20                                     | 1,517               | 70                                     | 4,236               |
| 22,5                                   | 1,670               | 75                                     | 4,483               |
| 25                                     | 1,821               | 80                                     | 4,726               |
| 27,5                                   | 1,969               | 85                                     | 4,967               |
| 30                                     | 2,115               | 90                                     | 5,206               |
| 32,5                                   | 2,258               | 95                                     | 5,442               |
| 35                                     | 2,400               | 100                                    | 5,676               |

**6.7.2.12.2.4** A lefűvási teljesítmény csökkentése érdekében alkalmazott szigetelési rendszert az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia. Az erre a célra jóváhagyott szigetelési rendszernek minden esetben:

- 649 °C-ig minden hőmérsékleten hatásosnak kell maradnia; és
- olyan anyaggal kell bevonni, amelynek olvadáspontja legalább 700 °C.

#### **6.7.2.13** *A nyomáscsökkentő szerkezetek jelölése*

**6.7.2.13.1** Minden nyomáscsökkentő szerkezeten jól olvashatóan és tartósan fel kell tüntetni a következő adatokat:

- a nyitónyomást (bar-ban vagy kPa-ban) vagy a hőmérsékletet (°C-ban) amelyen a szerkezet lefűj;
- rugóterhelésű szerkezeteknél a nyitónyomás megengedett tűrését;
- a hasadótárcsák névleges nyomásához tartozó referencia hőmérsékletet;
- olvadóbetéteknél a megengedett hőmérséklet tűrést; és
- a rugóterhelésű nyomáscsökkentő szerkezetek, a hasadótárcsák és az olvadóbetétek névleges átfolyási teljesítményét normál légméter per sec (m<sup>3</sup>/s) egységben;

Amennyiben lehetséges, a következő információt ugyancsak fel kell tüntetni:

- a gyártó nevét és a szerkezet gyártmány katalógus számát.

**6.7.2.13.2** A rugóterhelésű nyomáscsökkentő szerkezeteken feltüntetett névleges átfolyási teljesítményt az ISO 4126-1:1991 szabvány szerint kell meghatározni.

#### **6.7.2.14** *A nyomáscsökkentő szerkezetek csatlakoztatása*

**6.7.2.14.1** A nyomáscsökkentő szerkezetekhez történő csatlakozásnak akkorának kell lennie, hogy szabad átfolyást biztosítson a biztonsági szerkezethez. A tartány és a nyomáscsökkentő szerkezet közé nem szabad zárószelepet elhelyezni, kivéve a karbantartási vagy egyéb okból kialakított kettős nyomáscsökkentő szerkezeteknél, ha a ténylegesen működő nyomáscsökkentő szerkezet zárószelepe nyitott állapotban reteszelve van, vagy a zárószelepek úgy vannak összekapcsolva, hogy a kettős nyomáscsökkentő szerkezetek közül legalább az egyik mindig működjön. A szellőző vagy nyomáscsökkentő szerkezethez vezető nyílásban nem lehet semmiféle akadály, ami korlátozná vagy elzárná az áramlást a tartányból a szerkezethez. A szellőző vagy nyomáscsökkentő szerkezet kimenetéhez csatlakozó csővezetéknek, ha ilyet használnak, a kiszabadult gőzt vagy folyadékot a szerkezetre gyakorolt minimális torlódással kell a szabadba vezetniük.

#### **6.7.2.15** *A nyomáscsökkentő szerkezetek elhelyezése*

**6.7.2.15.1** Minden nyomáscsökkentő szerkezet bemenetét a tartány tetején úgy kell elhelyezni, hogy a tartány középpontjához a lehető legközelebb legyen. Minden nyomáscsökkentő szerkezet bemenetnek a megengedett legnagyobb töltési feltételek mellett a tartány gőzterében kell

lennie, és a szerkezetet úgy kell elhelyezni, hogy biztosítva legyen a kiszabadult gőz akadálytalan távozása. Gyúlékony anyagok esetében a kiszabaduló gőzt a tartánytól el kell terelni oly módon, hogy az ne csapódhasson a tartánynak. A gőz áramlását elterelő védőszerkezetek engedélyezettek, ha nem csökkentik a nyomáscsökkentő szerkezet szükséges teljesítményét.

- 6.7.2.15.2** Intézkedéseket kell tenni annak érdekében, hogy megakadályozzák illetéktelen személyeknek a nyomáscsökkentő szerkezethez való hozzáférését, és hogy megvédjék a szerkezetet attól, hogy a tartány felborulása esetén megsérüljön.

**6.7.2.16** *Mérőeszközök*

- 6.7.2.16.1** A tartány tartalmával közvetlenül érintkező, üvegből készült szintjelzők és egyéb törékeny anyagú mérőeszközök nem használhatók.

**6.7.2.17** *A mobil tartány tartószerkezete, keretváza, emelő és rögzítő szerelvényei*

- 6.7.2.17.1** A mobil tartányt tartószerkezettel kell tervezni és gyártani, ami biztos alátámasztást nyújt a szállítás során. Erre vonatkozóan a tervezésnél a 6.7.2.2.12 pontban meghatározott erőket és a 6.7.2.2.13 pontban meghatározott biztonsági tényezőt kell figyelembe venni. Talpak, keretvázak, csúszótalpak vagy egyéb hasonló szerkezetek elfogadhatók.

- 6.7.2.17.2** A mobil tartányra szerelt eszközöktől (pl. talpaktól, keretvázától) és a mobil tartány emelő és rögzítő szerelvényeitől származó összetett feszültségek a tartány egyetlen részén sem okozhatnak túlzott feszültségeket. Minden mobil tartányt állandó emelő és rögzítő szerelvényekkel kell ellátni. Ezeket lehetőleg a mobil tartány tartószerkezetéhez kell erősíteni, de rögzíthetők a tartányon a megtámasztási pontokon elhelyezett erősítő-lemezekhez is.

- 6.7.2.17.3** A tartószerkezet és a keretváz tervezésénél figyelembe kell venni a környezet korróziós hatását is.

- 6.7.2.17.4** Az emelővilla zsebeket zárhatóra kell kialakítani. Az emelővilla zsebek zárószerkezetének a keretváz állandó részét kell képeznie, vagy a keretvázhoz tartósan hozzá kell erősíteni. Az olyan, egyetlen tartánykamrából álló mobil tartányoknál, amelyek 3,65 m-nél rövidebbek, nem kell az emelővilla zsebeknek zárhatónak lenniük, amennyiben

- a) a tartány és a szerelvények kellőképpen védve vannak, nehogy az emelővillák megüssék; és
- b) az emelővilla zsebek középpontjai közötti távolság legalább a fele a mobil tartány legnagyobb hosszúságának.

- 6.7.2.17.5** Ha a mobil tartány nincs a 4.2.1.2 bekezdés szerinti védelemmel ellátva, a tartányt és az üzemi szerelvényeit védeni kell a szállítás alatt a hosszirányú és oldalirányú lökésekkel vagy felborulásból adódóan a tartányt vagy a szerelvényeit érő sérülésekkel szemben. A külső szerelvényeket úgy kell védeni, hogy az ütések hatására, ill. a mobil tartánynak a szerelvényekre való ráborulása esetén a tartányban szállított anyag ne szabaduljon ki. Példák a védelemre:

- a) az oldalirányú ütésekkel szembeni védelem, ami állhat a tartány mindkét oldalán a középvonal szintjében védő hosszirányú rudakból;
- b) a mobil tartány felborulás elleni védelme, ami állhat erősítő gyűrűkből vagy a kereten keresztben elhelyezett rudakból;
- c) a hátulról jövő ütésekkel szembeni védelem, ami lökhárítóból vagy keretből állhat;
- d) a tartány ütésekkel vagy felborulásból eredő sérüléssel szembeni védelme az ISO 1496-3:1995 szabvány szerinti ISO keret használatával.

**6.7.2.18 Típusjóváhagyás**

**6.7.2.18.1** Minden új mobil tartány típus esetén az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek gyártási típus bizonyítványt kell kiállítani. Ennek a bizonyítványnak tanúsítania kell, hogy a mobil tartányt ez a hatóság megvizsgálta, az a kívánt célra alkalmas, és megfelel e fejezet követelményeinek és ha alkalmazandó, akkor a 4.2 fejezetben és a 3.2 fejezet „A” táblázatban az egyes anyagokra vonatkozó követelményeknek. Ha a mobil tartányokat sorozatban gyártják módosítás nélkül, ez a bizonyítvány a teljes sorozatra érvényes. A bizonyítványban utalni kell a gyártási típus vizsgálati jegyzőkönyvére, azokra az anyagokra és/vagy anyagcsoportokra, amelyek szállíthatók, a tartány és a bélés (ha van) gyártási anyagára és a jóváhagyási számra. A jóváhagyási számnak annak az államnak a megkülönböztető jeléből [A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre], amelyben az engedélyt kiadták, és egy nyilvántartási számból kell állnia. A 6.7.1.2 bekezdés szerinti esetleges alternatív kialakítást a bizonyítványban fel kell tüntetni. A típusjóváhagyás az azonos anyagból és azonos falvastagsággal gyártott, kisebb mobil tartányok jóváhagyásának is tekinthető, amelyeket ugyanolyan gyártási technológiával és azonos tartószerkezetekkel, egyenértékű zárószervezetekkel és egyéb tartozékokkal gyártottak.

**6.7.2.18.2** A gyártási típus vizsgálati jegyzőkönyvének a típusjóváhagyáshoz legalább a következőket kell tartalmaznia:

- a) a keretvázra vonatkozó, ISO 1496-3:1995 szabványban meghatározott vizsgálatok eredményeit;
- b) a 6.7.2.19.3 pont szerinti üzembe helyezés előtti vizsgálat eredményeit; és
- c) a 6.7.2.19.1 pont szerinti ütközési próba eredményeit, ha alkalmazható.

**6.7.2.19 Vizsgálat**

**6.7.2.19.1** Azokat a mobil tartányokat, amelyek „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) módosított kiadása meghatározása szerint konténernek minősülnek, csak azután szabad használni, hogy a gyártási típus prototípusa sikeresen kiállta a „Vizsgálatok és kritériumok kézikönyv” IV. rész, 41 fejezetében előírt dinamikus, hosszirányú ütközési próbát.

**6.7.2.19.2** Az első üzembe helyezés előtt minden mobil tartányt és szerelvényeit vizsgálatnak kell alávetni (üzembe helyezés előtti vizsgálat) és azután legfeljebb ötéves időközönként (5 évenkénti időszakos vizsgálat), és az 5 éves időközök közepén közbenső vizsgálat (2,5 évenkénti közbenső időszakos vizsgálat). A 2,5 évenkénti vizsgálatot az előírt időponthoz képest 3 hónapon belül kell elvégezni. Ha a 6.7.2.19.7 pont szerint soron kívüli vizsgálatra van szükség, azt az legutóbbi időszakos vizsgálat időpontjától függetlenül el kell végezni.

**6.7.2.19.3** A mobil tartány üzembe helyezés előtti vizsgálatának ki kell terjednie a szerkezeti jellemzők ellenőrzésére, a mobil tartány és szerelvényeinek külső és belső vizsgálatra, különös tekintettel a szállítandó anyagok szempontjából, és nyomáspróbára. Mielőtt a mobil tartányt üzembe helyezik, tömörségi próbát is kell végezni és az üzemi szerelvények megfelelő működését is ellenőrizni kell. Amennyiben a nyomáspróbát a tartányon és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani.

**6.7.2.19.4** Az 5 évenkénti időszakos vizsgálatnak belső és külső állapot vizsgálatából és általában folyadéknyomás-próbából kell állnia. A hő- vagy egyéb szigetelőborításokat csak annyira kell eltávolítani, amennyire a tartány jellemzőinek biztonságos megítéléséhez feltétlenül szükséges. Amennyiben a nyomáspróbát a tartányon és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani.

**6.7.2.19.5** A 2,5 évenkénti közbenső időszakos vizsgálatnak ki kell terjednie legalább a mobil tartány és szerelvényeinek külső és belső vizsgálatra, különös tekintettel a szállítandó anyagok szempontjából, és tömörségi próbára, továbbá az üzemi szerelvények megfelelő működését

is ellenőrizni kell. A hő- vagy egyéb szigetelőborításokat csak annyira kell eltávolítani, amennyire a tartány jellemzőinek biztonságos megítéléséhez feltétlenül szükséges. A csak egyetlen anyag szállítására szolgáló mobil tartánynál a 2,5 évenkénti közbenső időszakos vizsgálat elhagyható, vagy az illetékes hatóság vagy az általa felhatalmazott szervezet által előírt más vizsgálati módszerrel vagy ellenőrzéssel helyettesíthető.

**6.7.2.19.6** A mobil tartányok a 6.7.2.19.2 pontban előírt utolsó 5 évenkénti vagy 2,5 évenkénti időszakos vizsgálat érvényességének lejártá után nem tölthetők meg és nem adhatók át szállításra. Az utolsó időszakos vizsgálat lejártá előtt megtöltött mobil tartányok az utolsó időszakos vizsgálat érvényességének letelte után legfeljebb három hónapig szállíthatók. Ezen kívül a mobil tartány az utolsó időszakos vizsgálat érvényességének letelte után is szállítható

- a) kiürítés után, de tisztítás előtt az újratöltés előtt szükséges vizsgálat elvégzésének céljából, és
- b) a veszélyes anyag ártalmatlanítására (megfelelő elhelyezésére) vagy visszaforgatására történő visszaszállítása céljából az időszakos vizsgálat érvényességének lejártá után legfeljebb hat hónapig, hacsak az illetékes hatóság másként nem rendelkezik. Ezt a mentességet a fuvarokmányba be kell jegyezni.

**6.7.2.19.7** Soron kívüli vizsgálatot szükséges végezni, ha a mobil tartány sérült, rozsdás, szivárog vagy bármely más körülmény a mobil tartány sértetlenségét befolyásolhatja. A soron kívüli vizsgálatnak mértékét az határozza meg, hogy a mobil tartány mennyire sérült vagy hibás. A soron kívüli vizsgálatnak azonban legalább a 6.7.2.19.5 pont szerinti 2,5 évenkénti vizsgálatokra kell kiterjednie.

**6.7.2.19.8** A külső és a belső vizsgálat során biztosítani kell, hogy

- a) ellenőrizzék a tartányt, hogy nincs rajta rozsdás, kipattogzás, kopás, horpadás, torzulás, hegesztési hiba vagy bármilyen más (pl. szivárgás), ami miatt a mobil tartány szállítása nem lenne biztonságos;
- b) ellenőrizzék a csővezeték, a szelepeket, a fűtő/hűtő rendszert és a tömítéseket, hogy nincs rajtuk rozsdás, sérülés vagy bármilyen más (pl. szivárgás), ami miatt a mobil tartány töltése, ürítése vagy szállítása nem lenne biztonságos;
- c) a bűvónyílások fedelének rögzítését biztosító szerkezetek jól működjenek, és a bűvónyílás fedeleknél, ill. a tömítéseknél ne legyen szivárgás;
- d) a csőkarima csatlakozásoknál és vakkarimáknál a hiányzó vagy laza csavarokat vagy csavaranyákat pótolják, ill. meghúzzák;
- e) minden vészlelvívó szerkezet és szelep mentes legyen a korróziótól és minden olyan sérüléstől vagy meghibásodástól, ami megakadályozhatja normális működését. A távműködtetésű zárószerkezeteket és az önzáró szelepeket ki kell próbálni, hogy megfelelően működnek-e;
- f) az esetleges béléseket a gyártó előírásai alapján megvizsgálják;
- g) az előírt jelölések a mobil tartányon olvashatóak, és a vonatkozó követelményeknek megfelelnek; és
- h) a mobil tartány váz- és tartószerkezete, ill. az emelésre szolgáló berendezései megfelelő állapotban legyenek.

**6.7.2.19.9** A 6.7.2.19.1, 6.7.2.19.3, 6.7.2.19.4, 6.7.2.19.5 és 6.7.2.19.7 pont szerinti vizsgálatokat az illetékes hatóság vagy az általa felhatalmazott szervezet által elismert szakértőnek kell elvégeznie vagy tanúsítania. Ha a nyomáspróba a vizsgálat részét képezi, a vizsgálatot a mobil tartány adattábláján feltüntetett nyomással kell végezni. A nyomás alatt lévő mobil tartányon a tartány, a csővezeték és a szerelvények szivárgásmentességét is vizsgálni kell.

**6.7.2.19.10** Minden esetben, amikor a mobil tartányt vágással, melegítéssel vagy hegesztéssel javítják, ezt a munkát az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia, figyelembe véve azt a nyomástartó edényekre vonatkozó szabályzatot, amely

alapján a tartányt gyártották. A munka befejezése után az eredeti próbanyomással nyomáspróbát kell végezni.

- 6.7.2.19.11** Amennyiben a biztonságot veszélyeztető körülményeket tapasztalnak, a mobil tartány addig nem használható újra, amíg meg nem javították és az ismételt vizsgálatot ki nem állta.

**6.7.2.20 Jelölés**

- 6.7.2.20.1** Ellenőrzés céljából könnyen elérhető, szembetűnő helyre minden mobil tartányra nem korrodálódó fémtáblát kell tartósan rögzíteni. Ha a mobil tartány kialakítása folytán a tábla nem erősíthető tartósan a tartányhoz, legalább a nyomástartó edényekre vonatkozó szabályzatban előírt információkat kell a tartányon feltüntetni. A fémtáblán legalább a következőkben felsorolt adatokat kell feltüntetni beütéssel vagy más hasonló módon:

Gyártási ország:

|          |           |             |  |
|----------|-----------|-------------|--|
| <b>U</b> | Jóváhagyó | Jóváhagyási | Alternatív kialakítás esetén (lásd a 6.7.1.2 pontot) |
| <b>N</b> | ország    | sorszám     |  |

„AA”

A gyártó neve vagy jele

A gyártó sorszámja

A típusjóváhagyásra felhatalmazott szervezet

A tulajdonos nyilvántartási száma

A gyártási év

A nyomástartó edényekre vonatkozó szabályzat, amely szerint a tartányt méretezték

A próbanyomás ..... bar/kPa (túlnyomás)<sup>2)</sup>

A megengedett legnagyobb üzemi nyomás ... bar/ kPa (túlnyomás)<sup>2)</sup>

A külső tervezési nyomás<sup>3)</sup> ..... bar/kPa (túlnyomás)<sup>2)</sup>

A tervezési hőmérséklet-tartomány ..... °C-tól ..... °C-ig

A víztérfogat 20 °C-on ..... liter

Az egyes kamrák víztérfogata 20°C-on ..... liter

Az üzembe helyezés előtti nyomáspróba ideje és tanúsító azonosítója

A fűtő/hűtőrendszer megengedett legnagyobb üzemi nyomása ... bar/kPa (túlnyomás)<sup>2)</sup>

A tartány anyaga(i) és anyagszabvány hivatkozás(ok)

Az egyenértékű vastagság referencia acélra ..... mm

A bélés anyaga (ha van)

A legutóbbi időszakos vizsgálat időpontja és típusa

Hónap ..... év ..... Próbanyomás ..... bar/kPa (túlnyomás)<sup>2)</sup>

A legutóbbi vizsgálatot végző vagy tanúsító szakértő bélyegzőlenyomata.

- 6.7.2.20.2** A következő adatokat magán a mobil tartányon vagy a mobil tartányhoz biztosan rögzített fémtáblán kell feltüntetni:

Az üzemben tartó neve

A szállított anyag(ok) neve és legnagyobb átlagos hőmérséklete, ha az magasabb, mint 50 °C

Megengedett legnagyobb bruttó tömeg ..... kg

Üres (tára) tömeg ..... kg.

**Megjegyzés:** A szállított anyagok azonosítására lásd az 5. részt is.

- 6.7.2.20.3** A nyílt tengeren történő kezelésre tervezett és jóváhagyott mobil tartány esetén az

2) A mértékegységet fel kell tüntetni.

3) Lásd a 6.7.2.2.10 pontot.

„OFFSHORE PORTABLE TANK” feliratot kell feltüntetni az azonosító táblán.

### 6.7.3 A nem mélyhűtött, cseppfolyósított gázokhoz használt mobil tartányok gyártására és vizsgálatára vonatkozó követelmények

#### 6.7.3.1 Meghatározások

E szakasz alkalmazásában:

Az *alternatív kialakítási engedély* az e fejezetben meghatározottaktól eltérő műszaki előírások alapján tervezett, gyártott vagy eltérő vizsgálati módszer szerint vizsgált (alternatív kialakítású) mobil tartányra vagy MEG-konténerre az illetékes hatóság által kiadott engedély.

A *mobil tartány* olyan multimodális tartány, amelynek befogadóképessége 450 liternél nagyobb és amelyet a 2 osztály nem mélyhűtött, cseppfolyósított gázainak szállítására használnak. A mobil tartány fogalmába maga a tartány és a gázok szállításához szükséges üzemi és szerkezeti szerelvényei tartoznak. A mobil tartánynak a szerkezeti szerelvények eltávolítása nélkül tölthetőnek és üríthetőnek kell lennie. A tartány külső részén stabilizáló elemeknek kell lenniük, és alkalmasnak kell lennie arra, hogy megtöltött állapotban felemeljék. Úgy kell kialakítani, hogy elsősorban közúti járműre, vasúti kocsira, ill. tengerjáró vagy belvízi hajóba lehessen rakni, a gépi rakodás megkönnyítésére kerettel vagy egyéb szerkezetekkel kell ellátni. A közúti tartányjárművek, a vasúti tartálykocsik, a nem fémből készült tartányok és a nagyméretű csomagolóeszközök (IBC-k), a gázpalackok és a nagypalackok e meghatározás értelmében nem minősülnek mobil tartánynak.

A *tartány* a mobil tartány azon része, amely a szállítandó, nem mélyhűtött, cseppfolyósított gáz megtartására szolgál (maga a tartány), beleértve a nyílásokat és azok zárószerveit, de kizárva az üzemi szerelvényeket és a külső szerkezeti szerelvényeket.

Az *üzemi szerelvények* a töltő- és ürítő-, a szellőző-, a biztonsági és a hőszigetelő berendezések, valamint a mérőeszközök.

A *szerkezeti szerelvények* a tartány külső részén található erősítő-, rögzítő- védő- vagy stabilizáló elemek.

A *megengedett legnagyobb üzemi nyomás* a tartány üzemi helyzetében, annak tetején mérhető nyomás, amely nem lehet kisebb, mint a következő két nyomás érték közül a nagyobbik érték, de semmilyen esetben sem lehet 7 bar-nál kisebb:

- a) a tartányban a töltés, ill. ürítés során megengedett legnagyobb tényleges nyomás (túlnyomás); vagy
- b) a legnagyobb tényleges túlnyomás, amelyre a tartány méretezve van, ami
  - i) a 4.2.5.2.6 pontban, a T50 mobil tartány utasításban felsorolt, nem mélyhűtött, cseppfolyósított gázok esetében a gázra a T50 mobil tartány utasításban megadott megengedett legnagyobb üzemi nyomás (bar-ban);
  - ii) egyéb nem mélyhűtött, cseppfolyósított gázok esetében legalább a következő nyomások összege:
    - a nem mélyhűtött, cseppfolyósított gáz abszolút gőznyomása (bar-ban) a tervezési referencia hőmérsékleten mínusz 1 bar; és
    - a folyadékszint feletti térben levő levegő, ill. egyéb gáz parciális nyomásai (bar-ban), amelyet a következők alapulvételével kell meghatározni: tervezési referencia hőmérséklet, valamint az átlagos hőmérséklet  $t_r - t_f$  értékű növekedéséből adódó folyadék-fázis tágulás (ahol  $t_f$  = a töltési hőmérséklet, rendszerint 15 °C;  $t_r$  = a legnagyobb átlagos hőmérséklet, 50 °C).

A *tervezési nyomás* a nyomástartó edényekre vonatkozó szabályzat szerint a számításokhoz használandó nyomás. A tervezési nyomás nem lehet kisebb, mint a következő nyomások



közül a legnagyobb:

- a) a tartányban a töltés, ill. ürítés során megengedett legnagyobb tényleges nyomás (túlnyomás) vagy
- b) a következők összege:
  - i) a legnagyobb tényleges túlnyomás, amelyre a tartány méretezve van, mint azt a megengedett legnagyobb üzemi nyomás fogalmának b) pontja meghatározza; és
  - ii) a 6.7.3.2.9 pontban meghatározott statikus erők alapján meghatározott folyadéknyomás, de legalább 0,35 bar.

A *próbanyomás* a nyomáspróba alatt a tartány tetején fellépő legnagyobb túlnyomás.

A *tömörégi próba* az a gázzal végzett vizsgálat, amelynek során a tartányt az üzemi szerelvényeivel a megengedett legnagyobb üzemi nyomás legalább 25%-át elérő tényleges belső nyomásnak teszik ki.

A *megengedett legnagyobb bruttó tömeg* a mobil tartány saját tömege és a szállításra engedélyezett legnagyobb rakomány össztömege.

A *referencia acél* a 370 N/mm<sup>2</sup> szakítószilárdságú és 27% szakadási nyúlású acél.

A *szerkezeti acél* olyan acél, amelynek szavatolt legkisebb szakítószilárdsága 360...440 N/mm<sup>2</sup> között van, és szakadási nyúlása megfelel a 6.7.3.3.3.3 pontnak.

A *tervezési hőmérséklet-tartomány* a környezeti hőmérsékleten szállított nem mélyhűtött, cseppfolyósított gázokhoz használt tartányok esetében -40 °C...+50 °C. Szélsőséges éghajlati körülményeknek kitett mobil tartányok esetében szigorúbb tervezési hőmérsékleteket kell alkalmazni.

A *tervezési referencia hőmérséklet* az a hőmérséklet, amelyen a tartalom gőznyomását meghatározzák a megengedett legnagyobb üzemi nyomás kiszámításához. A tervezési referencia hőmérsékletnek kisebbnek kell lennie, mint a szállítandó, nem mélyhűtött, cseppfolyósított gáz kritikus hőmérséklete, annak biztosítására, hogy a gáz mindenkor cseppfolyós maradjon. Ez az érték az egyes mobil tartány típusokra a következő:

- a) 1,5 m, vagy annál kisebb átmérőjű tartányra: 65 °C;
- b) 1,5 m-nél nagyobb átmérőjű tartányra:
  - i) hőszigetelés és napsugárzás elleni védőlemez nélkül: 60 °C;
  - ii) napsugárzás elleni védőlemezzel (lásd a 6.7.3.2.12 pontot): 55 °C; és
  - iii) szigeteléssel (lásd a 6.7.3.2.12 pontot): 50 °C.

A *töltési sűrűség* a nem mélyhűtött, cseppfolyósított gáznak a tartány befogadóképességére vetített átlagos tömegét (kg/l) jelenti. A töltési sűrűség adatokat a 4.2.5.2.6 pontban a T50 mobil tartány utasítás tartalmazza.

### 6.7.3.2 *Általános tervezési és gyártási követelmények*

#### 6.7.3.2.1

A tartányokat az illetékes hatóság által elismert, a nyomástartó edényekre vonatkozó szabályzat előírásainak megfelelően kell tervezni és gyártani. A tartányt alakításra alkalmas acélból kell készíteni. Az anyagoknak általában a belföldi vagy nemzetközi anyagszabványoknak kell megfelelniük. Hegesztett tartányokhoz csak olyan anyagok használhatók, amelyek hegeszthetősége teljes mértékben szavatolt. A hegesztéseket szakszerűen kell elkészíteni, és teljesen biztonságosnak kell lenniük. Ha a gyártási folyamat vagy az anyag szükségessé teszi, a tartányt megfelelően hőkezelni kell, hogy a hegesztéseknél és a hőhatásnak kitett zónákban biztosítsák a kielégítő szívósságot. Az anyagok kiválasztásánál a ridegtörés veszélye, a feszültség alatti korróziós repedezések és az ütésállóság szempontjából figyelembe kell venni a tervezési hőmérséklet-tartományt. Finom szemcseszerkezetű acélok használata esetén a szavatolt folyáshatár nem lehet nagyobb, mint 460 N/mm<sup>2</sup>, és a szavatolt szakítószilárdság felső határa nem lehet nagyobb, mint 725 N/mm<sup>2</sup> az anyagspecifikáció szerint. A mobil tartány anyagainak alkalmasnak kell lenniük ahhoz a külső környezethez, amelyben a tartányt szállíthatják.

- 6.7.3.2.2** A mobil tartányokat, a szerelvényeiket és a csövezetéseket olyan anyagból kell készíteni,
- a) amelyet a szállított anyag(ok) eleve nem támad(nak) meg; vagy
  - b) amely kémiai reakció révén megfelelően passzíválódik vagy semlegesítődik.
- 6.7.3.2.3** A tömítéseket olyan anyagokból kell készíteni, amelyeket a szállítandó, nem mélyhűtött, cseppfolyósított gáz(ok) nem támad(nak) meg.
- 6.7.3.2.4** Kerülni kell a különböző fémek érintkezését, ami a galvanikus hatás folytán károsodást okozhat.
- 6.7.3.2.5** A mobil tartány, a szerelvények, a tömítések és a tartozékok anyaga nem gyakorolhat kedvezőtlen hatást a mobil tartányban szállítandó, nem mélyhűtött, cseppfolyósított gáz(ok)ra.
- 6.7.3.2.6** A mobil tartányt megfelelő emelő és rögzítő szerelvényekkel és olyan tartószerkezettel kell tervezni és kialakítani, amely a szállítás során biztos alátámasztást nyújt.
- 6.7.3.2.7** A mobil tartányt olyanra kell tervezni, hogy a szállított anyag vesztesége nélkül ellenálljon legalább a szállított anyag által kifejtett belső nyomásnak és a normális szállítási és kezelési feltételek mellett fellépő statikus, dinamikus és hőterhelésnek. A tervezés során bizonyítani kell, hogy az ezen terheléseknek a mobil tartány várható élettartama alatti ismétlődése folytán kialakuló kifáradást figyelembe vették.
- 6.7.3.2.8** A tartányokat úgy kell tervezni, hogy tartós alakváltozás nélkül ellenálljanak akkora külső nyomásnak, amely a belső nyomásnál legalább 0,4 bar-ral nagyobb. Amennyiben a tartány jelentős vákuumnak van kitéve a töltés előtt vagy az ürítés során, akkor úgy kell tervezni, hogy tartós alakváltozás nélkül ellenálljon akkora külső nyomásnak, amely a belső nyomásnál legalább 0,9 bar-ral nagyobb, és a tartányt erre a nyomásra kell vizsgálni.
- 6.7.3.2.9** A mobil tartányoknak és rögzítőelemeiknek a megengedett legnagyobb töltési tömeg mellett a következő, külön-külön fellépő, statikus erők elviselésére kell alkalmasnak lenniük:
- a) menetirányban: a megengedett legnagyobb bruttó tömeg kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>4)</sup>;
  - b) vízszintesen a menetirányra merőlegesen: a megengedett legnagyobb bruttó tömeg (amennyiben a menetirány nincs egyértelműen meghatározva, a megengedett legnagyobb bruttó tömeg kétszerese) szorozva a nehézségi gyorsulással ( $g$ )<sup>4)</sup>;
  - c) függőlegesen felfelé: a megengedett legnagyobb bruttó tömeg szorozva a nehézségi gyorsulással ( $g$ )<sup>4)</sup>; és
  - d) függőlegesen lefelé: a megengedett legnagyobb bruttó tömeg (összes terhelés beleértve a gravitáció hatását) kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>4)</sup>.
- 6.7.3.2.10** A 6.7.3.2.9 pontban felsorolt erőknél a következő biztonsági tényezőket kell figyelembe venni:
- a) határozott folyáshatárral rendelkező acélnál a szavatolt folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt; vagy
  - b) határozott folyáshatárral nem rendelkező acélnál: a 0,2%-os (vagy ausztenites acélokra az 1%-os) szavatolt, egyezményes folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt.
- 6.7.3.2.11** A tényleges, ill. az egyezményes folyáshatár értékére a belföldi vagy nemzetközi anyagszabványok által meghatározott értékeket kell használni. Ausztenites acélok használata esetén a tényleges, ill. az egyezményes folyáshatárra az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket a vizsgálati bizonyítvány hitelesíti. Ha a szóban forgó fémre nincs anyagszabvány, a használt

4) A számítások céljára  $g = 9,81 \text{ m/s}^2$ .



tényleges, ill. egyezményes folyáshatár értéket az illetékes hatóságnak jóvá kell hagynia.

**6.7.3.2.12** Ha a nem mélyhűtött, cseppfolyósított gázok szállítására szolgáló tartányokat hőszigeteléssel látják el, a hőszigetelő rendszernek a következő követelményeket kell kielégítenie:

- a) a hőszigetelésnek fényvédő tetőből kell állnia, amely a tartány felületének legalább a felső harmadát, de legfeljebb a felső felét takarja, és attól legalább 4 cm-es légréteg választja el; vagy
- b) szigetelőanyagból készült, elegendő vastagságú teljes burkolat, amely úgy van védve, hogy normális szállítási körülmények között nem sérülhet meg és a nedvesség sem szívároghat bele, ill. hőátadási együtthatója legfeljebb  $0,67 \text{ W} \cdot \text{m}^{-2} \cdot \text{K}^{-1}$ ;
- c) ha a védőburkolat gázzáró, külön szerkezettel meg kell akadályozni, hogy a szigetelőrétegben a tartány vagy a szerelvények tömítetlensége esetén veszélyes nyomás lépjen fel;
- d) a hőszigetelés nem akadályozhatja a szerelvényekhez és ürítő berendezésekhez való hozzáférést.

**6.7.3.2.13** A gyúlékony, nem mélyhűtött, cseppfolyósított gázok szállítására használt mobil tartányoknak elektromosan földelhetőnek kell lenniük.

### **6.7.3.3 Tervezési kritériumok**

**6.7.3.3.1** A tartányoknak körkeresztmetszetűeknek kell lenniük.

**6.7.3.3.2** A tartányokat úgy kell tervezni és gyártani, hogy a tervezési nyomás legalább 1,3-szeresével végrehajtott nyomáspróbát kiállják. A tartány tervezésénél a szállítandó, nem mélyhűtött, cseppfolyósított gázra a 4.2.5.2.6 pontban a T50 mobil tartány utasításban a megengedett legnagyobb üzemi nyomásra megadott legkisebb értékeket kell figyelembe venni. Ezeknél a tartányoknál tekintettel kell lenni a 6.7.3.4 bekezdésben meghatározott, legkisebb falvastagságra vonatkozó követelményekre is.

**6.7.3.3.3** A határozott folyáshatárral rendelkező, ill. szavatolt, egyezményes folyáshatárral (általában a 0,2%-os, ausztenites acéloknál az 1%-os egyezményes folyáshatárral) jellemzett acéloknál a tartányban a próbanyomáson fellépő  $\sigma$  primer membránfeszültség nem haladhatja meg a  $0,75R_e$  vagy a  $0,50R_m$  értékek közül az alacsonyabbat, ahol

$R_e$  = a tényleges folyáshatár  $\text{N/mm}^2$ -ben vagy a 0,2%-os vagy ausztenites acéloknál az 1%-os egyezményes folyáshatár;

$R_m$  = a legkisebb szakítószilárdság  $\text{N/mm}^2$ -ben.

**6.7.3.3.3.1** Az  $R_e$  és  $R_m$  értékére a belföldi vagy nemzetközi anyagszabványok által meghatározott legkisebb értékeket kell használni. Ausztenites acélok használata esetén az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket az anyagvizsgálati bizonyítvány hitelesíti. Ha a szóban forgó fémre nincs anyagszabvány, a használt  $R_e$  és  $R_m$  értéket az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek kell jóváhagynia.

**6.7.3.3.3.2** Hegesztett tartányok gyártásához használt acéloknál 0,85-öt meghaladó  $R_e/R_m$  arány nem megengedett. Az anyagvizsgálati bizonyítványban szereplő értékeket kell alapul venni az egyes esetekben az  $R_e/R_m$  arány meghatározásához.

**6.7.3.3.3.3** A tartány gyártásához használt acélnál a szakadási nyúlás értéke %-ban nem lehet kisebb, mint  $10\,000/R_m$ , azonban finom szemcseszerkezetű acélok esetében 16%-nál, más acélok esetében 20%-nál semmi esetre sem lehet kisebb.

**6.7.3.3.3.4** Az anyagokra a tényleges értékek meghatározásánál figyelembe kell venni, hogy fémlemez esetén a szakítópróba használt próbatest tengelye a hengerlési irányra merőleges legyen. A szakadási nyúlást négyzetű keresztmetszetű próbatesten kell mérni az ISO 6892:1998

szabvány szerint, 50 mm-es befogási hossz mellett.

#### **6.7.3.4 Legkisebb falvastagság**

**6.7.3.4.1** A legkisebb falvastagságnak a következők szerint adódó nagyobbik vastagságnak kell lennie:

- a) a 6.7.3.4 bekezdés szerint meghatározott legkisebb vastagság;
- b) a nyomástartó edényekre vonatkozó, elismert szabályzat és a 6.7.3.3 bekezdés követelményei szerint meghatározott legkisebb vastagság; és

**6.7.3.4.2** Az 1,80 m-nél nem nagyobb átmérőjű tartányoknál a palást, a fenekek és a búvónyílás fedelek falvastagságának legalább 5 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó acélból azzal egyenértékű vastagságúnak. Ha az átmérő meghaladja az 1,80 m-t, a falvastagságnak legalább 6 mm-nek kell lennie referencia acél esetében, ill. más acél használata esetén ezzel egyenértékű vastagságnak.

**6.7.3.4.3** A tartány palást, a fenekek és a búvónyílás fedelek vastagsága a szerkezeti anyagtól függetlenül nem lehet 4 mm-nél kisebb.

**6.7.3.4.4** Valamely acél egyenértékű vastagságát, kivéve a 6.7.3.4.2 pontban a referencia acélra előírt vastagságot, a következő képlettel kell kiszámítani:

$$e_I = \frac{21,4e_0}{\sqrt[3]{R_{mI}A_I}},$$

ahol

$e_I$  = a felhasználandó acél esetén megkövetelt egyenértékű falvastagság (mm-ben);

$e_0$  = a legkisebb falvastagság (mm-ben) a 6.7.3.4.2 pontban meghatározott referencia acél esetében;

$R_{mI}$  = a felhasználandó acél szavatolt legkisebb szakítószilárdsága (N/mm<sup>2</sup>-ben, lásd a 6.7.3.3.3 pontot);

$A_I$  = a felhasználandó acél belföldi vagy nemzetközi szabványok szerinti szavatolt legkisebb szakadási nyúlása (%-ban).

**6.7.3.4.5** A falvastagság semmilyen esetben sem lehet kisebb a 6.7.3.4.1 – 6.7.3.4.3 pontban meghatározott értéknél. A tartány egyetlen részének sem lehet kisebb a falvastagsága, mint a 6.7.3.4.1 – 6.7.3.4.3 pontban meghatározott legkisebb vastagság. Ebbe a falvastagságba nem szabad beszámítani a korrózió miatti esetleges ráhagyásokat.

**6.7.3.4.6** Szerkezeti acél (lásd a 6.7.3.1 bekezdést) használata esetén a 6.7.3.4.4 pontban található képlettel való számításra nincs szükség.

**6.7.3.4.7** A lemezvastagságban nem lehet hirtelen változás ott, ahol a tartány hengeres része és a fenekek csatlakoznak.

#### **6.7.3.5 Üzemi szerelvények**

**6.7.3.5.1** Az üzemi szerelvényeket úgy kell elhelyezni, hogy a szállítás és a kezelés során leszakadás vagy sérülés veszélye ellen biztosítva legyenek. Amennyiben a váz és a tartány közötti kapcsolat lehetővé teszi a szerkezeti részegységek egymáshoz képesti elmozdulását, a szerelvényeket úgy kell rögzíteni, hogy az ilyen elmozdulás a részegységek sérülésének veszélye nélkül lehetővé váljon. A külső üritő szerelvényeket (csőcsonkokat, záró-szerkezeteket), a belső zárószelepet és annak ülékét védeni kell a külső erők hatására történő leszakadás veszélyével szemben (például nyíródnó keresztmetszet kialakításával). A töltő- és üritő-szerkezeteket (beleértve a karimákat és a menetes dugókat is), valamint az esetleges

védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.

- 6.7.3.5.2** A mobil tartányok minden 1,5 mm-nél nagyobb átmérőjű nyílását – kivéve a nyomáscsökkentő szerkezetek nyílásait, a vizsgálónyílásokat és a lezárt légtelenítő nyílásokat – legalább három, egymás mögött elhelyezett, egymástól független zárószerkezettel kell ellátni, amelyek közül az első egy belső zárószelep, túlfolyószelep vagy más, egyenértékű szerkezet, a második egy külső zárószelep, a harmadik egy vakkarima vagy más, egyenértékű szerkezet.
- 6.7.3.5.2.1** Ha a mobil tartány túlfolyószeleppel van ellátva, a túlfolyószelepet úgy kell elhelyezni, hogy szelepeüléke a tartányon belül vagy egy hegesztett karimán belül legyen, vagy ha kívül van elhelyezve, szerelését úgy kell megtervezni, hogy ütközés esetén is hatásos maradjon. A túlfolyószelepeket úgy kell kiválasztani és felszerelni, hogy automatikusan zárjanak, ha a gyártó által meghatározott névleges átfolyási mennyiséget elérték. Az ilyen szelepekhez vezető és az utánuk levő csatlakozásoknak és szerelvényeknek nagyobb átfolyási mennyiséget kell felvenniük, mint a túlfolyó szelepek névleges áteresztési mennyisége.
- 6.7.3.5.3** A töltő- és ürítőnyílások esetén az első zárószerkezetnek egy belső zárószelepnek kell lennie, a másodiknak egy zárószelepnek, amelyet minden töltő- és ürítőcsövön hozzáférhető helyen kell elhelyezni.
- 6.7.3.5.4** A gyúlékony és/vagy mérgező, nem mélyhűtött, cseppfolyósított gázok szállítására használt mobil tartányok alsó töltő- és ürítőnyílásait el kell látni olyan, azonnal záródó belső biztonsági szerkezettel, amely a tartány töltés vagy ürítés közbeni véletlen elmozdulása vagy tűz esetén önműködően lezár. Az 1000 l-nél nagyobb befogadóképességű mobil tartányok esetén a zárószerkezetnek távolról is működtethetőnek kell lennie.
- 6.7.3.5.5** A töltő, ürítő és gőznyomás kiegyenlítő nyílásokon kívül a tartányokat el lehet látni mérőeszközök, nyomásmérő és hőmérő behelyezésére alkalmas nyílásokkal. Az ilyen eszközök csatlakozásait alkalmas hegesztett csomaggal vagy zsebbel kell kialakítani, a tartányon keresztül csavarkötés nem lehet.
- 6.7.3.5.6** A belső részek vizsgálata, karbantartása és javítása céljából a mobil tartányokat megfelelő méretű bűvőnyílással vagy vizsgálónyílással kell ellátni.
- 6.7.3.5.7** A külső szerelvényeket – amennyire csak lehet – egy helyre csoportosítva kell elhelyezni.
- 6.7.3.5.8** A mobil tartány minden csatlakozásán jól láthatóan fel kell tüntetni a rendeltetését.
- 6.7.3.5.9** A zárószelepeket és zárószerkezeteket úgy kell tervezni és kialakítani, hogy a névleges nyomásuk legalább akkora legyen, mint a tartány megengedett legnagyobb üzemi nyomása, figyelembe véve a szállítás alatt várható hőmérsékleteket. A csavarorsós zárószelepeknek a kézikerek óramutató járásával megegyező irányba történő elforgatásával kell záródniuk. Másfajta zárószelepeknél a zárószelep (nyitott és zárt) állását és a zárás irányát jól láthatóan fel kell tüntetni. Minden zárószelepet úgy kell kialakítani, hogy akaratlanul ne lehessen kinyitni.
- 6.7.3.5.10** A csővezetéseket úgy kell tervezni, gyártani és felszerelni, hogy ne jöjjön létre sérülésveszély a hőtágulás és összehúzódás, a mechanikai ütések és rezgések következtében. Minden csövet megfelelő fémes anyagból kell készíteni. Ahol csak lehetséges, hegesztett csövkötéseket kell alkalmazni.
- 6.7.3.5.11** A rézcsövek csatlakozásait keményforrasztással kell készíteni vagy azzal azonos szilárdságú, fémes csövkötést kell alkalmazni. A forrasztófém (keményforrasztás) olvadáspontja nem lehet 525 °C-nál alacsonyabb. A kötések nem csökkenthetik a csővezeték szilárdságát, mint az csavarmentes kötéseknel előfordulhat.
- 6.7.3.5.12** Egyetlen csővezeték és csőszerelvénnyel repesztőnyomása sem lehet kisebb, mint a tartány megengedett legnagyobb üzemi nyomásának négyszerese és azon nyomás négyszerese közül a nagyobb, amelynek a használat során, szivattyú vagy egyéb szerkezet (kivéve a

nyomáscsökkentő szerkezeteket) működése révén ki lehetnek téve.

**6.7.3.5.13** A szelepek és a tartozékok gyártásához kovácsolható fémet kell használni.

**6.7.3.6** *Alsó nyílások*

**6.7.3.6.1** Bizonyos nem mélyhűtött, cseppfolyósított gázok nem szállíthatók alsó nyílásokkal ellátott mobil tartányokban, ha a 4.2.5.2.6 pontban a T50 mobil tartány utasítás jelzi, hogy alsó nyílás nem megengedett. Ekkor a megengedett legnagyobb töltési szint esetén a tartány folyadékszintje alatt nem lehetnek nyílások.

**6.7.3.7** *Nyomáscsökkentő szerkezetek*

**6.7.3.7.1** A mobil tartányokat egy vagy több, rugóterhelésű nyomáscsökkentő szerkezettel kell ellátni. A nyomáscsökkentő szerkezetnek legalább a megengedett legnagyobb üzemi nyomással megegyező nyomáson automatikusan kell nyílnia, és a megengedett legnagyobb üzemi nyomás 110%-ának megfelelő nyomáson teljesen nyitva kell lennie. Lefűvás után a szerkezetnek a nyitónyomásánál legfeljebb 10%-kal alacsonyabb nyomáson záródnia kell, minden ennél alacsonyabb nyomáson zárva kell maradnia. A nyomáscsökkentő szerkezetnek olyan típusúnak kell lennie, ami ellenáll a dinamikus hatásoknak, beleértve a folyadék hullámzását is. Olyan hasadótárcsa, amely nem rugóterhelésű nyomáscsökkentő szerkezet előtt van elhelyezve, nem alkalmazható.

**6.7.3.7.2** A nyomáscsökkentő szerkezetet úgy kell kialakítani, hogy megakadályozza az idegen anyagoknak a tartányba való bejutását, a gáz kiszivárgását és mindenféle veszélyes túlnyomás kialakulását.

**6.7.3.7.3** A 4.2.5.2.6 pontban a T50 mobil tartány utasításban meghatározott, egyes, nem mélyhűtött, cseppfolyósított gázok szállítására szolgáló mobil tartányokat olyan nyomáscsökkentő szerkezettel kell ellátni, amelyet az illetékes hatóság jóváhagyott. A nyomáscsökkentő szerkezetnek egy rugóterhelésű nyomáscsökkentő szelepből és egy elhelyezett hasadótárcsából kell állnia, kivéve, ha – különleges rendeltetésű mobil tartány esetén – a szállítandó anyaggal összeférhető anyagból készült, jóváhagyott típusú nyomáscsökkentő szerkezet van a tartányon. Ha a nyomáscsökkentő szerkezet elé hasadótárcsa van elhelyezve, akkor a hasadótárcsa és a nyomáscsökkentő szerkezet közti térbe nyomásmérőt vagy más, alkalmas jelzőeszközt kell csatlakoztatni, ami lehetővé teszi, hogy észleljék a hasadótárcsa repedését, kilyukadását vagy szivárgását, ami a nyomáscsökkentő rendszer hibás működését okozhatja. A hasadótárcsának ebben az esetben a nyomáscsökkentő szelep nyitónyomását 10%-kal meghaladó névleges nyomásnál kell felszakadnia.

**6.7.3.7.4** Többcélú mobil tartány esetében a nyomáscsökkentő szerkezeteknek a mobil tartányban szállítható gázok közül a legnagyobb megengedett legnagyobb üzemi nyomással rendelkező gázra a 6.7.3.7.1 pontban meghatározott nyomáson ki kell nyílniuk.

**6.7.3.8** *A nyomáscsökkentő szerkezetek teljesítménye*

**6.7.3.8.1** A nyomáscsökkentő szerkezetek összes lefűvási teljesítményének elégnek kell lennie ahhoz, hogy abban az esetben, ha a mobil tartányt teljesen elfedi a tűz, a tartányban a nyomás (beszámítva a nyomás növekedését) ne múlja felül a megengedett legnagyobb üzemi nyomás 120%-át. A szükséges összes lefűvási teljesítmény eléréséhez rugóterhelésű nyomás-csökkentő szerkezeteket kell alkalmazni. Többcélú tartányok esetében a nyomáscsökkentő szerkezetek összes lefűvási teljesítményét arra a gázra kell méretezni, amely a mobil tartányban szállítható gázok közül a legnagyobb lefűvási teljesítményt igényli.

**6.7.3.8.1.1** A nyomáscsökkentő szerkezetek szükséges összes teljesítményének meghatározására, ami úgy tekintendő, mint az együttműködő szerkezetek egyedi teljesítményének összege, a

következő képletet<sup>5)</sup> kell használni:

$$Q = 12,4 \frac{FA^{0,82}}{LC} \sqrt{\frac{ZT}{M}},$$

ahol

$Q$  = a szükséges legkisebb lefúvási teljesítmény légköbméter per sec-ban (m<sup>3</sup>/s) 1 bar és 0 °C (273 K) normálfeltételek mellett;

$F$  = együtttható, amelynek értéke a következő:

nem szigetelt tartányra  $F = 1$ ;

szigetelt tartányra  $F = U(649 - t)/13,6$ , de legalább 0,25,

ahol

$U$  = a szigetelőréteg hőátadási együttthatója, kW·m<sup>-2</sup>·K<sup>-1</sup>, 38 °C-on;

$t$  = a nem mélyhűtött, cseppfolyósított gáz tényleges hőmérséklete a töltés alatt - (°C-ban); ha ez a hőmérséklet ismeretlen, akkor  $t = 15$  °C;

Szigetelt tartányra az előzőekben megadott  $F$  érték akkor használható, ha a szigetelés megfelel a 6.7.3.8.1.2 pont előírásainak;

$A$  = a tartány teljes külső felülete m<sup>2</sup>-ben;

$Z$  = a gáz kompresszibilitási tényezője lefúváskor (ha ez a tényező ismeretlen,  $Z = 1$ );

$T$  = az abszolút hőmérséklet Kelvinben (°C + 273) a nyomáscsökkentő szerkezet felett lefúváskor;

$L$  = a folyadék látens párolgáshője kJ/kg-ban lefúváskor;

$M$  = a távozó gáz molekulatömege;

$C$  = a következő képletek egyikéből származtatott állandó, mint a fajhők aránya,  $k$ :

$$k = \frac{C_p}{C_v},$$

ahol

$C_p$  = a fajhő állandó nyomáson; és

$C_v$  = a fajhő állandó térfogaton.

Ha  $k > 1$ :

$$C = \sqrt{k \left( \frac{2}{k+1} \right)^{\frac{k+1}{k-1}}}.$$

Ha  $k = 1$  vagy  $k$  ismeretlen:

5) Ez a képlet csak azon nem mélyhűtött, cseppfolyósított gázokra alkalmazható, amelyek kritikus hőmérséklete jóval magasabb a lefúváskor fennálló hőmérsékletnél. Olyan gázokra, amelyek kritikus hőmérséklete a lefúváskor fennálló hőmérséklet közelében vagy az alatt van, a nyomáscsökkentő szerkezetek teljesítményének számításához figyelembe kell venni a gáz további termodinamikai tulajdonságait (lásd pl. a CGA S-1.2-2003 „Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 2. rész – Árutartányok és mobil tartányok sűrített gázokhoz) kiadványt).

$$C = \frac{1}{\sqrt{e}} = 0,607 ,$$

ahol az  $e$  matematikai állandó, melynek értéke 2,7183.

$C$  értékei a következő táblázatból is vehetők:

| k    | C     | k    | C     | k    | C     |
|------|-------|------|-------|------|-------|
| 1,00 | 0,607 | 1,26 | 0,660 | 1,52 | 0,704 |
| 1,02 | 0,611 | 1,28 | 0,664 | 1,54 | 0,707 |
| 1,04 | 0,615 | 1,30 | 0,667 | 1,56 | 0,710 |
| 1,06 | 0,620 | 1,32 | 0,671 | 1,58 | 0,713 |
| 1,08 | 0,624 | 1,34 | 0,674 | 1,60 | 0,716 |
| 1,10 | 0,628 | 1,36 | 0,678 | 1,62 | 0,719 |
| 1,12 | 0,633 | 1,38 | 0,681 | 1,64 | 0,722 |
| 1,14 | 0,637 | 1,40 | 0,685 | 1,66 | 0,725 |
| 1,16 | 0,641 | 1,42 | 0,688 | 1,68 | 0,728 |
| 1,18 | 0,645 | 1,44 | 0,691 | 1,70 | 0,731 |
| 1,20 | 0,649 | 1,46 | 0,695 | 2,00 | 0,770 |
| 1,22 | 0,652 | 1,48 | 0,698 | 2,20 | 0,793 |
| 1,24 | 0,656 | 1,50 | 0,701 |      |       |

**6.7.3.8.1.2** A lefúvási teljesítmény csökkentése érdekében alkalmazott szigetelési rendszert az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia. Az erre a célra jóváhagyott szigetelési rendszernek minden esetben:

- 649 °C-ig minden hőmérsékleten hatásosnak kell maradnia; és
- olyan anyaggal kell bevonni, amelynek olvadáspontja legalább 700 °C.

#### **6.7.3.9** *A nyomáscsökkentő szerkezetek jelölése*

**6.7.3.9.1** Minden nyomáscsökkentő szerkezeten jól olvashatóan és tartósan fel kell tüntetni a következő adatokat:

- a nyitónyomást (bar-ban vagy kPa-ban);
- rugóterhelésű szerkezeteknél a nyitónyomás megengedett túrésát;
- a hasadótárcsák névleges nyomásához tartozó referencia hőmérsékletet;
- a szerkezet névleges átfolyási teljesítményét normál légköbméter per sec (m<sup>3</sup>/s) egységben.

Amennyiben lehetséges, a következő információt ugyancsak fel kell tüntetni:

- a gyártó nevét és az eszköz vonatkozó katalógus számát.

**6.7.3.9.2** A nyomáscsökkentő szerkezeteken feltüntetett névleges átfolyási teljesítményt az ISO 4126-1:1991 szabvány szerint kell meghatározni.

#### **6.7.3.10** *A nyomáscsökkentő szerkezetek csatlakoztatása*

**6.7.3.10.1** A nyomáscsökkentő szerkezetekhez történő csatlakozásnak akkorának kell lennie, hogy szabad átfolyást biztosítson a biztonsági szerkezethez. A tartány és a nyomáscsökkentő szerkezet közé nem szabad zárószelepet elhelyezni, kivéve a karbantartási vagy egyéb okból kialakított kettős nyomáscsökkentő szerkezeteknél, ha a ténylegesen működő nyomáscsökkentő szerkezet zárószelepe nyitott állapotban reteszelve van, vagy a zárószelepek úgy vannak összekapcsolva, hogy a kettős nyomáscsökkentő szerkezetek közül legalább az egyik mindig működőképes, és kielégíti a 6.7.3.8 bekezdés követelményeit. A



szellőző vagy nyomáscsökkentő szerkezethez vezető nyílásban nem lehet semmiféle akadály, ami korlátozná vagy elzárná az áramlást a tartányból a szerkezethez. A szellőző vagy nyomáscsökkentő szerkezet kimenetéhez csatlakozó csővezetéknek, ha ilyet használnak, a kiszabadult gőzt vagy folyadékot a szerkezetre gyakorolt minimális torlóhatással kell a szabadba vezetniük.

#### **6.7.3.11** *A nyomáscsökkentő szerkezetek elhelyezése*

**6.7.3.11.1** Minden nyomáscsökkentő szerkezet bemenetét a tartány tetején úgy kell elhelyezni, hogy a tartány középpontjához a lehető legközelebb legyenek. Minden nyomáscsökkentő szerkezet bemenetnek a megengedett legnagyobb töltési feltételek mellett a tartány gőzterében kell lennie, és a szerkezetet úgy kell elhelyezni, hogy biztosítva legyen a kiszabadult gőz akadálytalan távozása. Gyűlékony, nem mélyhűtött, cseppfolyósított gázok esetében a kiszabaduló gőzt a tartánytól el kell terelni oly módon, hogy az ne csapódhasson a tartánynak. A gőz áramlását elterelő védőszerkezetek engedélyezettek, ha nem csökkentik a nyomáscsökkentő szerkezet szükséges teljesítményét.

**6.7.3.11.2** Intézkedéseket kell tenni annak érdekében, hogy megakadályozzák illetéktelen személyeknek a nyomáscsökkentő szerkezethez való hozzáférését, és hogy megvédjék a szerkezetet attól, hogy a tartány felborulása esetén megsérüljön.

#### **6.7.3.12** *Mérőeszközök*

**6.7.3.12.1** Ha a mobil tartányt nem tömegre töltik, akkor egy vagy több szintmérő eszközzel kell ellátni. A tartány tartalmával közvetlenül érintkező, üvegből készült szintjelzők és egyéb törekeny anyagú mérőeszközök nem használhatók.

#### **6.7.3.13** *A mobil tartány tartószerkezete, keretváza, emelő és rögzítő szerelvényei*

**6.7.3.13.1** A mobil tartányt tartószerkezettel kell tervezni és gyártani, ami biztos alátámasztást nyújt a szállítás során. Erre vonatkozóan a tervezésnél a 6.7.3.2.9 pontban meghatározott erőket és a 6.7.3.2.10 pontban meghatározott biztonsági tényezőt kell figyelembe venni. Talpak, keretvázak, csúszótalpak vagy egyéb hasonló szerkezetek elfogadhatók.

**6.7.3.13.2** A mobil tartányra szerelt eszközöktől (pl. talpaktól, keretvázától) és a mobil tartány emelő és rögzítő szerelvényeitől származó összetett feszültségek a tartány egyetlen részén sem okozhatnak túlzott feszültségeket. Minden mobil tartányt állandó emelő és rögzítő szerelvényekkel kell ellátni. Ezeket lehetőleg a mobil tartány tartószerkezetéhez kell erősíteni, de rögzíthetők a tartányon a megtámasztási pontokon elhelyezett erősítőlemezekhez is.

**6.7.3.13.3** A tartószerkezet és a keretváz tervezésénél figyelembe kell venni a környezet korróziós hatását is.

**6.7.3.13.4** Az emelővilla zsebeket zárhatóra kell kialakítani. Az emelővilla zsebek zárószerkezetének a keretváz állandó részét kell képeznie, vagy a keretvázhoz tartósan hozzá kell erősíteni. Az olyan, egyetlen tartánykamrából álló mobil tartányoknál, amelyek 3,65 m-nél rövidebbek, nem kell az emelővilla zsebeknek zárhatónak lenniük, amennyiben

- a) a tartány és a szerelvények kellőképpen védve vannak, nehogy az emelővillák megüssék; és
- b) az emelővilla zsebek középpontjai közötti távolság legalább a fele a mobil tartány legnagyobb hosszúságának.

**6.7.3.13.5** Ha a mobil tartány nincs a 4.2.2.3 bekezdés szerinti védelemmel ellátva, a tartányt és az üzemi szerelvényeit védeni kell a szállítás alatt a hosszirányú és oldalirányú lökésekkel vagy felborulásból adódóan a tartányt vagy a szerelvényeit érő sérülésekkel szemben. A külső szerelvényeket úgy kell védeni, hogy az ütések hatására, ill. a mobil tartánynak a

szervevényekre való ráborulása esetén a tartányban szállított anyag ne szabaduljon ki. Példák a védelemre:

- a) az oldalirányú ütésekkel szembeni védelem, ami állhat a tartány mindkét oldalán a középvonal szintjében védő hosszirányú rudakból;
- b) a mobil tartány felborulás elleni védelme, ami állhat erősítő gyűrűkből vagy a kereten keresztben elhelyezett rudakból;
- c) a hátulról jövő ütésekkel szembeni védelem, ami lökhárítóból vagy keretből állhat;
- d) a tartány ütésekből vagy felborulásból eredő sérüléssel szembeni védelme az ISO 1496-3:1995 szabvány szerinti ISO keret használatával.

#### **6.7.3.14** *Típusjóváhagyás*

**6.7.3.14.1** Minden új mobil tartány típus esetén az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek gyártási típus bizonyítványt kell kiállítani. Ennek a bizonyítványnak tanúsítania kell, hogy a mobil tartányt ez a hatóság megvizsgálta, az a kívánt célra alkalmas, és megfelel e fejezet követelményeinek és ha alkalmazandó, akkor a 4.2.5.2.6 pontban levő T50 mobil tartány utasításban meghatározott, az egyes gázokra vonatkozó követelményeknek. Ha a mobil tartányokat sorozatban gyártják módosítás nélkül, ez a bizonyítvány a teljes sorozatra érvényes. A bizonyítványban utalni kell a gyártási típus vizsgálati jegyzőkönyvére, azokra a gázokra, amelyek szállíthatók, a tartány és a bélés (ha van) gyártási anyagára és a jóváhagyási számra. A jóváhagyási számnak annak az államnak a megkülönböztető jeléből [A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre], amelyben az engedélyt kiadták, és egy nyilvántartási számból kell állnia. A 6.7.1.2 bekezdés szerinti esetleges alternatív kialakítást a bizonyítványban fel kell tüntetni. A típusjóváhagyás az azonos anyagból és azonos falvastagsággal gyártott, kisebb mobil tartányok jóváhagyásának is tekinthető, amelyeket ugyanolyan gyártási technológiával és azonos tartószerkezetekkel, egyenértékű zárószervezetekkel és egyéb tartozékokkal gyártottak.

**6.7.3.14.2** A gyártási típus vizsgálati jegyzőkönyvének a típusjóváhagyáshoz legalább a következőket kell tartalmaznia:

- a) a keretvázra vonatkozó, ISO 1496-3:1995 szabványban meghatározott vizsgálatok eredményeit;
- b) a 6.7.3.15.3 pont szerinti üzembe helyezés előtti vizsgálat eredményeit; és
- c) a 6.7.3.15.1 pont szerinti ütközési próba eredményeit, ha alkalmazható.

#### **6.7.3.15** *Vizsgálat*

**6.7.3.15.1** Azokat a mobil tartányokat, amelyek „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) módosított kiadása meghatározása szerint konténernek minősülnek, csak azután szabad használni, hogy a gyártási típus prototípusa sikeresen kiállta a „Vizsgálatok és kritériumok kézikönyv” IV. rész, 41 fejezetében előírt dinamikus, hosszirányú ütközési próbát.

**6.7.3.15.2** Az első üzembe helyezés előtt minden mobil tartányt és szervevényeit vizsgálatnak kell alávetni (üzembe helyezés előtti vizsgálat) és azután legfeljebb ötéves időközönként (5 évenkénti időszakos vizsgálat), és az 5 éves időközök közepén közbenső vizsgálat (2,5 évenkénti közbenső időszakos vizsgálat). A 2,5 évenkénti vizsgálatot az előírt időponthoz képes 3 hónapon belül kell elvégezni. Ha a 6.7.3.15.7 pont szerint soron kívüli vizsgálatra van szükség, azt a legutóbbi időszakos vizsgálat időpontjától függetlenül el kell végezni.

**6.7.3.15.3** A mobil tartány üzembe helyezés előtti vizsgálatának ki kell terjednie a szerkezeti jellemzők ellenőrzésére, a mobil tartány és szervevényeinek külső és belső vizsgálatra, különös tekintettel a szállítandó nem mélyhűtött, cseppfolyósított gázok szempontjából, és a 6.7.3.3.2



pont szerinti próbanyomással végzett nyomáspróbára. A nyomáspróba vízzel vagy az illetékes hatóság vagy az általa felhatalmazott szervezet hozzájárulásával más folyadékkal vagy gázzal is végezhető. Mielőtt a mobil tartányt üzembe helyezik, tömörségi próbát is kell végezni és az üzemi szerelvények megfelelő működését is ellenőrizni kell. Amennyiben a nyomáspróbát a tartányon és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani. A tartányon levő, minden, teljes feszültség szintnek kitett hegesztési varratot az első alkalommal végzett vizsgálat során radiográfiás, ultrahangos vagy más, alkalmas, roncsolásmentes vizsgálati módszerrel kell ellenőrizni. Ez azonban nem vonatkozik a burkolatra.

**6.7.3.15.4** Az 5 évenkénti időszakos vizsgálatnak belső és külső állapot vizsgálatából és általában folyadéknyomás-próbából kell állnia. A hő- vagy egyéb szigetelőborításokat csak annyira kell eltávolítani, amennyire a tartány jellemzőinek biztonságos megítéléséhez feltétlenül szükséges. Amennyiben a nyomáspróbát a tartányon és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani.

**6.7.3.15.5** A 2,5 évenkénti közbenső időszakos vizsgálatnak ki kell terjednie legalább a mobil tartány és szerelvényeinek külső és belső vizsgálatra, különös tekintettel a szállítandó nem mélyhűtött, cseppfolyósított gázok szempontjából, és tömörségi próbára, továbbá az üzemi szerelvények megfelelő működését is ellenőrizni kell. A hő- vagy egyéb szigetelőborításokat csak annyira kell eltávolítani, amennyire a tartány jellemzőinek biztonságos megítéléséhez feltétlenül szükséges. A csak egyetlen nem mélyhűtött, cseppfolyósított gáz szállítására szolgáló mobil tartánynál a 2,5 évenkénti közbenső időszakos vizsgálat elhagyható, vagy az illetékes hatóság vagy az általa felhatalmazott szervezet által előírt más vizsgálati módszerrel vagy ellenőrzéssel helyettesíthető.

**6.7.3.15.6** A mobil tartányok a 6.7.3.15.2 pontban előírt utolsó 5 évenkénti vagy 2,5 évenkénti időszakos vizsgálat érvényességének lejárta után nem tölthetők meg és nem adhatók át szállításra. Az utolsó időszakos vizsgálat lejárta előtt megtöltött mobil tartányok az utolsó időszakos vizsgálat érvényességének letelte után legfeljebb három hónapig szállíthatók. Ezen kívül a mobil tartány az utolsó időszakos vizsgálat érvényességének letelte után is szállítható

- a) kiürítés után, de tisztítás előtt az újratöltés előtt szükséges vizsgálat elvégzésének céljából, és
- b) a veszélyes anyag ártalmatlanítására (megfelelő elhelyezésére) vagy visszaforgatására történő visszaszállítása céljából az időszakos vizsgálat érvényességének lejárta után legfeljebb hat hónapig, hacsak az illetékes hatóság másként nem rendelkezik. Ezt a mentességet a fuvarokmányba be kell jegyezni.

**6.7.3.15.7** Soron kívüli vizsgálatot szükséges végezni, ha a mobil tartány sérült, rozsdás, szivárog vagy bármely más körülmény a mobil tartány sértetlenségét befolyásolhatja. A soron kívüli vizsgálat mértékét az határozza meg, hogy a mobil tartány mennyire sérült vagy hibás. A soron kívüli vizsgálatnak azonban legalább a 6.7.3.15.5 pont szerinti 2,5 évenkénti vizsgálatokra kell kiterjednie.

**6.7.3.15.8** A külső és a belső vizsgálat során biztosítani kell, hogy

- a) ellenőrizzék a tartányt, hogy nincs rajta rozsdás, kipattogzás, kopás, horpadás, torzulás, hegesztési hiba vagy bármi más (pl. szivárgás), ami miatt a mobil tartány szállítása nem lenne biztonságos;
- b) ellenőrizzék a csövezeteket, a szelepeket, a fűtő/hűtő rendszert és a tömítéseket, hogy nincs rajtuk rozsdás, sérülés vagy bármi más (pl. szivárgás), ami miatt a mobil tartány töltése, ürítése vagy szállítása nem lenne biztonságos;
- c) a bűvónyílások fedelének rögzítését biztosító szerkezetek jól működjenek, és a bűvónyílás fedeleknél, ill. a tömítéseknél ne legyen szivárgás;
- d) a csőkarima csatlakozásoknál és vakkarimáknál a hiányzó vagy laza csavarokat vagy csavaranyákat pótolják, ill. meghúzzák;
- e) minden vészlefúvó szerkezet és szelep mentes legyen a korróziótól és minden olyan

sérüléstől vagy meghibásodástól, ami megakadályozhatja normális működését. A távműködtetésű zárószervezeteket és az önzáró szelepeket ki kell próbálni, hogy megfelelően működnek-e;

- f) az előírt jelölések a mobil tartányon olvashatóak, és a vonatkozó követelményeknek megfelelnek; és
- g) a mobil tartány váz- és tartószervezete, ill. az emelésre szolgáló berendezései megfelelő állapotban legyenek.

**6.7.3.15.9** A 6.7.3.15.1, 6.7.3.15.3, 6.7.3.15.4, 6.7.3.15.5 és 6.7.3.15.7 pont szerinti vizsgálatokat az illetékes hatóság vagy az általa felhatalmazott szervezet által elismert szakértőnek kell elvégeznie vagy tanúsítania. Ha a nyomáspróba a vizsgálat részét képezi, a vizsgálatot a mobil tartány adattábláján feltüntetett nyomással kell végezni. A nyomás alatt lévő mobil tartányon a tartány, a csővezeték és a szerelvények szivárgásmentességét is vizsgálni kell.

**6.7.3.15.10** Minden esetben, amikor a mobil tartányt vágással, melegítéssel vagy hegesztéssel javítják, a munkát az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia, figyelembe véve azt a nyomástartó edényekre vonatkozó szabályzatot, amely alapján a tartányt gyártották. A munka befejezése után az eredeti próbanyomással nyomáspróbát kell végezni.

**6.7.3.15.11** Amennyiben a biztonságot veszélyeztető körülményeket tapasztalnak, a mobil tartány addig nem használható újra, amíg meg nem javították és az ismételt vizsgálatot ki nem állta.

#### **6.7.3.16 Jelölés**

**6.7.3.16.1** Ellenőrzés céljából könnyen elérhető, szembetűnő helyre minden mobil tartányra nem korrodálódó fémtáblát kell tartósan rögzíteni. Ha a mobil tartány kialakítása folytán a tábla nem erősíthető tartósan a tartányhoz, legalább a nyomástartó edényekre vonatkozó szabályzatban előírt információkat kell a tartányon feltüntetni. A fémtáblán legalább a következőkben felsorolt adatokat kell feltüntetni beütéssel vagy más hasonló módon:

Gyártási ország:

|          |           |             |  |
|----------|-----------|-------------|--|
| <b>U</b> | Jóváhagyó | Jóváhagyási | Alternatív kialakítás esetén (lásd a 6.7.1.2 pontot) |
| <b>N</b> | ország    | szám        |  |

A gyártó neve vagy jele

A gyártó sorozatszám

A típusjóváhagyásra felhatalmazott szervezet

A tulajdonos nyilvántartási száma

A gyártási év

A nyomástartó edényekre vonatkozó szabályzat, amely szerint a tartányt méretezték

A próbanyomás ..... bar/kPa (túlnyomás)<sup>6)</sup>

A megengedett legnagyobb üzemi nyomás ..... bar/ kPa (túlnyomás)<sup>6)</sup>

A külső tervezési nyomás<sup>7)</sup> ..... bar/kPa (túlnyomás)<sup>6)</sup>

A tervezési hőmérséklet-tartomány ..... °C-tól ..... °C-ig

A tervezési referencia hőmérséklet ..... °C

A víztérfogat 20 °C-on ..... liter

Az üzembe helyezés előtti nyomáspróba ideje és tanúsító azonosítója

A tartány anyaga(i) és anyagszabvány hivatkozás(ok)

Az egyenértékű vastagság referencia acélra ..... mm

6) A mértékegységet fel kell tüntetni.

7) Lásd a 6.7.3.2.8 pontot.

A legutóbbi időszakos vizsgálat időpontja és típusa

Hónap ..... év ..... Próbanyomás ..... bar/kPa (túlnyomás)<sup>6)</sup>

A legutóbbi vizsgálatot végző vagy tanúsító szakértő bélyegzőlenyomata.

**6.7.3.16.2** A következő adatokat magán a mobil tartányon vagy a mobil tartányhoz biztosan rögzített fémtáblán kell feltüntetni:

Az üzemben tartó neve

A szállításra engedélyezett nem mélyhűtött, cseppfolyósított gáz(ok) neve

A töltet megengedett legnagyobb tömege minden egyes szállításra engedélyezett, nem mélyhűtött, cseppfolyósított gázra ..... kg

Megengedett legnagyobb bruttó tömeg ..... kg

Üres (tára) tömeg ..... kg.

**Megjegyzés:** A szállított nem mélyhűtött, cseppfolyósított gázok azonosítására lásd az 5. részt.

**6.7.3.16.3** A nyílt tengeren történő kezelésre tervezett és jóváhagyott mobil tartány esetén az „OFFSHORE PORTABLE TANK” feliratot kell feltüntetni az azonosító táblán.

**6.7.4** **A mélyhűtött, cseppfolyósított gázokhoz használt mobil tartányok gyártására és vizsgálatára vonatkozó követelmények**

#### **6.7.4.1** *Meghatározások*

E szakasz alkalmazásában:

Az *alternatív kialakítási engedély* az e fejezetben meghatározottaktól eltérő műszaki előírások alapján tervezett, gyártott vagy eltérő vizsgálati módszer szerint vizsgált (alternatív kialakítású) mobil tartányra vagy MEG-konténerre az illetékes hatóság által kiadott engedély.

A *mobil tartány* olyan hőszigetelt, multimodális tartány, amelynek befogadóképessége 450 liternél nagyobb, és amelyet a mélyhűtött, cseppfolyósított gázok szállítására használnak. A mobil tartány fogalmába maga a tartány és a gázok szállításához szükséges üzemi és szerkezeti szerelvényei tartoznak. A mobil tartánynak a szerkezeti szerelvények eltávolítása nélkül tölthetőnek és üríthetőnek kell lennie. A tartány külső részén stabilizáló elemeknek kell lenni és alkalmasnak kell lennie arra, hogy megtöltött állapotban felemeljék. Úgy kell kialakítani, hogy elsősorban közúti járműre, vasúti kocsira, ill. tengerjáró vagy belvízi hajóba lehessen rakni, a gépi rakodás megkönnyítésére kerettel vagy egyéb szerkezetekkel kell ellátni. A közúti tartányjárművek, a vasúti tartálykocsik, a nem fémből készült tartányok és a nagyméretű csomagolóeszközök (IBC-k), a gázpalackok és a nagypalackok e meghatározás értelmében nem minősülnek mobil tartánynak;

A *tartány* olyan konstrukció, amely rendszerint a következőkből áll:

- a) vagy egy burkolatból és egy vagy több belső tartányból, ahol a tartány(ok) és a burkolat közötti tér légtelenítve van (vákuum szigetelés), és hőszigetelő rendszert is tartalmazhat;
- b) vagy egy burkolatból és egy belső tartányból köztes szilárd hőszigetelő réteggel (pl. szilárd habbal).

A tartány a mobil tartány azon része, amely a szállítandó, mélyhűtött, cseppfolyósított gáz megtartására szolgál (maga a tartány), beleértve a nyílásokat és azok zárószerkezeteit, de kizárva az üzemi szerelvényeket és a külső szerkezeti szerelvényeket.

A *burkolat* a külső szigetelő burkolat vagy borítás, ami a szigetelő rendszer részét képezheti.

Az *üzemi szerelvények* a töltő- és ürítő-, a szellőző-, a biztonsági-, a fűtő-, a hűtő-, a hőszigetelő és a hermetizáló berendezések, valamint a mérőeszközök.

A *szerkezeti szerelvények* a tartány külső részén található erősítő-, rögzítő-, védő- vagy stabilizáló elemek.

A *megengedett legnagyobb üzemi nyomás* a megtöltött tartány üzemi helyzetében, annak tetején megengedett, tényleges túlnyomás, beleértve a töltés és ürítés alatti legnagyobb tényleges nyomást is.

A *próbanyomás* a nyomáspróba alatt a tartány tetején fellépő legnagyobb túlnyomás.

A *tömörégi próba* az a gázzal végzett vizsgálat, amelynek során a tartányt az üzemi szerelvényeivel a megengedett legnagyobb üzemi nyomás legalább 90%-át elérő tényleges belső nyomásnak teszik ki.

A *megengedett legnagyobb bruttó tömeg* a mobil tartány saját tömege és a szállításra engedélyezett legnagyobb rakomány össztömege.

A *megtartási idő* az az időtartam, ami a kezdeti töltési körülmények létrejöttétől addig telik el, amíg a nyomás a hőfelvétel következtében a nyomáshatároló eszköz(ök) legkisebb nyitónyomását eléri.

A *referencia acél* a 370 N/mm<sup>2</sup> szakítószilárdságú és 27% szakadási nyúlású acél.

A *legkisebb tervezési hőmérséklet* a tartány tervezésénél és gyártásánál alkalmazott hőmérséklet, ami nem magasabb, mint a tartalom legalacsonyabb hőmérséklete (üzemi hőmérséklet) normális töltési, ürítési és szállítási feltételek esetén.

#### **6.7.4.2** *Általános tervezési és gyártási követelmények*

**6.7.4.2.1** A tartányokat az illetékes hatóság által elismert, a nyomástartó edényekre vonatkozó szabályzat előírásainak megfelelően kell tervezni és gyártani. A burkolatot és a tartányt alakításra alkalmas fémes anyagból kell készíteni. A burkolatot acélból kell készíteni. A burkolat és a tartány közötti csatlakozásokat és támasztékokat nem fémes anyagból is lehet készíteni, ha az anyag tulajdonságai a legkisebb tervezési hőmérsékleten bizonyítottan kielégítőek. Az anyagoknak általában a belföldi vagy nemzetközi anyagszabványoknak kell megfelelniük. Hegesztett burkolatokhoz és tartányokhoz csak olyan anyagok használhatók, amelyek hegeszthetősége teljes mértékben szavatolt. A hegesztéseket szakszerűen kell elkészíteni, és teljesen biztonságosnak kell lenniük. Ha a gyártási folyamat vagy az anyag szükséges teszt, a tartányt megfelelően hőkezeltetni kell, hogy a hegesztéseknél és a hőhatásnak kitett zónákban biztosítsák a kielégítő szívósságot. Az anyagok kiválasztásánál a ridegtörés veszélye, a hidrogénes elridegedés, a feszültség alatti korróziós repedezések és az ütésállóság szempontjából figyelembe kell venni a legkisebb tervezési hőmérsékletet. Finom szemcseszerkezetű acélok használata esetén a szavatolt folyáshatár nem lehet nagyobb, mint 460 N/mm<sup>2</sup>, és a szavatolt szakítószilárdság felső határa nem lehet nagyobb, mint 725 N/mm<sup>2</sup> az anyagspecifikáció szerint. A mobil tartány anyagainak alkalmasnak kell lenniük ahhoz a külső környezethez, amelyben a tartányt szállíthatják.

**6.7.4.2.2** A mobil tartány minden részének, beleértve a szerelvényeket, a tömítéseket és csővezetéseket, amely rendes körülmények között érintkezhet a szállított mélyhűtött, cseppfolyósított gázzal, összeférhetőnek kell lennie ezzel a gázzal.

**6.7.4.2.3** Kerülni kell a különböző fémek érintkezését, ami a galvanikus hatás folytán károsodást okozhat.

**6.7.4.2.4** A hőszigetelő rendszernek a tartány(oka)t teljesen beburkoló külső burkolatot és hatásvető szigetelő anyagot kell tartalmaznia. A külső szigetelést burkolattal kell védeni, hogy a nedvesség ne hatolhasson be, és a szigetelés ne sérülhessen meg normális szállítási feltételek esetén.

**6.7.4.2.5** Ha a burkolat gázzáró, külön szerkezettel meg kell akadályozni, hogy a szigetelő térben veszélyes nyomás lépjen fel.

**6.7.4.2.6** Az atmoszferikus nyomáson –182 °C alatti forráspontú, mélyhűtött, cseppfolyósított gázok szállítására szolgáló mobil tartányok esetén a hőszigetelés nem tartalmazhat olyan

anyagokat, amelyek az oxigénnel vagy oxigénben dús atmoszférában veszélyesen reagálnak, ha ezek az anyagok a hőszigetelés olyan részében találhatók, ahol fennáll az oxigénnel vagy az oxigénben feldúsult folyadékkal való érintkezés veszélye.

- 6.7.4.2.7** A szigetelőanyagok minősége a használat során nem csökkenhet túlzott mértékben.
- 6.7.4.2.8** A referencia megtartási időt minden egyes, a mobil tartányban szállítandó mélyhűtött, cseppfolyósított gázra meg kell határozni.

- 6.7.4.2.8.1** A megtartási időt az illetékes hatóság által elismert módszerrel a következő tényezők alapján kell meghatározni:

- a szigetelőrendszer 6.7.4.2.8.2 pont szerint meghatározott hatékonysága;
- a nyomáshatároló eszköz(ök) legkisebb nyitónyomása;
- a kezdeti töltési körülmények;
- 30 °C feltételezett környezeti hőmérséklet;
- a szállítandó mélyhűtött, cseppfolyósított gáz(ok) fizikai tulajdonságai.

- 6.7.4.2.8.2** A szigetelőrendszer hatékonyságát (hőátadás wattban) a mobil tartány típusvizsgálata során kell meghatározni, az illetékes hatóság által elfogadott eljárással. Ennek a vizsgálatnak a következők egyikeből kell állnia:

- állandó nyomáson (pl. atmoszferikus nyomáson) végzett próba, amely során a mélyhűtött, cseppfolyósított gáz veszteségét mérik meghatározott idő alatt; vagy
- zárt rendszerű próba, amelynek során a tartányban a nyomás növekedését mérik meghatározott idő alatt.

Az állandó nyomáson végzett próbánál az atmoszferikus nyomás változásait figyelembe kell venni. Mindkét próbánál korrekciót kell végezni a környezeti hőmérsékletnek a feltételezett 30 °C-os referencia környezeti hőmérséklettől való eltérése miatt.

**Megjegyzés:** Az egyes szállítások előtt a tényleges megtartási idő meghatározására lásd a 4.2.3.7 bekezdést.

- 6.7.4.2.9** A kettős falú, vákuumszigetelésű tartány burkolatát vagy a nyomástartó edényekre vonatkozó szabályzatot szerint legalább 100 kPa (1 bar) túlnyomásra mint külső tervezési nyomásra, vagy legalább 200 kPa (2 bar) (túlnyomás) számított kritikus repesztőnyomásra kell méretezni. A belső és külső erősítő szerkezetek figyelembe vehetők a tartány külső nyomással szembeni ellenállóképességének számításánál.

- 6.7.4.2.10** A mobil tartányt megfelelő emelő és rögzítő szerelvényekkel és olyan tartószerkezettel kell tervezni és kialakítani, amely a szállítás során biztos alátámasztást nyújt.

- 6.7.4.2.11** A mobil tartányt olyanra kell tervezni, hogy a szállított anyag vesztesége nélkül ellenálljon legalább a szállított anyag által kifejtett belső nyomásnak és a normális szállítási és kezelési feltételek mellett fellépő statikus, dinamikus és hőterhelésnek. A tervezés során bizonyítani kell, hogy az ezen terheléseknek a mobil tartány várható élettartama alatti ismétlődése folytán kialakuló kifáradást figyelembe vették.

- 6.7.4.2.12** A mobil tartányoknak és rögzítőelemeiknek a megengedett legnagyobb töltési tömeg mellett a következő, külön-külön fellépő, statikus erők elviselésére kell alkalmasnak lenniük:

- menetirányban: a megengedett legnagyobb bruttó tömeg kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>8)</sup>;
- vízszintesen a menetirányra merőlegesen: a megengedett legnagyobb bruttó tömeg (amennyiben a menetirány nincs egyértelműen meghatározva, a megengedett legnagyobb bruttó tömeg kétszerese) szorozva a nehézségi gyorsulással ( $g$ )<sup>8)</sup>;

8) A számítások céljára  $g = 9,81 \text{ m/s}^2$ .

- c) függőlegesen felfelé: a megengedett legnagyobb bruttó tömeg szorozva a nehézségi gyorsulással ( $g$ )<sup>8)</sup>; és
- d) függőlegesen lefelé: a megengedett legnagyobb bruttó tömeg (összes terhelés beleértve a gravitáció hatását) kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>8)</sup>.

**6.7.4.2.13** A 6.7.4.2.12 pontban felsorolt erőknél a következő biztonsági tényezőket kell figyelembe venni:

- a) határozott folyáshatárral rendelkező anyagoknál a szavatolt folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt; vagy
- b) határozott folyáshatárral nem rendelkező anyagoknál: a 0,2%-os (vagy ausztenites acélokra az 1%-os) szavatolt, egyezményes folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt.

**6.7.4.2.14** A tényleges, ill. az egyezményes folyáshatár értékére a belföldi vagy nemzetközi anyagszabványok által meghatározott értékeket kell használni. Ausztenites acélok használata esetén a tényleges, ill. az egyezményes folyáshatárra az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket a vizsgálati bizonyítvány hitelesíti. Ha a szóban forgó fémre nincs anyagszabvány, a használt tényleges, ill. egyezményes folyáshatár értéket az illetékes hatóságnak jóvá kell hagynia.

**6.7.4.2.15** A gyúlékony, mélyhűtött, cseppfolyósított gázok szállítására használt mobil tartányoknak elektromosan földelhetőnek kell lenniük.

### **6.7.4.3 Tervezési kritériumok**

**6.7.4.3.1** A tartányoknak körkeresztmetszetűnek kell lenniük.

**6.7.4.3.2** A tartányokat úgy kell tervezni és gyártani, hogy a megengedett legnagyobb üzemi nyomás legalább 1,3-szeresével végrehajtott nyomáspróbát kiállják. A vákuumszigetelésű tartányoknál a próbanyomás nem lehet kisebb, mint a megengedett legnagyobb üzemi nyomás és 100 kPa (1 bar) összegének 1,3-szerese. A próbanyomás semmilyen esetben sem lehet 300 kPa (3 bar) túlnyomásnál kisebb. Ezenkívül tekintettel kell lenni a 6.7.4.4.2–6.7.4.4.7 pontban meghatározott, legkisebb falvastagságra vonatkozó követelményekre is.

**6.7.4.3.3** A határozott folyáshatárral rendelkező, ill. szavatolt, egyezményes folyáshatárral (általában a 0,2%-os, ausztenites acélokban az 1%-os egyezményes folyáshatárral) jellemzett fémeknél a tartányban a próbanyomáson fellépő  $\sigma$  primer membránfeszültség nem haladhatja meg a  $0,75R_e$  vagy a  $0,50R_m$  értékek közül az alacsonyabbat, ahol

$R_e$  = a tényleges folyáshatár N/mm<sup>2</sup>-ben vagy a 0,2%-os vagy ausztenites acélokban az 1%-os egyezményes folyáshatár;

$R_m$  = a legkisebb szakítószilárdság N/mm<sup>2</sup>-ben.

**6.7.4.3.3.1** Az  $R_e$  és  $R_m$  értékére a belföldi vagy nemzetközi anyagszabványok által meghatározott legkisebb értékeket kell használni. Ausztenites acélok használata esetén az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket az anyagvizsgálati bizonyítvány hitelesíti. Ha a szóban forgó fémre nincs anyagszabvány, a használt  $R_e$  és  $R_m$  értéket az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek kell jóváhagynia.

**6.7.4.3.3.2** Hegesztett tartányok gyártásához használt acélokban az  $R_e/R_m$  arány nem megengedett. Az anyagvizsgálati bizonyítványban szereplő értékeket kell alapul venni az egyes esetekben az  $R_e/R_m$  arány meghatározásához.

**6.7.4.3.3.3** A tartány gyártásához  $R_e$  acélnál a szakadási nyúlás értéke %-ban nem lehet kisebb, mint 10 000/ $R_m$ , azonban finom szemcseszerkezetű acélok esetében 16%-nál, más acélok esetében 20%-nál semmi esetre sem lehet kisebb. Alumínium esetében a szakadási nyúlás %-ban nem



lehet kisebb mint  $10\,000/6R_m$ , de 12%-nál semmi esetre sem lehet kisebb.

- 6.7.4.3.3.4** Az anyagokra a tényleges értékek meghatározásánál figyelembe kell venni, hogy fémlemez esetén a szakítópróbához használt próbatest tengelye a hengerlési irányra merőleges legyen. A szakadási nyúlást négyzetű keresztmetszetű próbatesten kell mérni az ISO 6892:1998 szabvány szerint, 50 mm-es befogási hossz mellett.

**6.7.4.4** *Legkisebb falvastagság*

- 6.7.4.4.1** A legkisebb falvastagságnak a következők szerint adódó nagyobbik vastagságnak kell lennie:

- a) a 6.7.4.4.2 – 6.7.4.4.7 pont szerint meghatározott legkisebb vastagság;
- b) a nyomástartó edényekre vonatkozó, elismert szabályzat és a 6.7.4.3 bekezdés követelményei szerint meghatározott legkisebb vastagság.

- 6.7.4.4.2** Az 1,80 m-nél nem nagyobb átmérőjű tartányok falvastagságának legalább 5 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből azzal egyenértékű vastagságúnak. Ha az átmérő meghaladja az 1,80 m-t, a falvastagságnak legalább 6 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből azzal egyenértékű vastagságúnak.

- 6.7.4.4.3** Az 1,80 m-nél nem nagyobb átmérőjű, vákuumszigetelt tartányok falvastagságának legalább 3 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből azzal egyenértékű vastagságúnak. Ha az átmérő meghaladja az 1,80 m-t, a falvastagságnak legalább 4 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből azzal egyenértékű vastagságúnak.

- 6.7.4.4.4** Vákuumszigetelt tartányoknál a burkolat és a tartány együttes vastagságának kell megfelelnie a 6.7.4.4.2 pontban meghatározott legkisebb vastagságnak, azonban magának a tartánynak a falvastagsága nem lehet kisebb, mint a 6.7.4.4.3 pontban meghatározott legkisebb falvastagság.

- 6.7.4.4.5** A tartányok falvastagsága a szerkezeti anyagtól függetlenül nem lehet 3 mm-nél kisebb.

- 6.7.4.4.6** Valamely fém egyenértékű vastagságát, kivéve a 6.7.4.4.2 és a 6.7.4.4.3 pontban a referencia acélra előírt vastagságot, a következő képlettel kell kiszámítani:

$$e_I = \frac{21,4e_0}{\sqrt[3]{R_{mI}A_I}},$$

ahol

- $e_I$  = a felhasználandó fém esetén megkövetelt egyenértékű falvastagság (mm-ben);
- $e_0$  = a legkisebb falvastagság (mm-ben) a 6.7.4.4.2 és a 6.7.4.4.3 pontban meghatározott referencia acél esetében;
- $R_{mI}$  = a felhasználandó fém szavatolt legkisebb szakítószilárdsága (N/mm<sup>2</sup>-ben) (lásd a 6.7.4.3.3 pontot);
- $A_I$  = a felhasználandó fém belföldi vagy nemzetközi szabványok szerinti szavatolt legkisebb szakadási nyúlása (%-ban).

- 6.7.4.4.7** A falvastagság semmilyen esetben sem lehet kisebb a 6.7.4.4.1 – 6.7.4.4.5 pontban meghatározott értéknél. A tartány egyetlen részének sem lehet kisebb a falvastagsága, mint a 6.7.4.4.1 – 6.7.4.4.6 pontban meghatározott legkisebb vastagság. Ebbe a falvastagságba nem szabad beszámítani a korrózió miatti esetleges ráhagyásokat.

- 6.7.4.4.8** A lemezvastagságban nem lehet hirtelen változás ott, ahol a tartány hengeres része és a fenekek csatlakoznak.

**6.7.4.5 Üzemi szerelvények**

- 6.7.4.5.1** Az üzemi szerelvényeket úgy kell elhelyezni, hogy a szállítás és a kezelés során leszakadás vagy sérülés veszélye ellen biztosítva legyenek. Amennyiben a váz és a tartány közötti kapcsolat lehetővé teszi a szerkezeti részegységek egymáshoz képesti elmozdulását, a szerelvényeket úgy kell rögzíteni, hogy az ilyen elmozdulás a részegységek sérülésének veszélye nélkül lehetővé váljon. A külső üritő szerelvényeket (csőcsonkokat, zárószerkezeteket), a belső zárószelepet és annak ülékét védeni kell a külső erők hatására történő leszakadás veszélyével szemben (például nyíródnó keresztmetszet kialakításával). A töltő- és üritőszerkezeteket (beleértve a karimákat és a menetes dugókat is), valamint az esetleges védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.
- 6.7.4.5.2** A gyúlékony, mélyhűtött, cseppfolyósított gázok szállítására használt mobil tartányok minden töltő- és üritőnyílását legalább három, egymás mögött elhelyezett, egymástól független zárószerkezettel kell ellátni, amelyek közül az első egy, a burkolathoz a lehető legközelebb elhelyezett zárószelep, a második egy zárószelep és a harmadik egy vakkarima vagy más, egyenértékű szerkezet. A burkolathoz legközelebb levő zárószelepnél pillanatnyilag zárószerkezetnek kell lennie, amely automatikusan lezár a mobil tartány töltés vagy ürités alatti nem szándékos elmozdulása esetén, ill. ha tűzbe kerül. Ennek a szerkezetnek távvezérléssel is működtethetőnek kell lennie.
- 6.7.4.5.3** A nem gyúlékony, mélyhűtött, cseppfolyósított gázok szállítására szolgáló mobil tartányok minden töltő- és üritőnyílását legalább két, egymás mögött elhelyezett, egymástól független zárószerkezettel kell ellátni, amelyek közül az első egy, a külső burkolathoz a lehető legközelebb elhelyezett zárószelep, a második pedig egy vakkarima vagy más, egyenértékű szerkezet.
- 6.7.4.5.4** Azokat a csőszakaszokat, amelyek mindkét végükön zárhatóak és amelyekben folyékony termék maradhat vissza, a csőszakaszban a túlnyomás elkerülésére automatikus nyomáscsökkentő rendszerrel kell ellátni.
- 6.7.4.5.5** A vákuumszigetelésű tartányokat nem szükséges vizsgálónyílással ellátni.
- 6.7.4.5.6** A külső szerelvényeket – amennyire csak lehet – egy helyre csoportosítva kell elhelyezni.
- 6.7.4.5.7** A mobil tartány minden csatlakozásán jól láthatóan fel kell tüntetni a rendeltetését.
- 6.7.4.5.8** A zárószelepeket és zárószerkezeteket úgy kell tervezni és kialakítani, hogy a névleges nyomásuk legalább akkora legyen, mint a tartány megengedett legnagyobb üzemi nyomása, figyelembe véve a szállítás alatt várható hőmérsékleteket. A csavarorsós zárószelepeknek a kézikerek óramutató járásával megegyező irányba történő elforgatásával kell záródniuk. Másfajta zárószelepeknél a zárószelep (nyitott és zárt) állását és a zárás irányát jól láthatóan fel kell tüntetni. Minden zárószelepet úgy kell kialakítani, hogy akaratlanul ne lehessen kinyitni.
- 6.7.4.5.9** Ha nyomás fenntartó egységeket használnak, az egységhez vezető folyadék és gőz csatlakozásokat a burkolathoz a lehető legközelebb szeleppel kell ellátni, ami megakadályozza a tartalom elvesztését a nyomás fenntartó egység meghibásodása esetén.
- 6.7.4.5.10** A csővezetéseket úgy kell tervezni, gyártani és felszerelni, hogy ne jöjjön létre sérülésveszély a hőtágulás és összehúzódás, a mechanikai ütések és rezgések következtében. Minden csövet megfelelő fémes anyagból kell készíteni. A tűz hatására bekövetkező szivárgás elkerülésére a burkolat és minden kimeneti nyílás első zárószerkezetéhez való csatlakozás között csak acél csővezeték és hegesztett csökötés alkalmazható. A zárószerkezet ehhez a csatlakozáshoz való hozzáerősítését az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia. Ahol csak lehetséges, hegesztett csökötésekkel kell alkalmazni.
- 6.7.4.5.11** A rézcsövek csatlakozásait keményforrasztással kell készíteni vagy azzal azonos szilárdságú, fémes csökötetést kell alkalmazni. A forrasztófém (keményforrasztás) olvadáspontja nem lehet



525 °C-nál alacsonyabb. A kötések nem csökkenthetik a csővezeték szilárdságát, mint az csavarmentes kötéseknel előfordulhat.

**6.7.4.5.12** A szelepek és a tartozékok gyártásához csak olyan anyagok használhatók, amelyek a mobil tartány legkisebb üzemi hőmérsékletén is megfelelő anyagjellemzőkkel rendelkeznek.

**6.7.4.5.13** Egyetlen csővezeték és csőszerelvény repesztőnyomása sem lehet kisebb, mint a tartány megengedett legnagyobb üzemi nyomásának négyszerese és azon nyomás négyszerese közül a nagyobb, amelynek a használat során, szivattyú vagy egyéb szerkezet (kivéve a nyomáscsökkentő szerkezeteket) működése révén ki lehetnek téve.

**6.7.4.6** *Nyomáscsökkentő szerkezetek*

**6.7.4.6.1** A mobil tartányokat egy vagy több, rugóterhelésű nyomáscsökkentő szerkezettel kell ellátni. A nyomáscsökkentő szerkezetnek legalább a megengedett legnagyobb üzemi nyomással megegyező nyomáson automatikusan kell nyílnia, és a megengedett legnagyobb üzemi nyomás 110%-ának megfelelő nyomáson teljesen nyitva kell lennie. Lefúvás után a szerkezetnek a nyitónyomásánál legfeljebb 10%-kal alacsonyabb nyomáson záródnia kell, minden ennél alacsonyabb nyomáson zárva kell maradnia. A nyomáscsökkentő szerkezetnek olyan típusúnak kell lennie, ami ellenáll a dinamikus hatásoknak, beleértve a folyadék hullámzását is.

**6.7.4.6.2** A nem gyúlékony, mélyhűtött, cseppfolyósított gázokhoz és a hidrogénhez használt tartányok ezenkívül a rugóterhelésű szerkezetekkel párhuzamosan hasadótárcsákkal is elláthatók, mint azt a 6.7.4.7.2 és a 6.7.4.7.3 pont meghatározza.

**6.7.4.6.3** A nyomáscsökkentő szerkezeteket úgy kell kialakítani, hogy megakadályozzák az idegen anyagoknak a tartányba való bejutását, a gáz kiszivárgását és mindenféle veszélyes túlnyomás kialakulását.

**6.7.4.6.4** A nyomáscsökkentő szerkezetet az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia.

**6.7.4.7** *A nyomáscsökkentő szerkezetek teljesítménye*

**6.7.4.7.1** Vákuumszigetelésű tartányoknál a vákuum megszűnése vagy a szilárd anyaggal szigetelt tartánynál a szigetelés 20%-ának tönkremenetele esetén a nyomáscsökkentő szerkezetek összes lefúvási teljesítményének elegendőnek kell lennie ahhoz, hogy a nyomás (beleszámítva a nyomásnövekedést) a tartány belsejében ne haladja meg a megengedett legnagyobb üzemi nyomás 120%-át.

**6.7.4.7.2** A nem gyúlékony, mélyhűtött, cseppfolyósított gázok (az oxigén kivételével) és a hidrogén esetében ez a teljesítmény a szükséges nyomáscsökkentő szerkezetekkel párhuzamosan elhelyezett hasadótárcsák alkalmazásával is elérhető. A hasadótárcsáknak a tartány próbanyomásával megegyező névleges nyomáson át kell szakadniuk.

**6.7.4.7.3** A 6.7.4.7.1 és a 6.7.4.7.2 pontban leírt körülmények között, ha a tartányt a tűz teljesen elfedi, a nyomáscsökkentő szerkezetek összes teljesítményének elegendőnek kell lenni ahhoz, hogy a nyomást a tartányban a próbanyomásra korlátozza.

**6.7.4.7.4** A nyomáscsökkentő szerkezetek szükséges teljesítményét az illetékes hatóság által elismert, jól bevált műszaki szabályzat<sup>9)</sup> szerint kell kiszámítani.

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9) Lásd például a CGA S-1.2-2003 „Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 2. rész – Árutartányok és mobil tartányok sűrített gázokhoz) kiadványt.

**6.7.4.8** *A nyomáscsökkentő szerkezetek jelölése*

**6.7.4.8.1** Minden nyomáscsökkentő szerkezeten jól olvashatóan és tartósan fel kell tüntetni a következő adatokat:

- a) a nyitónyomást (bar-ban vagy kPa-ban);
- b) rugóterhelésű szerkezeteknél a nyitónyomás megengedett túrését;
- c) a hasadótárcsák névleges nyomása hoz tartozó referencia hőmérsékletet;
- d) a szerkezet névleges átfolyási teljesítményét normál légköbméter per sec ( $\text{m}^3/\text{s}$ ) egységben.

Amennyiben lehetséges, a következő információt ugyancsak fel kell tüntetni:

- e) a gyártó neve és az eszköz vonatkozó katalógus száma.

**6.7.4.8.2** A nyomáscsökkentő szerkezeteken feltüntetett névleges átfolyási teljesítményt az ISO 4126-1:1991 szabvány szerint kell meghatározni.

**6.7.4.9** *A nyomáscsökkentő szerkezetek csatlakoztatása*

**6.7.4.9.1** A nyomáscsökkentő szerkezetekhez történő csatlakozásnak akkorának kell lennie, hogy szabad átfolyást biztosítson a biztonsági szerkezethez. A tartány és a nyomáscsökkentő szerkezet közé nem szabad zárószelepet elhelyezni, kivéve a karbantartási vagy egyéb okból kialakított kettős nyomáscsökkentő szerkezeteknél, ha a ténylegesen működő nyomáscsökkentő szerkezet zárószelepe nyitott állapotban reteszelve van, vagy a zárószelepek úgy vannak összekapcsolva, hogy mindig kielégíti a 6.7.4.7 bekezdés követelményeit. A szellőző vagy nyomáscsökkentő szerkezethez vezető nyílásban nem lehet semmiféle akadály, ami korlátozná vagy elzárna az áramlást a tartányból a szerkezethez. A szellőző vagy nyomáscsökkentő szerkezet kimenetéhez csatlakozó csővezetéknek, ha ilyen használnak, a kiszabadult gőzt vagy folyadékot a szerkezetre gyakorolt minimális torlóhatással kell a szabadba vezetniük.

**6.7.4.10** *A nyomáscsökkentő szerkezetek elhelyezése*

**6.7.4.10.1** Minden nyomáscsökkentő szerkezet bemenetet a tartány tetején úgy kell elhelyezni, hogy a tartány középpontjához a lehető legközelebb legyen. Minden nyomáscsökkentő szerkezet bemenetnek a megengedett legnagyobb töltési feltételek mellett a tartány gőzterében kell lennie, és a szerkezetet úgy kell elhelyezni, hogy biztosítva legyen a kiszabadult gőz akadálytalan távozása. Mélyhűtött, cseppfolyósított gázok esetében a kiszabaduló gőzt a tartánytól el kell terelni oly módon, hogy az ne csapódhasson a tartánynak. A gőz áramlását elterelő védőszerkezetek engedélyezettek, ha nem csökkentik a nyomáscsökkentő szerkezet szükséges teljesítményét.

**6.7.4.10.2** Intézkedéseket kell tenni annak érdekében, hogy megakadályozzák illetéktelen személyeknek a nyomáscsökkentő szerkezethez való hozzáférését, és hogy megvédjék a szerkezetet attól, hogy a tartány felborulása esetén megsérüljön.

**6.7.4.11** *Mérőeszközök*

**6.7.4.11.1** A mobil tartányokat egy vagy több mérőeszkőzzel kell ellátni, kivéve ha tömegre töltik. A tartány tartalmával közvetlenül érintkező, üvegből készült szintjelzők és egyéb törékeny anyagú mérőeszközök nem használhatók.

**6.7.4.11.2** A vákuumszigetelésű mobil tartányok burkolatán a vákuummérő számára csatlakozást kell kialakítani.

**6.7.4.12** *A mobil tartány tartószerkezete, keretváza, emelő és rögzítő szerelvényei*

**6.7.4.12.1** A mobil tartányt tartószerkezettel kell tervezni és gyártani, ami biztos alátámasztást nyújt a szállítás során. Erre vonatkozóan a tervezésnél a 6.7.4.2.12 pontban meghatározott erőket és a 6.7.4.2.13 pontban meghatározott biztonsági tényezőt kell figyelembe venni. Talpak, keretvázak, csúszótalpak vagy egyéb hasonló szerkezetek elfogadhatók.

**6.7.4.12.2** A mobil tartányra szerelt eszközöktől (pl. talpaktól, keretvázától) és a mobil tartány emelő és rögzítő szerelvényeitől származó összetett feszültségek a tartány egyetlen részén sem okozhatnak túlzott feszültségeket. Minden mobil tartányt állandó emelő és rögzítő szerelvényekkel kell ellátni. Ezeket lehetőleg a mobil tartány tartószerkezetéhez kell erősíteni, de rögzíthetők a tartányon a megtámasztási pontokon elhelyezett erősítő-lemezekhez is.

**6.7.4.12.3** A tartószerkezet és a keretváz tervezésénél figyelembe kell venni a környezet korróziós hatását is.

**6.7.4.12.4** Az emelővilla zsebeket zárhatóra kell kialakítani. Az emelővilla zsebek zárószervezetének a keretváz állandó részét kell képeznie, vagy a keretvázhoz tartósan hozzá kell erősíteni. Az olyan, egyetlen tartánykamrából álló mobil tartányoknál, amelyek 3,65 m-nél rövidebbek, nem kell az emelővilla zsebeknek zárhatónak lenniük, amennyiben

- a) a tartány és a szerelvények kellőképpen védve vannak, nehogy az emelővillák megüssék; és
- b) az emelővilla zsebek középpontjai közötti távolság legalább a fele a mobil tartány legnagyobb hosszúságának.

**6.7.4.12.5** Ha a mobil tartány nincs a 4.2.3.3 bekezdés szerinti védelemmel ellátva, a tartányt és az üzemi szerelvényeit védeni kell a szállítás alatt a hosszirányú és oldalirányú lökésekből vagy felborulásból adódóan a tartányt vagy a szerelvényeit érő sérülésekkel szemben. A külső szerelvényeket úgy kell védeni, hogy az ütések hatására, ill. a mobil tartánynak a szerelvényekre való ráborulása esetén a tartányban szállított anyag ne szabaduljon ki. Példák a védelemre:

- a) az oldalirányú ütésekkel szembeni védelem, ami állhat a tartány mindkét oldalán a középvonal szintjében védő hosszirányú rudakból;
- b) a mobil tartány felborulás elleni védelme, ami állhat erősítő gyűrűkből vagy a kereten keresztben elhelyezett rudakból;
- c) a hátulról jövő ütésekkel szembeni védelem, ami lökhárítóból vagy keretből állhat;
- d) a tartány ütésekből vagy felborulásból eredő sérüléssel szembeni védelme az ISO 1496-3:1995 szabvány szerinti ISO keret használatával;
- e) a mobil tartány ütésekkel és felborulással szembeni védelme vákuumszigetelő burkolattal.

**6.7.4.13** *Típusjóváhagyás*

**6.7.4.13.1** Minden új mobil tartány típus esetén az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek gyártási típus bizonyítványt kell kiállítani. Ennek a bizonyítványnak tanúsítania kell, hogy a mobil tartányt ez a hatóság megvizsgálta, az a kívánt célra alkalmas, és megfelel e fejezet követelményeinek. Ha a mobil tartányokat sorozatban gyártják módosítás nélkül, ez a bizonyítvány a teljes sorozatra érvényes. A bizonyítványban utalni kell a gyártási típus vizsgálati jegyzőkönyvére, azokra a mélyhűtött, cseppfolyósított gázokra, amelyek szállíthatók, a tartány és a burkolat gyártási anyagára és a jóváhagyási számra. A jóváhagyási számnak annak az államnak megkülönböztető jeléből [A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre], amelyben az engedélyt kiadták, és egy nyilvántartási számból kell állnia. A 6.7.1.2 bekezdés szerinti esetleges alternatív kialakítást a bizonyítványban fel kell tüntetni. A

típusjövőhagyás az azonos anyagból és azonos falvastagsággal gyártott, kisebb mobil tartányok jövőhagyásának is tekinthető, amelyeket ugyanolyan gyártási technológiával és azonos tartószerkezetekkel, egyenértékű zárószervezetekkel és egyéb tartozékokkal gyártottak.

**6.7.4.13.2** A gyártási típus vizsgálati jegyzőkönyvének a típusjövőhagyáshoz legalább a következőket kell tartalmaznia:

- a) a keretvázra vonatkozó, ISO 1496-3:1995 szabványban meghatározott vizsgálatok eredményeit;
- b) a 6.7.4.14.3 pont szerinti üzembe helyezés előtti vizsgálat eredményeit; és
- c) a 6.7.4.14.1 pont szerinti ütközési próba eredményeit, ha alkalmazható.

#### **6.7.4.14** *Vizsgálat*

**6.7.4.14.1** Azokat a mobil tartányokat, amelyek „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) módosított kiadása meghatározása szerint konténereknek minősülnek, csak azután szabad használni, hogy a gyártási típus prototípusa sikeresen kiállta a „Vizsgálatok és kritériumok kézikönyv” IV. rész, 41 fejezetében előírt dinamikus, hosszirányú ütközési próbát.

**6.7.4.14.2** Az első üzembe helyezés előtt minden mobil tartányt és szerelvényeit vizsgálatnak kell alávetni (üzembe helyezés előtti vizsgálat) és azután legfeljebb ötéves időközönként (5 évenkénti időszakos vizsgálat), és az 5 éves időközök közepén közbenső vizsgálat (2,5 évenkénti közbenső időszakos vizsgálat). A 2,5 évenkénti vizsgálatot az előírt időponthoz képes 3 hónapon belül kell elvégezni. Ha a 6.7.4.14.7 pont szerint soron kívüli vizsgálatra van szükség, azt a legutóbbi időszakos vizsgálat időpontjától függetlenül el kell végezni.

**6.7.4.14.3** A mobil tartány üzembe helyezés előtti vizsgálatának ki kell terjednie a szerkezeti jellemzők ellenőrzésére, a mobil tartány és szerelvényeinek külső és belső vizsgálatra, különös tekintettel a szállítandó mélyhűtött, cseppfolyósított gázok szempontjából, és a 6.7.4.3.2 pont szerinti próbanyomással végzett nyomáspróbára. A nyomáspróba vízzel vagy az illetékes hatóság vagy az általa felhatalmazott szervezet hozzájárulásával más folyadékkal vagy gázzal is végezhető. Mielőtt a mobil tartányt üzembe helyezik, tömörségi próbát is kell végezni és az üzemi szerelvények megfelelő működését is ellenőrizni kell. Amennyiben a nyomáspróbát a tartányon és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani. A tartányon levő minden, teljes feszültség szintnek kitett hegesztési varratot az első alkalommal végzett vizsgálat során radiográfiás, ultrahangos vagy más, alkalmas, roncsolásmentes vizsgálati módszerrel kell ellenőrizni. Ez azonban nem vonatkozik a burkolatra.

**6.7.4.14.4** Az 5 és a 2,5 évenkénti közbenső időszakos vizsgálatnak ki kell terjednie legalább a mobil tartány és szerelvényeinek külső és belső vizsgálatra, különös tekintettel a szállítandó mélyhűtött, cseppfolyósított gázok szempontjából, és tömörségi próbára, továbbá az üzemi szerelvények és az esetleges vákuummérő megfelelő működését is ellenőrizni kell. Nem vákuumszigetelt tartányok esetében a burkolatot és a szigetelést csak annyira kell eltávolítani, amennyire az 5 és a 2,5 évenkénti közbenső időszakos vizsgálat során a tartány jellemzőinek biztonságos megítéléséhez feltétlenül szükséges.

**6.7.4.14.5** (törölve)

**6.7.4.14.6** A mobil tartányok a 6.7.4.14.2 pontban előírt utolsó 5 évenkénti vagy 2,5 évenkénti időszakos vizsgálat érvényességének lejáta után nem tölthetők meg és nem adhatók át szállításra. Az utolsó időszakos vizsgálat lejáta előtt megtöltött mobil tartányok az utolsó időszakos vizsgálat érvényességének letelte után legfeljebb három hónapig szállíthatók. Ezen kívül a mobil tartány az utolsó időszakos vizsgálat érvényességének letelte után is szállítható:

- a) kiürítés után, de tisztítás előtt az újratöltés előtt szükséges vizsgálat elvégzésének

céljából, és

- b) a veszélyes anyag ártalmatlanítására (megfelelő elhelyezésére) vagy visszaforgatására történő visszaszállítása céljából az időszakos vizsgálat érvényességének lejártá után legfeljebb hat hónapig, hacsak az illetékes hatóság másként nem rendelkezik. Ezt a mentességet a fuvarokmányba be kell jegyezni.

**6.7.4.14.7** Soron kívüli vizsgálatot szükséges végezni, ha a mobil tartány sérült, rozsdás, szivárog vagy bármely más körülmény a mobil tartány sértetlenségét befolyásolhatja. A soron kívüli vizsgálat mértékét az határozza meg, hogy a mobil tartány mennyire sérült vagy hibás. A soron kívüli vizsgálatnak azonban legalább a 6.7.4.14.4 pont szerinti 2,5 évenkénti vizsgálatokra kell kiterjednie.

**6.7.4.14.8** A belső vizsgálatnak az üzembe helyezés előtti vizsgálat során biztosítani kell, hogy ellenőrizzék a tartányt, hogy nincs rajta rozsdá, kipattogzás, kopás, horpadás, torzulás, hegesztési hiba vagy bármi más (pl. szivárgás), ami miatt a mobil tartány szállítása nem lenne biztonságos.

**6.7.4.14.9** A mobil tartány külső vizsgálata során biztosítani kell, hogy

- a) ellenőrizzék a csővezeték, a szelepeket, a hermetizáló/hűtő rendszert és a tömítéseket, hogy nincs rajtuk rozsdá, sérülés vagy bármi más (pl. szivárgás), ami miatt a mobil tartány töltése, ürítése vagy szállítása nem lenne biztonságos;
- b) bűvőnyílás fedeleknél, ill. a tömítéseknél ne legyen szivárgás;
- c) a csőkarima csatlakozásoknál és vakkarimáknál a hiányzó vagy laza csavarokat és csavaranyákat pótolják, ill. meghúzzák;
- d) minden vészlelő szerkezet és szelep mentes legyen a korróziótól és minden olyan sérüléstől vagy meghibásodástól, ami megakadályozhatja normális működését. A távműködtetésű zárószervezeteket és az önzáró szelepeket ki kell próbálni, hogy megfelelően működnek-e;
- e) az előírt jelölések a mobil tartányon olvashatóak, és a vonatkozó követelményeknek megfelelnek; és
- f) a mobil tartány váz- és tartószerkezete, ill. az emelésre szolgáló berendezései megfelelő állapotban legyenek.

**6.7.4.14.10** A 6.7.4.14.1, 6.7.4.14.3, 6.7.4.14.4, 6.7.4.14.5 és 6.7.4.14.7 pont szerinti vizsgálatokat az illetékes hatóság vagy az általa felhatalmazott szervezet által elismert szakértőnek kell elvégeznie vagy tanúsítania. Ha a nyomáspróba a vizsgálat részét képezi, a vizsgálatot a mobil tartány adattábláján feltüntetett nyomással kell végezni. A nyomás alatt lévő mobil tartányon a tartány, a csővezeték és a szerelvények szivárgásmentességét is vizsgálni kell.

**6.7.4.14.11** Minden esetben, amikor a mobil tartányt vágással, melegítéssel vagy hegesztéssel javítják, ezt a munkát az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia, figyelembe véve azt a nyomástartó edényekre vonatkozó szabályzatot, amely alapján a tartányt gyártották. A munka befejezése után az eredeti próbanyomással nyomáspróbát kell végezni.

**6.7.4.14.12** Amennyiben a biztonságot veszélyeztető körülményeket tapasztalnak, a mobil tartány addig nem használható újra, amíg meg nem javították és az ismételt vizsgálatot ki nem állta.

**6.7.4.15** *Jelölés*

**6.7.4.15.1** Ellenőrzés céljából könnyen elérhető, szembetűnő helyre minden mobil tartányra nem korrodálódó fémtáblát kell tartósan rögzíteni. Ha a mobil tartány kialakítása folytán a tábla nem erősíthető tartósan a tartányhoz, legalább a nyomástartó edényekre vonatkozó szabályzatban előírt információkat kell a tartányon feltüntetni. A fémtáblán legalább a következőkben felsorolt adatokat kell feltüntetni beütéssel vagy más hasonló módon:

Gyártási ország:

|   |           |             |  |
|---|-----------|-------------|--|
| U | Jóváhagyó | Jóváhagyási | Alternatív kialakítás esetén (lásd a 6.7.1.2 pontot) |
| N | ország    | szám        | „AA”   |

A gyártó neve vagy jele

A gyártó sorozatszáma

A típusjóváhagyásra felhatalmazott szervezet

A tulajdonos nyilvántartási száma

A gyártási év

A nyomástartó edényekre vonatkozó szabályzat, amely szerint a tartányt méretezték

A próbanyomás ..... bar/kPa (túlnyomás)<sup>10)</sup>

A megengedett legnagyobb üzemi nyomás ..... bar/ kPa (túlnyomás)<sup>10)</sup>

A legkisebb tervezési hőmérséklet ..... °C

A víztérfogat 20 °C-on ..... liter

Az üzembe helyezés előtti nyomáspróba időpontja és tanúsító azonosítója

A tartány anyaga(i) és anyagszabvány hivatkozás(ok)

Az egyenértékű vastagság referencia acélra ..... mm

A legutóbbi időszakos vizsgálat időpontja és típusa

Hónap ..... év ..... Próbanyomás ..... bar/kPa (túlnyomás)<sup>10)</sup>

A legutóbbi vizsgálatot végző vagy tanúsító szakértő bélyegzőlenyomata

Azon gáz(ok) teljes neve, amelyek szállítására a mobil tartányt engedélyezték

„Hőszigetelt” vagy „vákuumszigetelt” felirat

A szigetelőrendszer hatékonysága (hőátadás) watt (W)

Referencia megtartási idő ..... nap (vagy óra) és kezdeti nyomás ..... bar/kPa<sup>10)</sup> és a töltési fok ... kg-ban a szállításra engedélyezett minden egyes mélyhűtött, cseppfolyósított gázra.

**6.7.4.15.2** A következő adatokat magán a mobil tartányon vagy a mobil tartányhoz biztosan rögzített fémtáblán kell feltüntetni:

A tulajdonos és az üzemben tartó neve

A szállításra engedélyezett mélyhűtött, cseppfolyósított gáz(ok) neve (és a legkisebb átlagos hőmérséklete)

A megengedett legnagyobb bruttó tömeg ..... kg

Az üres (tára) tömeg ..... kg

A tényleges megtartási idő a szállított gázra ..... nap (vagy óra)<sup>10)</sup>

**Megjegyzés:** A szállított mélyhűtött, cseppfolyósított gáz(ok) azonosítására lásd az 5. részt is.

**6.7.4.15.3** A nyílt tengeren történő kezelésre tervezett és jóváhagyott mobil tartány esetén az „OFFSHORE PORTABLE TANK” feliratot kell feltüntetni az azonosító táblán.

**6.7.5** A nem mélyhűtött gázokhoz használt, UN többeleemes gázkonténerek (UN MEG-konténerek) tervezésére, gyártására és vizsgálatára vonatkozó előírások

**6.7.5.1** *Meghatározások*

E szakasz alkalmazásában:

Az alternatív kialakítási engedély az e fejezetben meghatározottaktól eltérő műszaki

10) A mértékegységet fel kell tüntetni.



előírások alapján tervezett, gyártott vagy eltérő vizsgálati módszer szerint vizsgált (alternatív kialakítású) mobil tartányra vagy MEG-konténerre az illetékes hatóság által kiadott engedély.

A (MEG-konténer) *elemei* palackok, nagypalackok, ill. palackkötegek.

A *tömörségi próba* az a gázzal végzett vizsgálat, amelynek során a MEG-konténer elemeit és üzemi szerelvényeit a próbanyomás legalább 20%-át elérő tényleges belső nyomásnak teszik ki.

A *gyűjtőcső* az elemek töltő- és/vagy ürítő nyílásait összekötő csővezeték és szelepei.

A *megengedett legnagyobb bruttó tömeg* a MEG-konténer saját tömegének és a szállításra engedélyezett legnagyobb rakomány tömegének összege.

Az *UN többemeles gázkonténer (MEG-konténer)* vázra szerelt és egymással gyűjtőcsővel összekötött palackokból, nagypalackokból, ill. palackkötegekből álló multimodális szállítóeszköz. A MEG-konténer fogalmába a gázok szállításához szükséges üzemi és szerkezeti szerelvények is beletartoznak.

Az *üzemi szerelvények* a töltő- és ürítő-, a szellőző- és a biztonsági berendezések, valamint a mérőeszközök.

A *szerkezeti szerelvények* a tartány külső részén található erősítő-, rögzítő- védő- és stabilizáló elemek.

#### **6.7.5.2** *Általános tervezési és gyártási követelmények*

**6.7.5.2.1** A MEG-konténernek a szerkezeti szerelvények eltávolítása nélkül tölthetőnek és üríthetőnek kell lennie. A MEG-konténer elemei külső részén stabilizáló elemeknek kell lenniük a kezelés és szállítás során a szerkezeti sértetlenség biztosításához. A MEG-konténert olyan tartószerkezettel kell tervezni és kialakítani, amely a szállítás során biztos alátámasztást nyújt, és megfelelő emelő és rögzítő szerelvényekkel kell ellátni, amelyek lehetővé teszik a MEG-konténer felemelését akkor is, ha a megengedett legnagyobb bruttó tömegig meg van töltve. A MEG-konténert úgy kell kialakítani, hogy közúti járműre, vasúti kocsira, ill. tengerjáró vagy belvízi hajóba be lehessen rakni, a gépi rakodás megkönnyítésére kerettel vagy egyéb szerkezetekkel kell ellátni.

**6.7.5.2.2** A MEG-konténert úgy kell megtervezni, gyártani és szerelvényekkel ellátni, hogy a normális szállítási és kezelési feltételek mellett előforduló minden körülményt elviseljen. A tervezés során a dinamikus terhelés és a kifáradás hatását figyelembe kell venni.

**6.7.5.2.3** A MEG-konténer elemeit acélból kell gyártani, varrat nélküli kivitelben, és gyártásuk, ill. vizsgálatuk során be kell tartani a 6.2.1 és a 6.2.2 szakasz előírásait. Egy MEG-konténer minden elemének ugyanahhoz a gyártási típushoz kell tartoznia.

**6.7.5.2.4** A MEG-konténer elemeit, a szerelvényeit és a csővezetéseket olyan anyagból kell gyártani, amely:

- a) összeférhető a szállítandó anyagokkal (lásd az ISO 11114-1:1997 és az ISO 11114-2:2000 szabványt); vagy
- b) kémiai reakció révén megfelelően passziválódik vagy semlegesítődik.

**6.7.5.2.5** Kerülni kell a különböző fémek érintkezését, ami a galvanikus hatás folytán károsodást okozhat.

**6.7.5.2.6** A MEG-konténer, a szerelvények, a tömítések és a tartozékok anyaga nem gyakorolhat kedvezőtlen hatást a MEG-konténerben szállítandó gáz(ok)ra.

**6.7.5.2.7** A MEG-konténert olyanra kell tervezni, hogy a szállított anyag vesztesége nélkül ellenálljon legalább a szállított anyag által kifejtett belső nyomásnak és a normális szállítási és kezelési feltételek mellett fellépő statikus, dinamikus és hőterhelésnek. A tervezés során bizonyítani kell, hogy az ezen terheléseknek a MEG-konténer várható élettartama alatti ismétlődése

folytán kialakuló kifáradást figyelembe vették.

**6.7.5.2.8** A MEG-konténereknek és rögzítőelemeiknek a megengedett legnagyobb töltési tömeg mellett a következő, külön-külön fellépő, statikus erők elviselésére kell alkalmasnak lenniük:

- a) menetirányban: a megengedett legnagyobb bruttó tömeg kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>11)</sup>;
- b) vízszintesen a menetirányra merőlegesen: a megengedett legnagyobb bruttó tömeg (amennyiben a menetirány nincs egyértelműen meghatározva, a megengedett legnagyobb bruttó tömeg kétszerese) szorozva a nehézségi gyorsulással ( $g$ )<sup>11)</sup>;
- c) függőlegesen felfelé: a megengedett legnagyobb bruttó tömeg szorozva a nehézségi gyorsulással ( $g$ )<sup>11)</sup>; és
- d) függőlegesen lefelé: a megengedett legnagyobb bruttó tömeg (összes terhelés beleértve a gravitáció hatását) kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>11)</sup>.

**6.7.5.2.9** A 6.7.5.2.8 pontban meghatározott erők hatására a feszültség az elemek leginkább igénybe vett részén nem lehet nagyobb, mint a 6.2.2.1 bekezdésben hivatkozott, vonatkozó szabványokban meghatározott érték, ill. a nem ezen szabványok szerint tervezett, gyártott és vizsgált elemek esetében a felhasználó ország illetékes hatósága által elismert műszaki előírásban vagy szabványban meghatározott érték (lásd a 6.2.5 szakaszt).

**6.7.5.2.10** A 6.7.5.2.8 pontban felsorolt erőknél a keretvázra és a rögzítésekre a következő biztonsági tényezőket kell figyelembe venni:

- a) határozott folyáshatárral rendelkező acéloknál a szavatolt folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt; vagy
- b) határozott folyáshatárral nem rendelkező acéloknál a 0,2%-os (vagy ausztenites acélnál az 1%-os) szavatolt, egyezményes folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt.

**6.7.5.2.11** A gyúlékony gázok szállítására használt MEG-konténereknek elektromosan földelhetőnek kell lenniük.

**6.7.5.2.12** Az elemeket úgy kell rögzíteni, hogy a vázszerkezethez képest nemkívánt módon ne mozdulhassanak el, és ne alakuljon ki veszélyes helyi feszültségkoncentráció.

### **6.7.5.3** *Üzemi szerelvények*

**6.7.5.3.1** Az üzemi szerelvényeket úgy kell kialakítani vagy elrendezni, hogy normális szállítási és kezelési körülmények között ne sérülhessenek úgy meg, hogy a nyomástartó tartály tartalma a szabadba jusson. Amennyiben a váz és az elemek közötti kapcsolat lehetővé teszi a szerkezeti részek egységei egymáshoz képesti elmozdulását, a szerelvényeket úgy kell rögzíteni, hogy az ilyen elmozdulás a működő részek sérülésének veszélye nélkül lehetővé váljon. Az összekötő csővezetéseket, az ürítő szerelvényeket (csőcsonkokat, zárószerkezeteket) és a zárószelepet védeni kell a külső erők hatására történő leszakadás ellen. A gyűjtőcső rendszer zárószelepekhez vezető részeinek kellően rugalmasnak kell lenniük, hogy megvédjék a szelepeket és a vezetéket az elnyíródástól, ill. attól, hogy a nyomástartó tartályban levő anyagot kiengedjék. A töltő- és ürítőszerkezeteket (beleértve a karimákat és a menetes dugókat is), valamint az esetleges védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.

**6.7.5.3.2** A mérgező gázok (T, TF, TC, TO, TFC és TOC csoport gázai) szállítására szolgáló elemeket szeleppel kell ellátni. A cseppfolyósított, mérgező gázok (2T, 2TF, 2TC, 2TO, 2TFC és 2TOC osztályozási kód alá tartozó gázok) esetén a gyűjtőcsövet úgy kell kialakítani, hogy az elemek külön-külön tölthetők és rögzíthető szelepekkel elválaszthatók legyenek. A gyúlékony gázok (F csoport gázai) szállításához az elemeket egymástól szeleppel

11) A számítások céljára  $g = 9,81 \text{ m/s}^2$ .



elválasztott, legfeljebb 3000 liter befogadóképességű csoportokra kell osztani.

**6.7.5.3.3** A MEG-konténer töltő és ürítőnyílásaihoz két, egymás mögött elhelyezett szelepet kell minden töltő- és ürítőcsövön hozzáférhető helyre elhelyezni. Az egyik szelep lehet visszacsapó szelep is. A töltő- és ürítőszerkezetek gyűjtőcsövön is elhelyezhetők. Azokon a csőszakaszokon, amelyek mindkét végükön zárhatók és bennük folyékony termék maradhat vissza, a túlzott nyomás kialakulásának megakadályozására nyomáscsökkentő szelepet kell elhelyezni. A MEG-konténer fő leválasztó szelepein jól láthatóan fel kell tüntetni a zárás irányát. A zárószelepeket és egyéb zárószerkezetet úgy kell tervezni és kialakítani, hogy a MEG-konténer próbanyomásának legalább 1,5-szeresét elérő nyomásnak ellenálljanak. A csavarorsós zárószelepeknek a kézikerek óramutató járásával megegyező irányba történő elforgatásával kell záródniuk. Másfajta zárószelepeknél a zárószelep (nyitott és zárt) állását és a zárás irányát jól láthatóan fel kell tüntetni. Minden zárószelepet úgy kell kialakítani, hogy akaratlanul ne lehessen kinyitni. A szelepek és a tartozékok gyártásához kovácsolható fémeket kell használni.

**6.7.5.3.4** A csővezetéseket úgy kell tervezni, gyártani és felszerelni, hogy ne jöjjön létre sérülésveszély a hőtágulás és összehúzódás, a mechanikai ütések és rezgések következtében. A csővezetékek csatlakozásait keményforrasztással kell készíteni vagy azzal azonos szilárdságú, fémes csökötetést kell alkalmazni. A forrasztófém (keményforrasztás) olvadáspontja nem lehet 525 °C-nál alacsonyabb. A gyűjtőcső és az üzemi szerelvények névleges nyomása nem lehet az elemek próbanyomásának kétharmadánál kisebb.

#### **6.7.5.4** *Nomáscsökkentő szerkezetek*

**6.7.5.4.1** Az UN 1013 szén-dioxid és az UN 1070 dinitrogén-oxid szállítására használt MEG-konténer elemeit egymástól szeleppel elválasztott, legfeljebb 3000 liter befogadóképességű csoportokra kell osztani. Az egyes csoportokat legalább egy nyomáscsökkentő szerkezettel kell ellátni. Az egyéb gázok szállításához használt MEG-konténereket azon ország illetékes hatósága által meghatározott módon kell nyomáscsökkentő szerkezettel ellátni, amelyben használják.

**6.7.5.4.2** Ha nyomáscsökkentő szerkezetek vannak elhelyezve, a MEG-konténer minden elválasztható elemét vagy elem-csoportját egy vagy több nyomáscsökkentő szerkezettel kell ellátni. A nyomáscsökkentő szerkezetnek olyan típusúnak kell lennie, ami ellenáll a dinamikus hatásoknak, beleértve a folyadék hullámzását is, és úgy kell kialakítani, hogy megakadályozza az idegen anyagoknak a tartányba való bejutását, a gáz kiszivárgását és mindenféle veszélyes túlnyomás kialakulását.

**6.7.5.4.3** A 4.2.5.2.6 pontban a T50 mobil tartány utasításban meghatározott, egyes, nem mélyhűtött, cseppfolyósított gázok szállítására szolgáló MEG-konténereket olyan nyomáscsökkentő szerkezettel lehet ellátni, amelyet annak az országnak az illetékes hatósága ír elő, amelyben használják. A nyomáscsökkentő szerkezetnek egy rugóterhelésű nyomáscsökkentő szelepből és egy elhelyezett hasadótárcsából kell állnia, kivéve, ha – különleges rendeltetésű MEG-konténer esetén – a szállítandó gázzal összeférhető anyagból készült, jóváhagyott típusú nyomáscsökkentő szerkezet van rajta. A hasadótárcsa és a rugóterhelésű szerkezet közti térbe nyomásmérőt vagy más, alkalmas jelzőeszközt kell csatlakoztatni, ami lehetővé teszi, hogy észleljék a hasadótárcsa repedését, kilyukadását vagy szivárgását, ami a nyomáscsökkentő rendszer hibás működését okozhatja. A hasadótárcsának ebben az esetben a rugóterhelésű szerkezet nyitónyomását 10%-kal meghaladó névleges nyomásnál kell felszakadnia.

**6.7.5.4.4** A kis nyomáson cseppfolyósított gázok szállítására szolgáló, többcélú MEG-konténer esetében a nyomáscsökkentő szerkezeteknek a MEG-konténerben szállítható gázok közül a legnagyobb megengedett legnagyobb üzemi nyomással rendelkező gázra a 6.7.3.7.1 pontban meghatározott nyomáson ki kell nyílniuk.

**6.7.5.5** *A nyomáscsökkentő szerkezetek teljesítménye***6.7.5.5.1**

A nyomáscsökkentő szerkezetek – ha vannak – összes lefúvási teljesítményének elégnek kell lennie ahhoz, hogy abban az esetben, ha a MEG-konténert teljesen elfedi a tűz, az elemekben a nyomás (beszámítva a nyomás növekedését) ne múlja felül a nyomáscsökkentő szerkezetek nyitónyomásának 120%-át. A nyomáscsökkentő szerkezetekből álló rendszer legkisebb összegzett átfolyási kapacitásának meghatározására a CGA S-1.2-2003 „Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 2. rész – Árutartányok és mobil tartányok sűrített gázokhoz) kiadványban található képletet kell használni. Az egyes elemek lefúvási teljesítményének meghatározására a CGA S-1.1-2003 „Pressure Relief Device Standards – Part 1 – Cylinders for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 1. rész – Sűrített gáz palackok) kiadvány használható. Kis nyomáson cseppfolyósított gázok esetén az előírt összes lefúvási teljesítmény eléréséhez rugóterhelésű nyomáscsökkentő szerkezetek alkalmazhatók. Többcélú MEG-konténer esetén a nyomáscsökkentő szerkezetek összes lefúvási teljesítményét arra a gázra kell méretezni, amely a MEG-konténerben szállítható gázok közül a legnagyobb lefúvási teljesítményt igényli.

**6.7.5.5.2**

A cseppfolyósított gázok szállítására szolgáló elemekre felszerelt nyomáscsökkentő szerkezetek szükséges összes lefúvási teljesítményének számításánál figyelembe kell venni a gáz termodinamikai tulajdonságait (lásd például kis nyomáson cseppfolyósított gázokra a CGA S-1.2-2003 „Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 2. rész – Árutartányok és mobil tartányok sűrített gázokhoz), ill. nagy nyomáson cseppfolyósított gázokra a CGA S-1.1-2003 „Pressure Relief Device Standards – Part 1 – Cylinders for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 1. rész – Sűrített gáz palackok) kiadványt).

**6.7.5.6** *A nyomáscsökkentő szerkezetek jelölése***6.7.5.6.1**

A nyomáscsökkentő szerkezeteken jól olvashatóan és tartósan fel kell tüntetni a következő adatokat:

- a) a gyártó nevét és a szerkezet vonatkozó katalógus számát;
- b) a nyitónyomást és/vagy hőmérsékletet;
- c) a legutóbbi vizsgálat időpontját.

**6.7.5.6.2**

A kis nyomáson cseppfolyósított gázokhoz használt rugóterhelésű nyomáscsökkentő szerkezeteken feltüntetett névleges átfolyási teljesítményt az ISO 4126-1:1991 szabvány szerint kell meghatározni.

**6.7.5.7** *A nyomáscsökkentő szerkezetek csatlakoztatása***6.7.5.7.1**

A nyomáscsökkentő szerkezetekhez történő csatlakozásnak akkorának kell lennie, hogy szabad átfolyást biztosítson a nyomáscsökkentő szerkezethez. Az elem és a nyomáscsökkentő szerkezet közé nem szabad zárószelepet elhelyezni, kivéve a karbantartási vagy egyéb okból kialakított kettős nyomáscsökkentő szerkezeteknél, ha a ténylegesen működő nyomáscsökkentő szerkezet zárószelepe nyitott állapotban reteszelve van, vagy a zárószelepek úgy vannak összekapcsolva, hogy a kettős nyomáscsökkentő szerkezetek közül legalább az egyik mindig működőképes, és kielégíti a 6.7.5.5 bekezdés követelményeit. A szellőző vagy nyomáscsökkentő szerkezethez vezető nyílásban nem lehet semmiféle akadály, ami korlátozná vagy elzárná az áramlást az elemből a szerkezethez. Minden csővezeték és szerelvény átfolyási keresztmetszetének legalább akkorának kell lennie, mint annak a nyomáscsökkentő szerkezetnek a bemeneti nyílása, amelyhez csatlakoztatva van. A lefúvócső névleges méretének legalább akkorának kell lennie, mint a nyomáscsökkentő szerkezet kimeneti nyílása. A nyomáscsökkentő szerkezetek kimenetéhez csatlakozó lefúvócsőnek, ha ilyet használnak, a kiszabadult gőzt vagy folyadékot a szerkezetre gyakorolt minimális torlóhatással kell a szabadba vezetnie.

**6.7.5.8 A nyomáscsökkentő szerkezetek elhelyezése**

**6.7.5.8.1** Minden nyomáscsökkentő szerkezetnek a megengedett legnagyobb töltési feltételek mellett a cseppfolyósított gázok szállítására szolgáló elem gőzteréhez kell csatlakoznia. A nyomáscsökkentő szerkezetet – ha ilyen van – úgy kell elhelyezni, hogy biztosítva legyen a kiszabadult gőz felfelé történő akadálytalan távozása, és elkerüljék hogy a kiszabaduló gáz vagy folyadék a MEG-konténernek, a konténer elemeinek vagy a kezelőszemélyzetnek ütközzön. A gyúlékony, a piroforos és a gyújtó hatású gázok esetében a kiszabaduló gázt az elemtől el kell terelni oly módon, hogy az ne csapódhasson a többi elemnek. A gőz áramlását elterelő, hőálló védőszerkezetek engedélyezettek, ha nem csökkentik a nyomáscsökkentő szerkezet szükséges teljesítményét.

**6.7.5.8.2** Intézkedéseket kell tenni annak érdekében, hogy megakadályozzák illetéktelen személyeknek a nyomáscsökkentő szerkezethez való hozzáférését, és hogy megvédjék a szerkezetet attól, hogy a MEG-konténer felborulása esetén megsérüljön.

**6.7.5.9 Mérőeszközök**

**6.7.5.9.1** Ha a MEG-konténert tömegre töltik, akkor egy vagy több szintmérő eszközzel kell ellátni. Üvegből vagy egyéb törékeny anyagból készült szintjelzők nem használhatók.

**6.7.5.10 A MEG-konténer tartószerkezete, keretváza, emelő és rögzítő szerelvényei**

**6.7.5.10.1** A MEG-konténert tartószerkezettel kell tervezni és gyártani, ami biztos alátámasztást nyújt a szállítás során. Erre vonatkozóan a tervezésnél a 6.7.5.2.8 pontban meghatározott erőket és a 6.7.5.2.10 pontban meghatározott biztonsági tényezőt kell figyelembe venni. Talpak, keretvázak, csúszótalpak vagy egyéb hasonló szerkezetek elfogadhatók.

**6.7.5.10.2** A MEG-konténerre szerelt eszközöktől (pl. talpaktól, keretvázától) és a MEG-konténer emelő és rögzítő szerelvényeitől származó összetett feszültségek egyetlen elemben sem eredményezhetnek túlzott feszültségeket. Minden MEG-konténert állandó emelő és rögzítő szerelvényekkel kell ellátni. Az emelő vagy rögzítő szerelvényeket nem szabad az elemekre hegeszteni.

**6.7.5.10.3** A tartószerkezet és a keretváz tervezésénél figyelembe kell venni a környezet korróziós hatását is.

**6.7.5.10.4** Ha a MEG-konténer nincs a 4.2.5.3 bekezdés szerinti védelemmel ellátva, az elemeket és az üzemi szerelvényeket védeni kell a szállítás alatt a hosszirányú és oldalirányú lökésekből vagy felborulásból adódó sérülésekkel szemben. A külső szerelvényeket úgy kell védeni, hogy az ütések hatására, ill. a MEG-konténernek a szerelvényekre való ráborulása esetén az elemek tartalma ne szabaduljon ki. Különös figyelmet kell fordítani az összekötő csövezetek védelmére. Példák a védelemre:

- a) az oldalirányú ütésekkel szembeni védelem, ami állhat hosszirányú rudakból;
- b) felborulás elleni védelem, ami állhat erősítő gyűrűkből vagy a kereten keresztben elhelyezett rudakból;
- c) a hátulról jövő ütésekkel szembeni védelem, ami lökhárítóból vagy keretből állhat;
- d) az elemek és az üzemi szerelvények ütésekből vagy felborulásból eredő sérüléssel szembeni védelme az ISO 1496-3:1995 szabvány szerinti ISO keret használatával.

**6.7.5.11 Típusjóváhagyás**

**6.7.5.11.1** Minden új MEG-konténer típus esetén az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek gyártási típus bizonyítványt kell kiállítani. Ennek a bizonyítványnak tanúsítania kell, hogy a MEG-konténert ez a hatóság megvizsgálta, az a kívánt célra alkalmas, és

megfelel e fejezet követelményeinek, valamint a 4.1 fejezetben és a P200 csomagolási utasításban az egyes gázokra vonatkozó követelményeknek. Ha a MEG-konténereket sorozatban gyártják módosítás nélkül, ez a bizonyítvány a teljes sorozatra érvényes. A bizonyítványban utalni kell a gyártási típus vizsgálati jegyzőkönyvére, a gyűjtőcső gyártási anyagaira, azon szabványokra, amely szerint az elemeket gyártották és a jóváhagyási számra. A jóváhagyási számnak annak az államnak a megkülönböztető jeléből [A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre], amelyben az engedélyt kiadták, és egy nyilvántartási számból kell állnia. A 6.7.1.2 bekezdés szerinti esetleges alternatív kialakítást a bizonyítványban fel kell tüntetni. A típusjóváhagyás az azonos anyagból és azonos falvastagsággal gyártott, kisebb MEG-konténerek jóváhagyásának is tekinthető, amelyeket ugyanolyan gyártási technológiával és azonos tartószerkezetekkel, egyenértékű zárószervezetekkel és egyéb tartozékokkal gyártottak.

**6.7.5.11.2** A gyártási típus vizsgálati jegyzőkönyvének a típusjóváhagyáshoz legalább a következőket kell tartalmaznia:

- a) a keretvázra vonatkozó, ISO 1496-3:1995 szabványban meghatározott vizsgálatok eredményeit;
- b) a 6.7.5.12.3 pont szerinti üzembe helyezés előtti vizsgálat eredményeit; és
- c) a 6.7.5.12.1 pont szerinti ütközési próba eredményeit, ha alkalmazható; és
- d) annak tanúsítására szolgáló bizonyítványok és dokumentumok, hogy a palackok és nagypalackok megfelelnek a vonatkozó szabványoknak.

#### **6.7.5.12** *Vizsgálat*

**6.7.5.12.1** Azokat a MEG-konténereket, amelyek „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) módosított kiadása meghatározása szerint konténernek minősülnek, csak azután szabad használni, hogy a gyártási típus prototípusa sikeresen kiállta a „Vizsgálatok és kritériumok kézikönyv” IV. rész, 41 fejezetében előírt dinamikus, hosszirányú ütközési próbát.

**6.7.5.12.2** Az első üzembe helyezés előtt a MEG-konténer elemeit és szerelvényeit vizsgálatnak kell alávetni (üzembe helyezés előtti vizsgálat) és azután legfeljebb ötéves időközönként (5 évenkénti időszakos vizsgálat) időszakos vizsgálatot kell végezni. Függetlenül az utolsó időszakos vizsgálat időpontjától, soron kívüli vizsgálatot kell végezni, ha a 6.7.5.12.5 pont szerint erre szükség van.

**6.7.5.12.3** A MEG-konténer üzembe helyezés előtti vizsgálatának ki kell terjednie a szerkezeti jellemzők ellenőrzésére, a MEG-konténer és szerelvényeinek külső vizsgálatra, különös tekintettel a szállítandó gázokra és a 4.1.4.1 bekezdés P200 csomagolási utasítása szerinti próbanyomással végzett nyomáspróbára. A gyűjtőcső víznyomás-próbája az illetékes hatóság vagy az általa felhatalmazott szervezet hozzájárulásával más folyadékkal vagy gázzal is végezhető. Mielőtt a MEG-konténert üzembe helyezik, tömörségi próbát is kell végezni és az üzemi szerelvények megfelelő működését is ellenőrizni kell. Amennyiben a nyomáspróbát az elemeken és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani.

**6.7.5.12.4** Az 5 évenkénti időszakos vizsgálatnak a szerkezet, az elemek és az üzemi szerelvények 6.7.5.12.6 pont szerinti külső állapotvizsgálatából kell állnia. Az elemeket és a csővezetéseket a P200 csomagolási utasításban előírt időszakonként a 6.2.1.6 bekezdés előírásai szerint kell vizsgálni. Amennyiben a nyomáspróbát az elemeken és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani.

**6.7.5.12.5** Soron kívüli vizsgálatot szükséges végezni, ha a MEG-konténer sérült, rozsdás, szivárog vagy bármely más körülmény a MEG-konténer sértetlenségét befolyásolhatja. A soron kívüli vizsgálat mértékét az határozza meg, hogy a MEG-konténer mennyire sérült vagy hibás. A soron kívüli vizsgálatnak azonban legalább a 6.7.5.12.6 pont szerinti vizsgálatokra kell

kiterjednie.

**6.7.5.12.6**

A vizsgálat során biztosítani kell, hogy:

- a) ellenőrizték az elemeket, hogy nincs rajtuk rozsdá, kipattogzás, kopás, horpadás, torzulás, hegesztési hiba vagy bármi más (pl. szivárgás), ami miatt a MEG-konténer szállítása nem lenne biztonságos;
- b) ellenőrizték a csővezeték, a szelepeket és a tömítéseket, hogy nincs rajtuk rozsdá, sérülés vagy bármi más (pl. szivárgás), ami miatt a MEG-konténer töltése, ürítése vagy szállítása nem lenne biztonságos;
- c) a csőkarima csatlakozásoknál és vakkarimáknál a hiányzó vagy laza csavarokat vagy csavaranyákat pótolják, ill. meghúzzák;
- d) minden vészlefúvó szerkezet és szelep mentes legyen a korróziótól és minden olyan sérüléstől vagy meghibásodástól, ami megakadályozhatja normális működését. A távműködtetésű zárószerkezeteket és az önzáró szelepeket ki kell próbálni, hogy megfelelően működnek-e;
- e) az előírt jelölések a MEG-konténeren olvashatóak, és a vonatkozó követelményeknek megfelelnek; és
- f) a váz- és tartószerkezet, ill. az emelésre szolgáló berendezések megfelelő állapotban legyenek.

**6.7.5.12.7**

A 6.7.5.12.1, 6.7.5.12.3, 6.7.5.12.4 és 6.7.5.12.5 pont szerinti vizsgálatokat az illetékes hatóság által felhatalmazott szervezetnek kell elvégeznie vagy hitelesítenie. Ha a nyomáspróba a vizsgálat részét képezi, a vizsgálatot a MEG-konténer adattábláján feltüntetett nyomással kell végezni. A nyomás alatt lévő MEG-konténeren az elemek, a csővezeték és a szerelvények szivárgásmentességét is vizsgálni kell.

**6.7.5.12.8**

Amennyiben a biztonságot veszélyeztető körülményeket tapasztalnak, a MEG-konténer addig nem használható újra, amíg meg nem javították és az ismételt vizsgálatot és ellenőrzéseket ki nem állta.

**6.7.5.13****Jelölés****6.7.5.13.1**

Ellenőrzés céljából könnyen elérhető, szembetűnő helyre minden MEG-konténerre nem korrodálódó fémtáblát kell tartósan rögzíteni. Az elemeket a 6.2 fejezet szerint kell jelölni. A fémtáblán legalább a következőkben felsorolt adatokat kell feltüntetni beütéssel vagy más hasonló módon:

Gyártási ország:

|   |           |             |  |
|---|-----------|-------------|--|
| U | Jóváhagyó | Jóváhagyási | Alternatív kialakítás esetén (lásd a 6.7.1.2 pontot) |
| N | ország    | sorszám     | „AA”   |

A gyártó neve vagy jele

A gyártó sorszám

A típusjóváhagyásra felhatalmazott szervezet

A gyártási év

A próbanyomás ..... bar (túlnyomás)

A tervezési hőmérséklet-tartomány ..... °C-tól ..... °C-ig

Az elemek száma

Az elemek összes víztérfogata ..... liter

Az üzembe helyezés előtti nyomáspróba ideje és a felhatalmazott szervezet azonosítója

A legutóbbi időszakos vizsgálat időpontja és típusa

Hónap ..... év .....

A felhatalmazott szervezet bélyegzőlenyomata, amelyik a legutolsó vizsgálatot végezte vagy

hitelesítette.

**Megjegyzés:** *A fémtábla nem erősíthető az elemekre.*

- 6.7.5.13.2**    A következő adatokat a MEG-konténerhez biztosan rögzített fémtáblán kell feltüntetni:
- Az üzemben tartó neve
- A töltet megengedett legnagyobb tömege ..... kg
- Üzemi nyomás 15 °C-on ..... bar (túlnyomás)
- Megengedett legnagyobb bruttó tömeg ..... kg
- Az üres (tára) tömeg ..... kg.



**6.8 FEJEZET**

**A FÉMBŐL GYÁRTOTT, RÖGZÍTETT TARTÁNYOK  
(TARTÁNYJÁRMŰVEK), LESZERELHETŐ TARTÁNYOK,  
TANKKONTÉNEREK ÉS TARTÁNYOS CSEREFELÉPÍTMÉNYEK,  
VALAMINT BATTÉRIÁS JÁRMŰVEK ÉS TÖBBELEMES  
GÁZKONTÉNEREK (MEG-KONTÉNEREK) GYÁRTÁSÁRA,  
SZERELVÉNYEIRE, TÍPUSJÓVÁHAGYÁSÁRA, VIZSGÁLATÁRA  
ÉS JELÖLÉSÉRE VONATKOZÓ KÖVETELMÉNYEK**

*Megjegyzés: A mobil tartányokra és az UN többelemes gázkonténerekre (UN MEG-konténerekre) lásd a 6.7 fejezetet; a szálvázaz műanyag tartányokra lásd a 6.9 fejezetet; a hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra lásd a 6.10 fejezetet.*

**6.8.1 Alkalmazási terület**

**6.8.1.1** Az oldal teljes szélességében nyomtatott követelményeket a rögzített tartányokra (tartányjárművekre), a leszerelhető tartányokra, a battériás járművekre, valamint a tankkonténerekre, tartányos cserefelépítményekre és MEG-konténerekre egyaránt alkalmazni kell. Az egyetlen oszlopban nyomtatott előírásokat csak

- a rögzített tartányokra (tartányjárművekre), a leszerelhető tartányokra és a battériás járművekre (bal oldali oszlop);
- a tankkonténerekre, a tartányos cserefelépítményekre és a MEG-konténerekre (jobb oldali oszlop)

kell alkalmazni.

**6.8.1.2** Ezeket a követelményeket a gáz alakú, a folyékony és a porszerű vagy szemcsés anyagok szállításához használt,

rögzített tartányokra (tartányjárművekre),  
leszerelhető tartányokra és battériás  
járművekre

tankkonténerekre, tartányos cserefelépítmé-  
nyekre és MEG-konténerekre

kell alkalmazni.

**6.8.1.3** A 6.8.2 szakasz tartalmazza az összes osztály anyagainak szállítására szolgáló rögzített tartányokra (tartányjárművekre), leszerelhető tartányokra, tankkonténerekre és tartányos cserefelépítményekre, valamint a 2 osztály gázainak szállítására szolgáló battériás járművekre és MEG-konténerekre vonatkozó követelményeket. A 6.8.3 – 6.8.5 szakasz különleges követelményeket tartalmaz, amelyek kiegészítik vagy módosítják a 6.8.2 szakasz követelményeit.

**6.8.1.4** Az ezen tartányok használatára vonatkozó előírásokra lásd a 4.3 fejezetet.

**6.8.2 Az összes osztályra vonatkozó követelmények****6.8.2.1 Gyártás***Alapelvek*

**6.8.2.1.1** A tartányt, a tartozékait, az üzemi és szerkezeti szerelvényeit úgy kell kialakítani, hogy a szállított anyag vesztesége nélkül (nem számítva az esetleges szelepeken keresztül

kiszabaduló gázmennyiséget) ellenálljon:

- a 6.8.2.1.2 és a 6.8.2.1.13 pontban meghatározott, normális szállítási körülmények között előforduló statikus és dinamikus igénybevételeknek;
- a 6.8.2.1.15 pontban meghatározott legkisebb igénybevételeknek.

#### 6.8.2.1.2

A tartányoknak és rögzítőelemeiknek a megengedett legnagyobb töltési tömeg mellett a következő igénybevételeket kell elviselniük:

- menetirányban a kétszeres összes tömeget;
- menetirányra merőlegesen az egyszeres összes tömeget;
- függőlegesen felfelé az egyszeres összes tömeget;
- függőlegesen lefelé a kétszeres összes tömeget.

A tankkonténereknek és rögzítőelemeiknek a megengedett legnagyobb töltési tömeg mellett a következő igénybevételeket kell elviselniük:

- menetirányban a kétszeres összes tömeget;
- vízszintesen a menetirányra merőlegesen az egyszeres összes tömeget (ha a menetirány egyértelműen nem határozható meg, akkor minden irányban a kétszeres összes tömeget);
- függőlegesen felfelé az egyszeres összes tömeget;
- függőlegesen lefelé a kétszeres összes tömeget.

#### 6.8.2.1.3

A tartányok falvastagságának legalább a 6.8.2.1.17 – 6.8.2.1.21 pontban meghatározottnak kell lennie.

a 6.8.2.1.17 – 6.8.2.1.20

#### 6.8.2.1.4

A tartányokat a 6.8.2.6 bekezdésben felsorolt szabványok, ill. az illetékes hatóság által a 6.8.2.7 bekezdés alapján elismert műszaki szabályzat követelményeinek megfelelően kell tervezni és gyártani, amelyek a gyártási anyag megválasztásánál és a tartány falvastagság meghatározásánál számításba veszik a legnagyobb és a legkisebb töltési és üzemi hőmérsékleteket is; a 6.8.2.1.6 – 6.8.2.1.26 pont minimális előírásait azonban be kell tartani.

#### 6.8.2.1.5

Bizonyos veszélyes anyagok szállítására használt tartányokat kiegészítő védelemmel kell ellátni. Ez állhat a tartány (nagyobb tervezési nyomásból adódó) nagyobb falvastagságából (ezt az illető veszélyes anyag veszélyességi foka alapján kell meghatározni) vagy valamely védőszerkezetből (lásd a 6.8.4 szakasz különleges előírásait).

#### 6.8.2.1.6

A hegesztéseket szakszerűen kell elkészíteni, és azoknak teljes biztonságot kell nyújtaniuk. A hegesztési varratok kivitelezésére és ellenőrzésére a 6.8.2.1.23 pont követelményeit kell betartani.

#### 6.8.2.1.7

Intézkedni kell annak érdekében, hogy a tartányok a belső vákuum következtében fellépő deformáció veszélye ellen védve legyenek.

A 6.8.2.2.6 pontban említett tartányokon kívüli egyéb tartányoknak, amelyekre vákuumszelepet terveztek, olyan külső nyomást kell maradandó alakváltozás nélkül elviselniük, amely a belső nyomást legalább 21 kPa-lal (0,21 bar-ral) meghaladja. A belső nyomást kisebb mértékben, de legalább 5 kPa-lal (0,05 bar-ral) meghaladó külső nyomásra is méretezhetők azok a tartányok, amelyeket kizárólag olyan szilárd (porszerű vagy szemcsés) anyagok szállítására használnak, amelyek a II vagy a III csomagolási csoportba tartoznak és a szállítás alatt nem válnak folyékonyá. A vákuumszelepeket úgy kell beállítani, hogy akkora (vagy annál kisebb) vákuumnál nyissanak ki, mint amekkorára a tartányt méretezték. Azoknak a tartányoknak, amelyekre nem terveztek vákuumszelepeket, olyan külső nyomást kell maradandó alakváltozás nélkül elviselniük, amely legalább 40 kPa-lal (0,4 bar-ral) meghaladja a belső nyomást.

*A tartányok anyaga*

#### 6.8.2.1.8

A tartányokat olyan alkalmas fémből kell készíteni, amely ellenáll a ridegtörésnek és a feszültség alatti korróziós repedezésnek  $-20\text{ °C}$  és  $+50\text{ °C}$  között, hacsak az egyes osztályoknál nincsenek más hőmérséklet-tartományok előírva.



- 6.8.2.1.9** A tartálynak vagy védőburkolatának a tartalommal érintkező részei a tartalommal veszélyes reakcióba lépő (a „veszélyes reakció” fogalmát lásd az 1.2.1 szakaszban) vagy veszélyes vegyületet képező, vagy a tartány anyagát lényegesen gyengítő anyagot nem tartalmazhatnak.

Ha a szállított anyag és a tartány gyártásához felhasznált anyag érintkezése a falvastagság folyamatos csökkenését idézi elő, akkor a falvastagságot a gyártás folyamán megfelelően meg kell növelni. A korrózió miatt ráhagyott falvastagságot a tartány falvastagságának kiszámításakor nem szabad tekintetbe venni.

- 6.8.2.1.10** Hegesztett tartányokhoz csak olyan hibátlanul hegeszthető anyagok használhatók fel, amelyek ütőszilárdsága  $-20\text{ °C}$  környezeti hőmérsékleten – különösen a hegesztési varratokban és a velük szomszédos övezetekben – szavatolható.

Finom szemcseszerkezetű acélok használata esetén a szavatolt folyáshatár nem lehet nagyobb, mint  $460\text{ N/mm}^2$ , és a szavatolt szakítószilárdság felső határa nem lehet nagyobb, mint  $725\text{ N/mm}^2$  az anyagspecifikáció szerint.

- 6.8.2.1.11** Hegesztett tartányok gyártásához használt acéloknál  $0,85$ -öt meghaladó  $R_e/R_m$  arány nem megengedett, ahol

$R_e$  = a határozott folyáshatárral rendelkező acéloknál a tényleges folyáshatár, vagy a határozott folyáshatárral nem rendelkező acéloknál a  $0,2\%$ -os (ausztenites acéloknál az  $1\%$ -os) szavatolt, egyezményes folyáshatár; és

$R_m$  = a szakítószilárdság.

A minőségi tanúsítványban szereplő értékeket kell alapul venni az egyes esetekben az  $R_e/R_m$  arány meghatározásához.

- 6.8.2.1.12** Acéloknál a szakadási nyúlás értéke %-ban nem lehet kisebb, mint

$$\frac{10000}{\text{meghatározott szakítószilárdság, N/mm}^2},$$

azonban finom szemcseszerkezetű acéloknál  $16\%$ -nál, más acéloknál  $20\%$ -nál semmi esetre sem lehet kisebb.

Alumíniumötvözetek szakadási nyúlása  $12\%$ -nál kisebb nem lehet.<sup>1)</sup>

*A tartány falvastagságának méretezése*

- 6.8.2.1.13** A tartány falvastagságának méretezésekor a mértékadó nyomás nem lehet kisebb, mint a tervezési nyomás, de figyelembe kell venni a 6.8.2.1.1 pontban említett igénybevételeket és – szükség esetén – a következő igénybevételeket is:

Az olyan járműveknél, ahol a tartány a jármű önhordó részét képezi, a tartányt úgy kell méretezni, hogy az egyébként fellépő hatásokon kívül az ebből eredő igénybevételeket is kiállja.

Az ezekből az igénybevételekből a tartány, ill. a rögzítőelemek legjobban igénybevett helyén keletkező feszültség nem haladhatja meg a 6.8.2.1.16 pontban meghatározott értéket.

Az igénybevételeknél a következő biztonsági tényezőket kell figyelembe venni:

- határozott folyáshatárral rendelkező fémeknél: a tényleges folyáshatárra vonatkozóan  $1,5$ -es biztonsági tényezőt; vagy
- határozott folyáshatárral nem rendelkező fémeknél: a  $0,2\%$ -os (vagy ausztenites acéloknál az  $1\%$ -os) szavatolt, egyezményes folyáshatárra vonatkozóan  $1,5$ -es biztonsági tényezőt.

1) Fémlemez esetén a szakítópróbához használt próbatest tengelyének a hengerlési irányra merőlegesnek kell lennie. A szakadási nyúlást olyan kör keresztmetszetű próbatesten kell mérni, amelyen a két jel közötti  $l$  távolság a  $d$  átmérő ötszöröse ( $l = 5d$ ). Négyyszög keresztmetszetű próbatest esetén a jelek közötti távolságot az  $l = 5,65 \sqrt{F_0}$  képlettel kell kiszámítani, ahol  $F_0$  a próbatest kezdeti keresztmetszetének területe.

**6.8.2.1.14** A tervezési nyomás a 3.2 fejezet „A” táblázat 12 oszlopa szerinti tartánykód második részében (lásd a 4.3.4.1 bekezdést) szerepel.

Ha a kódban „G” szerepel, a következő követelményeket kell alkalmazni:

- a) Az 50 °C-on 110 kPa (1,1 bar) (abszolút nyomás) értéket meg nem haladó gőznyomású anyagok szállítására használt, gravitációs töltésű és ürítésű tartányokat a szállítandó anyag statikus nyomásának kétszeresére, de legalább a víz statikus nyomásának kétszeresére kell méretezni.
- b) Az 50 °C-on 110 kPa (1,1 bar) (abszolút nyomás) értéket meg nem haladó gőznyomású anyagok szállítására használt, nyomás alatt töltendő vagy ürítendő tartányokat a töltési vagy ürítési nyomás 1,3-szeresére kell méretezni.

Ha a legkisebb tervezési nyomás (túlnyomás) számértéke adott, akkor a tartányt erre a nyomásra kell méretezni, ez azonban nem lehet kisebb, mint a töltési vagy ürítési nyomás 1,3-szerese. Ezekben az esetekben a következő minimális követelményeket kell alkalmazni:

- c) Az 50 °C-on 110 kPa-nál (1,1 bar-nál) értéknél nagyobb gőznyomású és 35 °C-nál magasabb forráspontú anyagok szállítására használt tartányokat – függetlenül a töltés vagy az ürítés módjától – a 150 kPa (1,5 bar) túlnyomás, ill. a töltési vagy ürítési nyomás 1,3-szerese közül a nagyobbik nyomásértékre kell méretezni.
- d) A 35 °C-nál nem magasabb forráspontú anyagok szállítására használt tartányokat – függetlenül a töltés vagy az ürítés módjától – a töltési vagy ürítési nyomás 1,3-szeresére, de legalább 0,4 MPa (4 bar) túlnyomásra kell méretezni.

**6.8.2.1.15** A nyomáspróba révén a tartány legjobban igénybe vett helyén keletkező  $\sigma$  feszültség nem haladhatja meg a gyártási anyagtól függően a következőkben előírt határértékeket. A hegesztés miatti gyengülést figyelembe kell venni.

**6.8.2.1.16** Minden fémnél és ötvözetnél a próbanyomás által keltett  $\sigma$  feszültségnek kisebbnek kell lennie, mint a következő képletekkel kapott kisebbik érték:

$$\sigma \leq 0,75 R_e \text{ vagy } \sigma \leq 0,5 R_m$$

ahol

$R_e$  = a határozott folyáshatárral rendelkező acéloknál a tényleges folyáshatár, vagy a határozott folyáshatárral nem rendelkező acéloknál a 0,2%-os (ausztenites acéloknál az 1%-os) szavatolt, egyezményes folyáshatár; és

$R_m$  = a szakítószilárdság.

Az  $R_e$  és  $R_m$  értékére az anyagszabványok által meghatározott legkisebb értékeket kell használni. Ha a szóban forgó fémre vagy ötvözetre nincs anyagszabvány, a használt  $R_e$  és  $R_m$  értéket az illetékes hatóságnak vagy az általa kijelölt szervezetnek kell jóváhagynia.

Ausztenites acélok használata esetén az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket a vizsgálati bizonyítvány hitelesíti. A 6.8.2.1.18 pontban megadott képlet alkalmazása esetén azonban a legkisebb értékeket nem lehet meghaladni.

*A tartány legkisebb falvastagsága*

**6.8.2.1.17** A tartányok falvastagságának legalább akkorának kell lennie, mint a következő képletekből adódó nagyobbik érték:

$$e = \frac{P_T D}{2\sigma}$$

$$e = \frac{P_C D}{2\sigma}, \text{ ahol}$$

$e$  = a tartány legkisebb falvastagsága mm-ben

$P_T$  = a próbanyomás MPa-ban

$P_C$  = a 6.8.2.1.14 pont szerinti tervezési nyomás MPa-ban

$D$  = a tartány belső átmérője mm-ben

$\sigma$  = a 6.8.2.1.16 pontban meghatározott megengedett feszültség N/mm<sup>2</sup>-ben

$\lambda$  = 1-nél nem nagyobb tényező a hegesztések miatti esetleges gyengülés figyelembe vételéhez, a 6.8.2.1.23 pontban meghatározott ellenőrzési módszer alapján.

A falvastagság semmiképpen sem lehet kisebb

a 6.8.2.1.18 – 6.8.2.1.21

a 6.8.2.1.18 – 6.8.2.1.20

pontban meghatározott értéknél.

#### 6.8.2.1.18

A 6.8.2.1.21 pontban említettekén kívüli, 1,80 m-nél nem nagyobb átmérőjű<sup>2)</sup>, kör keresztmetszetű tartány falvastagságának legalább 5 mm-nek kell lennie, ha szerkezeti acélból<sup>3)</sup> van, vagy azzal egyenértékű vastagságúnak, ha más fémből készült. Ha az átmérő<sup>2)</sup> meghaladja az 1,80 m-t, ezt a vastagságot, a porszerű vagy szemcsés anyagok szállítására használt tartányok esetét kivéve, 6 mm-re kell növelni, ha a tartány szerkezeti acélból<sup>3)</sup>, vagy azzal egyenértékű vastagságúra, ha más fémből készült.

A tartány falvastagságának legalább 5 mm-nek kell lennie, ha szerkezeti acélból<sup>3)</sup> van (a 6.8.2.1.11 és a 6.8.2.1.12 pontnak megfelelően), vagy azzal egyenértékű vastagságúnak, ha más fémből készült. Ha az átmérő<sup>2)</sup> meghaladja az 1,80 m-t, ezt a vastagságot, a porszerű vagy szemcsés anyagok szállítására használt tartányok esetét kivéve, 6 mm-re kell növelni, ha a tartány szerkezeti acélból<sup>3)</sup>, vagy azzal egyenértékű vastagságúra, ha más fémből készült. Bármilyen fémet használnak is, a tartány fala nem lehet 3 mm-nél vékonyabb.

Az „egyenértékű vastagság” a következő képlet<sup>4)</sup> szerinti vastagságot jelenti:

$$e_I = \frac{464e_0}{\sqrt[3]{(R_{mI}A_I)^2}}$$

- 2) A nem kör keresztmetszetű, pl. a koffer alakú vagy ellipszis keresztmetszetű tartányoknál a jelzett átmérőt az azonos keresztmetszeti területű körkeresztmetszetből kell számítani. Az ilyen keresztmetszeteknél a palást görbületi sugara nem haladhatja meg az oldalakon a 2000 mm-t, illetve alul és felül a 3000 mm-t.

- 3) A „szerkezeti acél” és a „referencia acél” meghatározására lásd az 1.2.1 szakaszt.

- 4) Ez a képlet a következő általános képletből adódik:  $e_I = e_0 \sqrt[3]{\left(\frac{R_{m0}A_0}{R_{mI}A_I}\right)^2}$ , ahol

$e_I$  = a legkisebb tartány falvastagság a választott fémre mm-ben;

$e_0$  = a legkisebb tartány falvastagság szerkezeti acélra mm-ben a 6.8.2.1.18 és a 6.8.2.1.19 pont szerint;

$R_{m0}$  = 370 (szakítószilárdság a referencia acélra, lásd a meghatározást az 1.2.1 szakaszban, N/mm<sup>2</sup>-ben);

$A_0$  = 27 (szakadási nyúlás a referencia acélra %-ban);

$R_{mI}$  = a választott fém legkisebb szakítószilárdsága, N/mm<sup>2</sup>-ben; és

$A_I$  = a választott fém legkisebb szakadási nyúlása %-ban.

**6.8.2.1.19**

Ha a tartány az oldalirányú ütközésekből vagy felborulásból eredő sérülések ellen 6.8.2.1.20 pont szerinti védelemmel van ellátva, az illetékes hatóság megengedheti a legkisebb falvastagságnak a nyújtott védelem arányában való csökkentését; 1,80 m-nél nem nagyobb átmérőjű<sup>2)</sup> tartányok falvastagsága azonban nem lehet kisebb szerkezeti acél<sup>3)</sup> esetén 3 mm-nél, más fémeknél az ezzel egyenértékű falvastagságnál. Az 1,80 m-nél nagyobb átmérőjű<sup>2)</sup> tartányoknál azonban az előbb említett legkisebb falvastagság nem lehet kisebb szerkezeti acél<sup>3)</sup> esetén 4 mm-nél, más fémeknél az ezzel egyenértékű falvastagságnál.

Az „egyenértékű falvastagság” a 6.8.2.1.18 pontban megadott képlet szerinti vastagságot jelenti.

Azokat az eseteket kivéve, amelyekről a 6.8.2.1.21 pont rendelkezik, a 6.8.2.1.20 a) vagy b) pont szerinti sérülés elleni védelemmel ellátott tartány falvastagsága nem lehet kisebb a következő táblázatban megadott értékeknél:

|                                   | A tartány átmérője             | ≤1,80 m | > 1,80 m |
|-----------------------------------|--------------------------------|---------|----------|
| A tartány legkisebb falvastagsága | Rozsdamentes ausztenites acél  | 2,5 mm  | 3 mm     |
|                                   | Egyéb acél                     | 3 mm    | 4 mm     |
|                                   | Alumíniumötvözet               | 4 mm    | 5 mm     |
|                                   | 99,80%-os tisztaságú alumínium | 6 mm    | 8 mm     |

Ha a tartány a sérülések ellen a 6.8.2.1.20 pont szerinti védelemmel van ellátva, az illetékes hatóság megengedheti a legkisebb falvastagságnak a nyújtott védelem arányában való csökkentését; 1,80 m-nél nem nagyobb átmérőjű<sup>2)</sup> tartányok falvastagsága azonban nem lehet kisebb szerkezeti acél<sup>3)</sup> esetén 3 mm-nél, más fémeknél az ezzel egyenértékű falvastagságnál. Az 1,80 m-nél nagyobb átmérőjű<sup>2)</sup> tartányoknál azonban az előbb említett legkisebb falvastagság nem lehet kisebb szerkezeti acél<sup>3)</sup> esetén 4 mm-nél, más fémeknél az ezzel egyenértékű falvastagságnál.

Az „egyenértékű falvastagság” a 6.8.2.1.18 pontban megadott képlet szerinti vastagságot jelenti.

A 6.8.2.1.20 pont szerinti sérülés elleni védelemmel ellátott tartány falvastagsága nem lehet kisebb a következő táblázatban megadott értékeknél:

**6.8.2.1.20**

Az 1990. január 1-je után gyártott tartányok akkor rendelkeznek a 6.8.2.1.19 pontban említett védelemmel, ha a következő vagy ezekkel egyenértékű előírások teljesülnek:

- Porszerű vagy szemcsés anyagok szállítására használt tartányok sérülés elleni védőszerkezetének meg kell felelnie az illetékes hatóság előírásainak.
- Az egyéb anyagok szállítására használt tartányok akkor védettek a sérülések ellen, ha:
  - A legfeljebb 2 m görbületi sugarú, kör vagy ellipszis keresztmetszetű tartányok el vannak látva erősítő-elemekkel (válaszfalakkal, hullám-törő lemezekkel, külső vagy belső abroncsokkal), amelyek úgy vannak elhelyezve, hogy a következő feltételek közül legalább az egyiknek megfelelnek:
    - két szomszédos erősítőelem távolsága legfeljebb 1,75 m

A 6.8.2.1.19 pont szerinti védelem lehet

- olyan teljes külső védelem, mint a „szendvics”-szerkezet, ahol a külső burkolat a tartányhoz van erősítve, vagy
- olyan kialakítás, ahol a tartányt hossz- és keresztirányú szerkezeti elemekből álló váz támasztja alá, vagy
- kettős falú tartány.

Az olyan kettős falú tartányoknál, ahol a két fal között légüres tér van, a külső fémfal és a tartányfal együttes vastagságának meg kell felelnie a 6.8.2.1.18 pontban előírt falvastagságnak, a tartány falvastagságának pedig legalább akkorának kell lennie, mint a 6.8.2.1.19 pontban előírt legkisebb falvastagság.

- két válaszfal vagy hullámtörő lemez közötti rész térfogata legfeljebb 7500 liter.

Az abrancsok merőleges keresztmetszeti tényezőjének legalább  $10\text{ cm}^3$ -nek kell lennie (az együttműködő tartányfal-résszel együtt).

A külső abrancsok kiálló éleit legalább 2,5 mm sugárral kell lekerekíteni.

A válaszfalaknak és a hullámtörő lemezeknek meg kell felelniük a 6.8.2.1.22 pont előírásainak.

A válaszfalak és a hullámtörő lemezek falvastagsága soha nem lehet kisebb a tartány falvastagságánál.

2. Az olyan kettős falú tartányoknál, ahol a két fal között légüres tér van, a külső fémfal és a tartányfal együttes vastagsága megfelel a 6.8.2.1.18 pontban előírt falvastagságnak, a tartány falvastagsága pedig legalább akkora, mint a 6.8.2.1.19 pontban előírt legkisebb falvastagság.
3. Az olyan kettős falú tartányoknál, ahol a két fal között legalább 50 mm vastag közbenső szilárd réteg van, a külső fal vagy legalább 0,5 mm vastag szerkezeti acél<sup>3)</sup>, vagy legalább 2 mm vastag üvegszál-erősítésű műanyag. Közbenső szilárd réteggént olyan szilárd hab is használható, amelynek ütéselelnyelő képessége olyan, mint pl. a poliuretán-habé.
4. Az 1. pontban említettektől eltérő formájú, különösen a koffer alakú tartányoknál a tartány magasságának felénél, körben a magasság legalább 30%-át kitevő részén olyan kiegészítő védelemmel van ellátva, amelyet úgy terveztek, hogy a különleges deformációs munka legalább egyenlő legyen az olyan szerkezeti acél<sup>3)</sup> tartányéval, amely 5 mm falvastagságú, ha átmérője legfeljebb 1,80 m, vagy 6 mm falvastagságú, ha átmérője 1,80 m-nél nagyobb.

Ezt a kiegészítő védőelemet a tartány külső oldalára tartósan kell rögzíteni. Ez a követelmény – a különleges deformációs munka további vizsgálata nélkül – akkor tekinthető teljesítettnek, ha a

Az olyan kettős falú tartányoknál, ahol a két fal között legalább 50 mm vastag közbenső szilárd réteg van, a külső fal vagy legalább 0,5 mm vastag szerkezeti acél<sup>3)</sup>, vagy legalább 2 mm vastag üvegszál-erősítésű műanyag. Közbenső szilárd réteggént olyan szilárd hab is használható, amelynek ütéselelnyelő képessége olyan, mint pl. a kemény poliuretán-habé.

kiegészítő védelem a tartány erősítendő részével azonos anyagból készült lemez hozzáhegesztéséből áll úgy, hogy a legkisebb falvastagság megfelel a 6.8.2.1.18 pontban említettnek.

Ez a védelem attól a lehetséges igénybevételtől függ, amely baleset során az olyan szerkezeti acél<sup>3)</sup> tartányban keletkezne, amelynek falvastagsága 5 mm, ha átmérője legfeljebb 1,80 m, vagy falvastagsága 6 mm, ha átmérője 1,80 m-nél nagyobb. Ha a tartány más fémből készült, az egyenértékű vastagságot a 6.8.2.1.18 pontban található képlet adja.

Leszerelhető tartányoknál ilyen védelemre nincs szükség, ha a tartányt minden oldalról a hordozó jármű oldalfalai védik.

**6.8.2.1.21** A legfeljebb 5000 liter űrtartalmú vagy legfeljebb 5000 liter űrtartalmú, szivárgásmentes kamrákra osztott tartányoknál a 6.8.2.1.14 a) pont szerint számított falvastagság tovább csökkenthető legfeljebb a következő táblázatban megadott értékekig, kivéve, ha a 6.8.3 vagy a 6.8.4 szakaszban más érték van

| A tartány legnagyobb görbületi sugara, m | A tartány vagy tartánykamra űrtartalma, m <sup>3</sup> | Legkisebb falvastagság, mm |
|--|--|----------------------------|
|  |  | Szerkezeti acél esetén     |
| ≤ 2                                      | ≤ 5,0  | 3                          |
| 2...3                                    | ≤ 3,5  | 3                          |
|  | > 3,5 de ≤ 5,0   | 4                          |

Ha nem szerkezeti acélt, hanem más fémet használnak, a falvastagságot a 6.8.2.1.18 pontban előírt egyenérték-képlettel kell számítani és nem lehet kisebb a következő táblázatban megadott értékeknél:

|                                   |  |        |        |                |
|-----------------------------------|--|--------|--------|----------------|
|                                   | A tartány legnagyobb görbületi sugara, m               | ≤ 2    | 2 – 3  | 2 – 3          |
|                                   | A tartány vagy tartánykamra űrtartalma, m <sup>3</sup> | ≤ 5,0  | ≤ 3,5  | > 3,5 de ≤ 5,0 |
| A tartány legkisebb falvastagsága | Rozsdamentes ausztenites acél                          | 2,5 mm | 2,5 mm | 3 mm           |
|                                   | Egyéb acél   | 3 mm   | 3 mm   | 4 mm           |
|                                   | Alumínium ötvözet                                      | 4 mm   | 4 mm   | 5 mm           |
|                                   | 99,80%-os tisztaságú alumínium                         | 6 mm   | 6 mm   | 8 mm           |

A válaszfalak és a hullámtörők falvastagsága sohasem lehet kisebb, mint a tartányfal vastagsága.

- 6.8.2.1.22** A hullámtörőknek és a válaszfalaknak domborúnak (legalább 10 cm mélységgel) vagy hullámos vagy alakos kiképzésűnek kell lenniük, vagy más módon úgy kell megerősíteni, hogy azonos szilárdságúak legyenek. A hullámtörő lemez felületének legalább akkorának kell lennie, mint a tartány – amelyben a hullámtörő lemez van – keresztmetszeti területének 70%-a.

*Hegesztés és a hegesztések ellenőrzése*

- 6.8.2.1.23** A gyártó alkalmasságát a hegesztési munka elvégzésére az illetékes hatóságnak kell elismernie. A hegesztést vizsgázott hegesztőnek olyan hegesztési eljárással kell végeznie, amelynek alkalmasságát (beleértve a szükséges hőkezelést is) vizsgálattal igazolták. Ultrahangos vagy radiográfias (röntgen-) eljárással végrehajtott roncsolásmentes vizsgálatokkal kell igazolni a hegesztési varratoknak az igénybevételnek megfelelő minőségét.

A tartány falvastagságának a 6.8.2.1.17 pont szerinti méretezéséhez használt  $\lambda$  varratényszerző (varratjósági fok) értékének függvényében a következő ellenőrzéseket kell elvégezni:

- $\lambda = 0,8$ : a hegesztési varratokat mindkét oldalon, amennyire csak lehet, vizuális vizsgálatnak kell alávetni, és szűrőpróbaszerű roncsolásmentes vizsgálatot kell végezni. Minden „T” csatlakozást meg kell vizsgálni úgy, hogy a teljes vizsgált varrathossz nem lehet kisebb, mint az összes hossz- és körvarrat, ill. sugárirányú varrat (a tartányfenekeknél) együttes hosszának 10%-a.
- $\lambda = 0,9$ : roncsolásmentes vizsgálatnak kell alávetni teljes hosszúságban az összes hosszirányú varratot, az összes varratcsatlakozási pontot, a körvarratok 25%-át és a nagy átmérőjű szerelvények összeállításához szükséges hegesztéseket. A varratokat, amennyire lehetséges, mindkét oldalon vizuálisan is ellenőrizni kell;
- $\lambda = 1,0$ : az összes varratot roncsolásmentes vizsgálatnak kell alávetni, és amennyire lehetséges, mindkét oldalon vizuálisan is ellenőrizni kell. Egyúttal hegesztési próbadarabot kell készíteni.

Ha az illetékes hatóságnak a hegesztési varratok minőségét illetően kételyei vannak, további kiegészítő vizsgálatokat követelhet meg.

*Egyéb gyártási követelmények*


- 6.8.2.1.24** A védőbevonatot úgy kell elkészíteni, hogy tömör maradjon a normális szállítási körülmények között (lásd a 6.8.2.1.2 pontot) előforduló bármilyen alakváltozás esetén.

- 6.8.2.1.25** A hőszigetelést úgy kell elkészíteni, hogy a töltő- és ürítőberendezésekhez, valamint a biztonsági szelepekhez való hozzáférést és működtetésüket ne akadályozza.

- 6.8.2.1.26** Ha a legfeljebb 60 °C lobbanáspontú gyúlékony folyékony anyagok szállítására szolgáló tartányok nemfém védőbevonattal (béléssel) vannak ellátva, a tartányt és a védőbevonatot úgy kell kialakítani, hogy az elektrosztatikus feltöltődés ne okozhasson gyulladásveszélyt.

- |                   |   |   |
|-------------------|---|---|
| <b>6.8.2.1.27</b> | A 60 °C vagy annál alacsonyabb lobbanáspontú folyadékok, a gyúlékony gázok és a II csomagolási csoportba tartozó UN 1361 szén, ill. UN 1361 korom szállítására használt tartányokat a jármű alvázával legalább egy, jó elektromos csatlakozással össze kell kötni. Elektrokémiai korróziót okozó fémes csatlakozást nem szabad létesíteni. A tartányokat el kell látni legalább egy | A 60 °C vagy annál alacsonyabb lobbanáspontú folyadékok, a gyúlékony gázok és a II csomagolási csoportba tartozó UN 1361 szén, ill. UN 1361 korom szállítására használt tankkonténerek minden részének villamosan földelhetőnek kell lenniük. Elektrokémiai korróziót okozó fémes csatlakozást nem szabad létesíteni. |
|-------------------|---|---|



földelő szerelvénnyel, ami a „” szimbólummal jól látható módon meg van jelölve és alkalmas az elektromos csatlakoztatáshoz.

#### 6.8.2.1.28 *A tartány felső részén levő szerelvények védelme*

A tartányok tetején levő szerelvényeket és tartozékokat a felborulásból adódó sérülések ellen védeni kell. A védelem állhat erősítő-gyűrűk, védőtetők, kereszt- és hosszirányú elemek elhelyezéséből, amelyeknek alakja olyan, hogy kielégítő védelmet nyújt.

### 6.8.2.2 *Szerelvények*

#### 6.8.2.2.1 Az üzemi és szerkezeti szerelvények és tartozékok gyártásához alkalmas, nemfémes anyagok is használhatók.

A szerelvényeket úgy kell elhelyezni, hogy a szállítás és a kezelés során leszakadás vagy sérülés veszélye ellen biztosítva legyenek. A szerelvényeknek ugyanolyan biztonságúaknak kell lenniük, mint a tartánynak, és különösen

- összeférhetőnek kell lenniük a szállított anyaggal; és
- meg kell felelniük a 6.8.2.1.1 pont követelményeinek.
- A csövezetékét úgy kell tervezni, gyártani és felszerelni, hogy ne jöjjön létre sérülésveszély a hőtágulás és összehúzódás, a mechanikai ütések és rezgések következtében.

Az üzemi szerelvényeket úgy kell elhelyezni, hogy a tartányfalon szükséges nyílások száma a lehető legkevesebb legyen.

Az üzemi szerelvények tömítettségét, beleértve a vizsgálónyílások zárószervezetét (fedelét) is, még akkor is biztosítani kell, ha a tartány felborul. Figyelembe kell venni azokat az erőhatásokat is (gyorsulást, dinamikus nyomást), amelyek ütközés során léphetnek fel. A tartány tartalmának az ütközés miatt fellépő feszültségcsúcs hatására történő kis mértékű kiszivárgása azonban megengedhető.

Az üzemi szerelvények tömítettségét még akkor is biztosítani kell, ha a tankkonténer felborul.

A tömítések anyagának a szállított anyaggal összeférhetőnek kell lennie, és ha hatékonyságuk csökkent, pl. öregedés miatt, azonnal ki kell cserélni.

A tartányok rendes használata folyamán kezelést igénylő szerelvények szivárgásmentességét biztosító tömítéseket úgy kell megtervezni és felszerelni, hogy a szerelvények kezelésekor ne sérüljenek meg.

#### 6.8.2.2.2 Azokon a tartányokon, amelyekre a 3.2 fejezet „A” táblázat 12 oszlopában feltüntetett tartánykód (lásd a 4.3.4.1.1 pontot) harmadik részében „A” betű szerepel, az alsó töltő-, ill. ürítőnyílást legalább két, egymás mögött elhelyezett, egymástól független zárószervezettel kell ellátni, amely a következőkből áll:

- egy kovácsolható fémes anyagból készült, külső zárószelepből és ürítőcsőből; valamint
- minden cső végén egy zárószervezetből, ami lehet csavarmentes záródugó, vakkarima vagy más, egyenértékű szerkezet. A zárószervezetnek annyira tömítettnek



kell lennie, hogy az anyagot veszteség nélkül megtartsa. Meg kell hozni a szükséges intézkedéseket, hogy lehetővé váljon az ürítőcsőben a biztonságos nyomásmentesítés mielőtt a zárószervezetet teljesen eltávolítják.

Azokon a tartányokon, amelyekre a 3.2 fejezet „A” táblázat 12 oszlopában feltüntetett tartánykód (lásd a 4.3.3.1.1, ill. a 4.3.4.1.1 pontot) harmadik részében „B” betű szerepel, az alsó töltő-, ill. ürítőnyílást legalább három, egymás mögött elhelyezett, egymástól független zárószervezettel kell ellátni, amely a következőkből áll:

- egy belső zárószelepből, azaz a tartány belsejébe vagy egy hegesztett karimába vagy ellenkarimába beépített zárószelepből;
- egy külső zárószelepből vagy más, azzal egyenértékű szerkezetből<sup>5)</sup>, amely minden cső végén el van helyezve; és a tartányhoz a lehető legközelebb van elhelyezve; és
- minden cső végén egy zárószervezetről, ami lehet csavarmentes záródugó, vakkarima vagy más, egyenértékű szerkezet. A zárószervezetnek annyira tömítettnak kell lennie, hogy az anyagot veszteség nélkül megtartsa. Meg kell hozni a szükséges intézkedéseket, hogy lehetővé váljon az ürítőcsőben a biztonságos nyomásmentesítés mielőtt a zárószervezetet teljesen eltávolítják.

Bizonyos kristályosodó vagy nagy viszkozitású anyagok szállítására használt tartányoknál, ill. az ebonit vagy hőre lágyuló bevonatú tartányoknál azonban a belső zárószelep helyett külső zárószelep is alkalmazható, ha megfelelő kiegészítő védelemmel van ellátva.

A belső zárószelepnek felülről vagy alulról működtethetőnek kell lennie. Ha lehet, a belső zárószelep nyitott vagy zárt helyzetének a talajszintről ellenőrizhetőnek kell lennie. A belső zárószelep működtető-szerkezetének olyannak kell lennie, hogy a szelep ütközésből vagy gondatlanságból bekövetkező, nem kívánt kinyílását megakadályozza.

A külső működtető-szerkezet megsérülése esetén a belső zárószervezetnek továbbra is hatásosnak kell maradnia.

A külső töltő- vagy ürítőszervevények (csőcsonkok, oldalsó zárószervezetek) sérüléséből adódó elfolyás elkerülése érdekében a belső zárószelepet és fészket (ülékét) úgy kell kialakítani, hogy a külső erőhatásra történő leszakadás ellenellen védve legyen, vagy az ilyen erőhatásnak ellen tudjon állni. A töltő- és ürítőszervezeteket (beleértve a karimákat és a mentes dugókat is), valamint az esetleges védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.

A zárószervezetek állásának és/vagy zárási irányának világosan láthatónak kell lennie.

Azokon a tartányokon, amelyekre a 3.2 fejezet „A” táblázat 12 oszlopában feltüntetett tartánykód (lásd a 4.3.3.1.1, ill. a 4.3.4.1.1 pontot) harmadik részében „C” vagy „D” betű szerepel, a tartány minden nyílásának a folyadékszint felett kell lennie. Ezen tartányoknál a folyadékszint alatt nem lehetnek csövek és csőcsatlakozások. Az olyan tartányok, amelyek tartánykódjának harmadik részében „C” betű szerepel a tartánytest alsó részén tisztítónyílással (kézi tisztítónyílással) láthatók el. Ezt úgy kell kialakítani, hogy karimával szivárgásmentesen zárható legyen, aminek gyártási típusát az illetékes hatóságnak vagy az általa kijelölt szervezetnek kell jóváhagynia.

#### 6.8.2.2.3

A nem légmentesen zárt tartányokat a nem megengedhető mértékű vákuum elkerülésére szelepekkel lehet ellátni; a vákuumszelepeket úgy kell beállítani, hogy akkora (vagy annál kisebb) vákuumnál nyissanak ki, mint amekkorára a tartányt méretezték (lásd a 6.8.2.1.7 pontot). A légmentesen zárt tartányokon nem lehetnek vákuumszelepek. Légmentesen zártnak tekintendők azok az SGAH, S4AH, ill. L4BH tartánykódú tartányok is, amelyek csak 21 kPa (0,21 bar) vagy annál nagyobb vákuum esetén kinyitó vákuumszelepek vannak. Ez az érték 5 kPa-ig (0,05 bar-ig) csökkenthető azoknál a tartányoknál, amelyeket kizárólag olyan szilárd (porszerű vagy szemcsés) anyagok szállítására használnak, amelyek a II vagy a III csomagolási csoportba tartoznak és a szállítás alatt nem válnak folyékonnyá.

A 3 osztály kritériumainak megfelelő lobbanáspontú anyagok szállítására szolgáló

5) Az 1 m<sup>3</sup>-nél kisebb befogadóképességű tankkonténereknél a külső zárószelep vagy a vele egyenértékű szerkezet vakkarimával helyettesíthető.

tartányokon használt vákuumszelepeknek meg kell akadályozni a lángnak a tartányba történő közvetlen behatolását, vagy a tartánynak magának alkalmasnak kell lennie arra, hogy szivárgás nélkül ellenálljon a lángnak a tartányba történő behatolása következtében fellépő robbanásnak.

**6.8.2.2.4** Minden tartánynak, illetve minden tartánykamrának a belső vizsgálathoz megfelelő nagyságú vizsgálónyílással kell rendelkeznie.

**6.8.2.2.5** (fenntartva)

**6.8.2.2.6** Az 50 °C-on legfeljebb 110 kPa (1,1 bar) (abszolút) gőznyomású folyadékok szállítására használt tartányokat szellőző-berendezéssel és feldőlés esetén tartalmának kiömlése ellen védőszerkezettel kell ellátni, ellenkező esetben a tartánynak a 6.8.2.2.7, ill. a 6.8.2.2.8 pont előírásainak kell megfelelnie.

**6.8.2.2.7** Az 50 °C-on 110 kPa-nál (1,1 bar-nál) nagyobb gőznyomású és 35 °C-nál magasabb forráspontú folyadékok szállítására használt tartányokat olyan biztonsági szeleppel kell ellátni, amely legalább 150 kPa (1,5 bar) túlnyomásra van beállítva, és amely egy, a próbanyomást meg nem haladó nyomáson már teljesen kinyílik, ellenkező esetben a tartányoknak a 6.8.2.2.8 pont előírásainak kell megfelelniük.

**6.8.2.2.8** A 35 °C-nál nem magasabb forráspontú folyadékok szállítására használt tartányokat olyan biztonsági szeleppel kell ellátni, amely legalább 300 kPa (3 bar) túlnyomásra van beállítva, és amely egy, a próbanyomást meg nem haladó nyomáson már teljesen kinyílik, ellenkező esetben a tartánynak légmentesen zárva<sup>6)</sup> kell lennie.

**6.8.2.2.9** Ha a 60 °C vagy annál alacsonyabb lobbanáspontú gyúlékony folyadékok vagy gyúlékony gázok szállítására használt tartány alumíniumból készült, akkor semmiféle olyan mozgatható rész, amely az alumínium tartánnyal ütközhet vagy súrlódhat (pl. fedél, zárórész stb.) nem gyártható bevonat nélküli, rozsdásodó acélból.

**6.8.2.2.10** Ha a tartányon, amelyet légmentesen kell zárni, biztonsági szelep van, a szelep elé hasadótárcsát kell szerelni és a következő feltételeket kell betartani:

A hasadótárcsa és a biztonsági szelep kialakításának meg kell felelnie az illetékes hatóság előírásainak. A hasadótárcsa és a biztonsági szelep közti térbe nyomásmérőt vagy más, alkalmas jelzőeszközt kell csatlakoztatni, ami lehetővé teszi, hogy észleljék a hasadótárcsa repedését, kilyukadását vagy szivárgását, ami a biztonsági szelep hibás működését okozhatja.

### **6.8.2.3** *Típusjóváhagyás*

**6.8.2.3.1** Minden új tartányjármű, leszerelhető tartány, tankkonténer, tartányos cserefelépítmény, battériás jármű, ill. MEG-konténer típus esetén az illetékes hatóságnak vagy az általa kijelölt szervnek bizonyítványt kell kiállítani annak tanúsítására, hogy az általa megvizsgált gyártási típus, beleértve a rögzítőeszközöket is, a kívánt célra alkalmas, és hogy a 6.8.2.1 bekezdés gyártási követelményeinek, a 6.8.2.2 bekezdés szerelvényekre vonatkozó követelményeinek és a szállított anyag osztályára vonatkozó különleges követelményeknek megfelel.

A bizonyítványban fel kell tüntetni:

- a vizsgálat eredményeit;
- a típus jóváhagyási számát;

A jóváhagyási számnak annak az államnak megkülönböztető jeléből<sup>7)</sup>, amelyben az engedélyt kiadták, és egy nyilvántartási számból kell állnia.

6) A „légmentesen zárt tartány” meghatározására lásd az 1.2.1 szakaszt.

7) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.

- a 4.3.3.1.1, ill. a 4.3.4.1.1 pont szerinti tartánykódot;
- 6.8.4 szakasz gyártásra, szerelvényekre és típusjóváhagyásra vonatkozó különleges előírásainak TC, TE és TA betűkkel kezdődő kódját, amely a 3.2 fejezet „A” táblázat 13 oszlopában fel van tüntetve azon anyag(ok)ra, amelyekre a tartányt jóváhagyták;
- szükség esetén azokat az anyagokat és/vagy anyagcsoportokat, amelyeknek szállítására a tartányt jóváhagyták. Az anyagokat kémiai elnevezéssel vagy a megfelelő gyűjtőmegnevezéssel (lásd a 2.1.1.2 bekezdést) kell feltüntetni, a besorolásukkal együtt (osztály, osztályozási kód és csomagolási csoport). A 2 osztály anyagai és a 4.3.4.1.3 pontban felsorolt anyagok kivételével az engedélyezett anyagok felsorolásától el lehet tekinteni. Ilyen esetekben a 4.3.4.1.2 pontban szereplő csoportos hozzárendelés szerint a tartánykódhoz engedélyezett anyagokat lehet szállításra elfogadni, figyelembe véve az esetleges különleges előírásokat is.

A bizonyítványban feltüntetett anyagoknak, ill. a csoportos hozzárendelés alapján engedélyezett anyagcsoportoknak általában összeférhetőnek kell lenniük a tartány jellemzőivel. Ha az összeférhetőség alapos vizsgálatára nem volt lehetőség a típusjóváhagyás kiadásakor, akkor a bizonyítványba ezt a fenntartást kell bejegyezni.

Minden egyes legyártott tartány, battériás jármű, ill. MEG-konténer tartány-vizsgálati könyvéhez (gépkönyvéhez) csatolni kell a bizonyítvány másolatát (lásd a 4.3.2.1.7 pontot).

**6.8.2.3.2** Ha a tartányokat, battériás járműveket, ill. MEG-konténereket sorozatban gyártják módosítás nélkül, ez az engedély a sorozatban vagy a gyártási minta alapján gyártott tartányokra, battériás járművekre, ill. MEG-konténerekre egyaránt érvényes.

A típusjóváhagyás az olyan tartányok jóváhagyásának is tekinthető, amelyeket az eredeti gyártási típushoz képest olyan, kisebb eltérésekkel gyártanak, amelyek által csökken a tartány igénybevétele, ill. csökkennek a feszültségek (pl. kisebb nyomás, kisebb tömeg, kisebb befogadóképesség) vagy nő a szerkezet biztonsága (pl. nagyobb falvastagság, több hullámtörő lemez, kisebb nyílások). Az eltéréseket egyértelműen fel kell tüntetni a típusjóváhagyási bizonyítványban.

#### **6.8.2.4** *Vizsgálatok*

**6.8.2.4.1** Üzembe helyezés előtt a tartányokat és szerelvényeiket együtt vagy külön-külön vizsgálatnak kell alávetni. A vizsgálatnak magában kell foglalnia:

- annak ellenőrzését, hogy a tartány megegyezik-e a jóváhagyott típussal;
- a szerkezeti jellemzők ellenőrzését<sup>8)</sup>;
- a belső és a külső állapot vizsgálatát;
- a folyadéknomás-próbát<sup>9)</sup> a 6.8.2.5.1 pontban előírt táblán feltüntetett próbanyomással végrehajtva; és
- a tömörségi próbát és a szerelvények megfelelő működésének ellenőrzését.

A hidraulikus nyomáspróbánál alkalmazott nyomás – a 2 osztály esetét kivéve – a tervezési nyomástól függ, legalább a következő értékeket kell alkalmazni:

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8) A szerkezeti jellemzők ellenőrzésekor 1 MPa (10 bar) vagy annál nagyobb próbanyomású tartányok esetén hegesztési mintadarabokat (üzemi mintákat) is kell vizsgálni, a 6.8.2.1.23 pont és a 6.8.5 szakaszban előírt vizsgálatok szerint.

9) Különleges esetekben az illetékes hatóság által elismert szakértő hozzájárulásával a folyadéknomás-próba vízen kívül más folyadékkal vagy gázzal is elvégezhető, amennyiben ez az eljárás nem veszélyes.

| Tervezési nyomás (bar) | Próbanyomás (bar) |
|------------------------|-------------------|
| $G^{10)}$              | $G^{10)}$         |
| 1,5                    | 1,5               |
| 2,65                   | 2,65              |
| 4                      | 4                 |
| 10                     | 4                 |
| 15                     | 4                 |
| 21                     | 10 ( $4^{11)}$ )  |

A 2 osztályhoz a legkisebb próbanyomás értéke a 4.3.3.2.5 pontban a gázokra és gázkeverékekre vonatkozó táblázatban található.

A folyadéknomás-próbát a tartány egészen és a kamrákra osztott tartányok minden kamráján külön kell elvégezni.

A vizsgálatot minden kamrán legalább akkora nyomással kell végrehajtani, mint a legnagyobb üzemi nyomás 1,3-szerese.

A folyadéknomás-próbát az esetleg szükséges hőszigetelés felszerelése előtt kell elvégezni.

Ha a tartányt és szerelvényeit külön-külön vizsgálják, a 6.8.2.4.3 pont szerinti tömörségi próbának összeszerelve kell alávetni.

A tömörségi próbát a kamrákra osztott tartányok minden kamrájára külön kell elvégezni.

#### 6.8.2.4.2

A tartányokat és szerelvényeiket

legalább hat évenként

| legalább öt évenként

időszakos vizsgálatnak kell alávetni.

Az időszakos vizsgálatnak magában kell foglalnia:

- a belső és külső állapot vizsgálatát;
- a tartány és a szerelvények együttes tömörségi vizsgálatát a 6.8.2.4.3 pont szerint, valamint az összes szerelvény megfelelő működésének ellenőrzését;
- általában folyadéknomás-próbát<sup>9)</sup> (a tartányok és az esetleges tartánykamrák próbanyomására lásd a 6.8.2.4.1 pontot).

A hő- vagy egyéb szigetelőborításokat csak annyira kell eltávolítani, amennyire a tartány jellemzőinek biztonságos megítéléséhez feltétlenül szükséges.

Porszerű és szemcsés anyagok szállítására használt tartányoknál az illetékes hatóság által elismert szakértő egyetértésével az időszakos folyadéknomás-próba elhagyható és a 6.8.2.4.3 pont szerinti, legalább a legnagyobb üzemi nyomásnak megfelelő belső nyomással végrehajtott tömörségi próbával helyettesíthető.

#### 6.8.2.4.3

A tartányokat és szerelvényeiket az üzembe helyezés előtti és minden időszakos vizsgálatot követően

legalább három évenként

| legalább két és fél évenként

közbenső vizsgálatnak kell alávetni. A közbenső vizsgálat három hónappal a megadott időpont előtt, ill. után is elvégezhető.

Mindazonáltal a közbenső vizsgálat a megadott időpont előtt bármikor végezhető. Ha a közbenső vizsgálatot a megadott időpont előtt több mint három hónappal végzik, ezen időpont után

legkésőbb három évvel

| legkésőbb két és fél évvel

10)  $G$  = legkisebb tervezési nyomás a 6.8.2.1.14 pont általános követelményei alapján (lásd a 4.3.4.1 bekezdést).

11) Legkisebb próbanyomás az UN 1744 bróm, ill. UN 1744 bróm oldatok esetén.

egy további közbenső vizsgálatot kell végezni.

A közbenső vizsgálatnak a tartány és a szerelvények együttes tömörségi vizsgálatát, valamint az összes szerelvény megfelelő működésének ellenőrzését kell tartalmaznia.

Ebből a célból a tartányt olyan tényleges belső nyomásnak kell alávetni, amely a legnagyobb üzemi nyomással egyenlő. Folyadékok, ill. porszerű vagy szemcsés szilárd anyagok szállítására szolgáló tartánynál, ha a tömörségi próbához gázt használnak, a próbát olyan nyomással kell végrehajtani, ami legalább a legnagyobb üzemi nyomás 25%-ával egyenlő. A próbanyomás azonban semmilyen esetben sem lehet 20 kPa (0,2 bar) túlnyomásnál kisebb.

Szellőző-szerkezettel és a tartány felborulása esetén a tartalom kifolyását megakadályozó szerkezettel felszerelt tartányok esetén a tömörségi próba során alkalmazott nyomásnak a betöltött anyag statikus nyomásával kell megegyeznie.

A tömörségi vizsgálatot a kamrára osztott tartányok minden kamrájára külön el kell végezni.

**6.8.2.4.4** Ha a tartánynak vagy szerelvényeinek a biztonságát javítás, átalakítás vagy baleset kétségessé teszi, soron kívüli vizsgálatnak kell alávetni. Ha a soron kívüli vizsgálatot a 6.8.2.4.2 pont követelményei szerint végzik, akkor a soron kívüli vizsgálat időszakos vizsgálatnak tekinthető. Ha a soron kívüli vizsgálatot a 6.8.2.4.3 pont követelményei szerint végzik, akkor a soron kívüli vizsgálat közbenső vizsgálatnak tekinthető.

**6.8.2.4.5** A 6.8.2.4.1 – 6.8.2.4.4 pont szerinti próbákat, ellenőrzéseket és vizsgálatokat az illetékes hatóság által elismert szakértőnek kell végeznie. E műveletek eredményéről tanúsítványt kell kiadnia, még akkor is, ha negatív eredménnyel jártak. A tanúsítványban – a 6.8.2.3 bekezdéssel összhangban – hivatkozni kell azon anyagok felsorolására, amelyek szállítására a tartányt jóváhagyták vagy a tartánykódra és a különleges előírások betűkből és számokból álló kódjára.

Minden egyes megvizsgált tartány, battériás jármű, ill. MEG-konténer tartány-vizsgálati könyvéhez (gépkönyvéhez) csatolni kell a tanúsítvány másolatát (ld. a 4.3.2.1.7 pontot).

## **6.8.2.5 Jelölés**

**6.8.2.5.1** Ellenőrzés céljából könnyen elérhető helyre minden tartányra nem korrodálódó fémtáblát kell tartósan rögzíteni. A fémtáblán legalább a következőkben felsorolt adatokat kell feltüntetni beütéssel vagy más hasonló módon. Az adatokat közvetlenül a tartány falába is be lehet vésní, ha a falak úgy meg vannak erősítve, hogy a bevésés a tartány szilárdságát nem csökkenti:

- a jóváhagyás száma;
- a gyártó megnevezése vagy jele;
- a gyártási sorozat száma;
- a gyártás éve;
- a próbanyomás (túlnyomás)<sup>12)</sup>;
- külső tervezési nyomás<sup>12)</sup> (lásd a 6.8.2.1.7 pontot)
- az űrtartalom<sup>12)</sup> –több kamrára osztott tartányok esetén mindegyik kamra űrtartalma–, ami után az „S” szimbólumot kell feltüntetni, ha a tartány, ill. a tartánykamra hullámtörő lemezekkel legfeljebb 7500 liter űrtartalmú rekeszekre osztva;
- tervezési hőmérséklet<sup>12)</sup> (csak akkor, ha nagyobb, mint +50 °C vagy kisebb, mint -20 °C)
- a legutóbbi vizsgálat időpontja és fajtája: „hónap, év”, ami után a 6.8.2.4.1 pont szerint végrehajtott első, üzembe helyezés előtti vizsgálat, ill. a 6.8.2.4.2 pont szerinti időszakos vizsgálat esetén „P” betűt kell feltüntetni; a 6.8.2.4.3 pont szerint végrehajtott tömörségi vizsgálat esetén a „hónap, év” után „L” betűt kell feltüntetni;

12) A mértékegységet a szám után fel kell tüntetni.

- a vizsgálatokat végző szakértő bélyegzőlenyomata;
- a tartány anyaga az esetleges anyagszabványok megjelölésével, és – ha van – a védőborítás (bélés) anyaga;
- a tartány egészére alkalmazott próbanyomás (túlnyomás) és az egyes kamrák próbanyomása (túlnyomás), ha a kamrákenti próbanyomás kisebb, mint az egész tartány próbanyomása, MPa-ban vagy bar-ban<sup>12)</sup>.

A nyomás alatt töltött vagy ürített tartányoknál az engedélyezett legnagyobb üzemi nyomást<sup>12)</sup> is fel kell tüntetni.

#### 6.8.2.5.2

A következő adatokat magán a tartányjárművön vagy egy táblán kell feltüntetni:

- a tulajdonos vagy üzemben tartó neve;
  - saját tömeg<sup>12)</sup>;
  - a megengedett legnagyobb összes tömeg<sup>12)</sup>.
- Leszerelhető tartányos járműveknél ezek az adatok nem szükségesek.

Leszerelhető tartányokon a 4.3.4.1.1 pont szerinti tartánykódot fel kell tüntetni magán a tartányon vagy egy táblán.

A következő adatokat magán a tankkonténeren vagy egy táblán kell feltüntetni:

- a tulajdonos vagy üzemben tartó neve;
- a tartány űrtartalma<sup>12)</sup>;
- saját tömeg<sup>12)</sup>;
- a megengedett legnagyobb rakott tömeg<sup>12)</sup>;
- a 4.3.4.1.3 pont szerinti anyagok esetében a szállításra engedélyezett anyag(ok) helyes szállítási megnevezése;
- a 4.3.4.1.1 pont szerinti tartánykód;
- a nem a 4.3.4.1.3 pont szerinti anyagok esetében minden különleges előírás TC és TE betűkkel kezdődő kódja, amely a tartányban szállítandó anyag(ok)ra a 3.2 fejezet „A” táblázat 13 oszlopában fel van tüntetve.

#### 6.8.2.6

#### A szabvány szerint tervezett, gyártott és vizsgált tartányokra vonatkozó követelmények

**Megjegyzés:** A szabványokban megnevezett, az ADR értelmében felelős személyeknek vagy szervezeteknek be kell tartaniuk az ADR előírásait.

A következő táblázatban felsorolt szabványokat a tartány gyártási idejétől függően kell alkalmazni a 6.8 fejezetnek a táblázat (1) oszlopában hivatkozott követelményeinek kielégítésére. A szabványokat a (4) oszlop szerinti esetekben kell, ill. az (5) oszlop szerinti esetekben lehet alkalmazni. A 6.8 fejezetnek a táblázat (1) oszlopában hivatkozott követelményei azonban minden esetben elsőbbséget élveznek.

Ha ugyanarra a követelményre több szabvány van kötelezően alkalmazandónak feltüntetve, akkor csak az egyiket kell alkalmazni, de azt teljes egészében, kivéve, ha a következő táblázatban másként van megadva.

| A vonatkozó bekezdés, ill. pont | Hivatkozás              | A dokumentum címe  | Kötelező alkalmazni, ha a tartány gyártási ideje: | Alkalmazható, ha a tartány gyártási ideje: |
|---------------------------------|-------------------------|--|---|--|
| (1)                             | (2)                     | (3)  | (4)   | (5)  |
| <b>Minden tartányra</b>         |                         |  |   |  |
| 6.8.2.1                         | EN 14025:2003 + AC:2005 | Veszélyes anyagok szállító-tartályai. Fém nyomástartó tartályok. Tervezés és gyártás |   | 2005. jan. 1. és 2009. jún. 30. között     |
| 6.8.2.1                         | EN 14025:2008           | Veszélyes anyagok szállító-tartályai. Fém nyomástartó tartályok. Tervezés és gyártás | 2009. júl. 1-től                                  | 2009. júl. 1. előtt                        |



| A vonatkozó bekezdés,<br>ill. pont   | Hivatkozás   | A dokumentum címe   | Kötelező<br>alkalmazni, ha a<br>tartány gyártási<br>ideje: | Alkalmazható,<br>ha a tartány<br>gyártási ideje: |
|--|--|---|--|--|
| (1)  | (2)  | (3)   | (4)  | (5)  |
| 6.8.2.2.1  | EN 14432:2006  | Veszélyes anyagok szállítótartályai.<br>Folyékony vegyszerek szállítótartályainak szerelvényei.<br>Termékűritő és levegő-beömlő szelepek  | 2011. jan. 1-től   | 2011. jan. 1. előtt                              |
| 6.8.2.2.1  | EN 14433:2006  | Veszélyes anyagok szállítótartályai.<br>Folyékony vegyszerek szállítótartályainak szerelvényei.<br>Fenékszelepek  | 2011. jan. 1-től   | 2011. jan. 1. előtt                              |
| <b>Vizsgálatokra</b>   |  |   |  |  |
| 6.8.2.4; 6.8.3.4   | EN 12972:2001<br>(a D és az E Melléklet kivételével) | Szállítótartályok veszélyes anyagok szállítására.<br>A fém szállítótartályok vizsgálata, ellenőrzése és megjelölése   | 2009. jan. 1. és 2010. dec. 31. között*                    | 2003. jan. 1. és 2008. dec. 31. között           |
| * Kivéve, ha ugyanarra a célra másik szabvány alkalmazása engedélyezett az (5) oszlopban az ugyanakkor gyártott tartányokra.   |  |   |  |  |
| 6.8.2.4; 6.8.3.4   | EN 12972:2007  | Szállítótartályok veszélyes anyagok szállítására.<br>A fém szállítótartályok vizsgálata, ellenőrzése és megjelölése   | 2011. jan. 1-től   | 2011. jan. 1. előtt                              |
| <b>Legfeljebb 50 kPa legnagyobb üzemi nyomású tartányokra olyan anyagok szállításához, amelyeknél a 3.2 fejezet „A” táblázat 12 oszlopában „G” betűt tartalmazó tartánykód található</b> |  |   |  |  |
| 6.8.2.1  | EN 13094:2004  | Veszélyes anyagok szállítótartályai.<br>Fém tartályok legfeljebb 0,5 bar üzemi nyomásra.<br>Kialakítás és konstrukció   |  | 2005. jan. 1. és 2009. dec. 31. között           |
| 6.8.2.1  | EN 13094:2008  | Veszélyes anyagok szállítótartályai.<br>Fém tartályok legfeljebb 0,5 bar üzemi nyomásra.<br>Kialakítás és konstrukció   | 2010. jan. 1-től   | 2010. jan. 1. előtt                              |
| <b>Tartányokra a 2 osztály gázaihoz</b>  |  |   |  |  |
| 6.8.2.1 (kivéve 6.8.2.1.17);<br>6.8.2.4.1 (kivéve a tömörségi próbát);<br>6.8.2.5.1, 6.8.3.1 és 6.8.3.5.1  | EN 12493:2001<br>(a C melléklet kivételével)         | Hegesztett acéltartályok cseppfolyósított szénhidrogén gázhoz (LPG-hez).<br>Közúti tartálykocsik.<br>Tervezés és gyártás<br><br><i>Megjegyzés: A közúti tartálykocsik az ADR értelmében „rögzített tartányok”, ill. „leszerelhető tartányok”.</i> | 2009. jan. 1. és 2010. dec. 31. között                     | 2005. jan. 1. és 2008. dec. 31. között           |

| A vonatkozó bekezdés,<br>ill. pont  | Hivatkozás   | A dokumentum címe  | Kötelező<br>alkalmazni, ha a<br>tartány gyártási<br>ideje: | Alkalmazható,<br>ha a tartány<br>gyártási ideje: |
|---|--|--|--|--|
| (1)   | (2)  | (3)  | (4)  | (5)  |
| 1.2.1, 6.8.1,<br>6.8.2.1 (kivéve<br>6.8.2.1.17);<br>6.8.2.5, 6.8.3.1 –<br>6.8.5.3   | EN 12493:2008<br>(a C melléklet<br>kivételével)        | LPG-berendezések és –<br>tartozékok. Hegesztett<br>acéltartályok cseppfolyósított<br>szénhidrogéngázhoz (LPG-<br>hez). Közúti tartálykocsik.<br>Tervezés és gyártás<br><br><i>Megjegyzés: A közúti tartály-<br/>kocsik az ADR értelmében<br/>„rögzített tartányok”, ill.<br/>„leszerelhető tartányok”.</i> | 2011. jan.1-től  | 2011. jan.1. előtt                               |
| 6.8.3.2 (kivéve<br>6.8.3.2.3)   | EN 12252:2000  | Cseppfolyósított szén-<br>hidrogéngázt (LPG-gázt)<br>szállító közúti tartálykocsik<br>berendezései<br><br><i>Megjegyzés: A közúti<br/>tartálykocsik az ADR<br/>értelmében „rögzített<br/>tartányok”, ill. „leszerelhető<br/>tartányok”.</i>  | 2009. jan.1. és<br>2010. dec. 31.<br>között                | 2005. jan.1. és<br>2008. dec. 31.<br>között      |
| 6.8.3.2 (kivéve<br>6.8.3.2.3) és 6.8.3.4.9  | EN 12252:2005<br>+ A1:2008                             | LPG-berendezések és -<br>tartozékok. LPG-t szállító<br>közúti tartálykocsik<br>szerelvényei<br><br><i>Megjegyzés: A közúti<br/>tartálykocsik az ADR<br/>értelmében „rögzített<br/>tartányok”, ill. „leszerelhető<br/>tartányok”.</i>   | 2011. jan.1-től  | 2011. jan.1. előtt                               |
| 6.8.2.1 (kivéve<br>6.8.2.1.17), 6.8.2.4,<br>6.8.3.1 és 6.8.3.4  | EN 13530-<br>2:2002                                    | Kriogén tartályok.<br>Nagyméretű, szállítható,<br>vákuumszigetelésű tartályok.<br>2. rész: Tervezés, gyártás,<br>ellenőrzés és vizsgálatok   |  | 2005. jan. 1. és<br>2007. jún. 30.<br>között     |
| 6.8.2.1 (kivéve<br>6.8.2.1.17), 6.8.2.4,<br>6.8.3.1 és 6.8.3.4  | EN 13530-<br>2:2002<br>+A1:2004                        | Kriogén tartályok.<br>Nagyméretű, szállítható,<br>vákuumszigetelésű tartályok.<br>2. rész: Tervezés, gyártás,<br>ellenőrzés és vizsgálatok   | 2009. jan.. 1-től  | 2009. jan. 1. előtt                              |
| 6.8.2.1 (kivéve<br>6.8.2.1.17, 6.8.2.1.19<br>és 6.8.2.1.20),<br>6.8.2.4, 6.8.3.1 és<br>6.8.3.4  | EN 14398-<br>2:2003<br>(az 1. táblázat<br>kivételével) | Kriogén tartályok.<br>Nagyméretű, szállítható, nem<br>vákuumszigetelésű tartályok.<br>2. rész: Tervezés, gyártás,<br>ellenőrzés és vizsgálat   | 2009. jan.. 1-től  | 2009. jan. 1. előtt                              |
| <b>Mérgező vagy maró járulékos veszéllyel nem rendelkező, 50 °C-on legfeljebb 110 kPa gőznyomású folyékony köölaj termékek és egyéb, 3 osztályba tartozó anyagok, ill. benzin szállítására szolgáló tartányokra</b> |  |  |  |  |
| 6.8.2.1   | EN 13094:2004  | Veszélyes anyagok<br>szállítótartályai.<br>Fém tartályok legfeljebb<br>0,5 bar üzemi nyomásra.<br>Kialakítás és konstrukció  |  | 2005. jan. 1. és<br>2009. dec. 31.<br>között     |



| A vonatkozó bekezdés,<br>ill. pont  | Hivatkozás  | A dokumentum címe   | Kötelező<br>alkalmazni, ha a<br>tartány gyártási<br>ideje: | Alkalmazható,<br>ha a tartány<br>gyártási ideje: |
|---|---|---|--|--|
| (1)   | (2)   | (3)   | (4)  | (5)  |
| 6.8.2.1   | EN 13094:2008   | Veszélyes anyagok szállítótartályai. Fémtartályok legfeljebb 0,5 bar üzemi nyomásra. Kialakítás és konstrukció              | 2010. jan. 1-től   | 2010. jan. 1. előtt                              |
| 6.8.2.2 és 6.8.2.4.1  | EN 13082: 2001  | Szállítótartályok veszélyes anyagok szállítására. A szállítótartályok szerelvényei. Gázlefejtő szelep                       | 2009. jan.. 1-től  | 2009. jan. 1. előtt                              |
| 6.8.2.2 és 6.8.2.4.1  | EN 13308:2002   | Veszélyes anyagok szállítótartályai. A tartályok kezelőelemei. Nyomás-kiegyenlítő fenékszelep                               | 2009. jan.. 1-től  | 2009. jan. 1. előtt                              |
| 6.8.2.2 és 6.8.2.4.1  | EN 13314:2002   | Veszélyes anyagok szállítótartályai. A tartályok kezelőelemei. Töltőnyílásfedél   | 2009. jan.. 1-től  | 2009. jan. 1. előtt                              |
| 6.8.2.2 és 6.8.2.4.1  | EN 13316:2002   | Veszélyes anyagok szállítótartályai. A tartályok kezelőelemei. Nyomás-kiegyenlített fenékszelep                             | 2009. jan.. 1-től  | 2009. jan. 1. előtt                              |
| 6.8.2.2 és 6.8.2.4.1  | EN 13317:2002   | Veszélyes anyagok szállítótartályai. A tartályok kezelőelemei. Búvónyílásfedél  |  | 2005. jan. 1. és 2007. jún. 30. között           |
| 6.8.2.2 és 6.8.2.4.1  | EN 13317:2002<br>(a B Melléklet B.2 táblázata és ábrája kivételével)<br>(az anyagnak az EN 13094:2004, 5.2 paragrafus követelményeinek meg kell felelnie) | Veszélyes anyagok szállítótartályai. A tartályok kezelőelemei. Búvónyílásfedél  | 2009. jan.1. és 2010. dec. 31. között*                     | 2007. jan. 1. és 2008. dec. 31. között           |
| * Kivéve, ha ugyanarra a célra másik szabvány alkalmazása engedélyezett az (5) oszlopban az ugyanakkor gyártott tartányokra |   |   |  |  |
| 6.8.2.2 és 6.8.2.4.1  | EN 13317:2002 + A1:2006   | Veszélyes anyagok szállítótartályai. A tartályok kezelőelemei. Búvónyílásfedél  | 2011. jan.1-től  | 2011. jan.1. előtt                               |
| 6.8.2.2 és 6.8.2.4.1  | EN 14595:2005   | Szállítótartályok veszélyes anyagok szállítására. A szállítótartályok szerelvényei. Túlnyomásos és depressziós szellőztetés | 2009. jan.. 1-től  | 2009. jan. 1. előtt                              |

**6.8.2.7**

*A nem szabvány szerint tervezett, gyártott és vizsgált tartányokra vonatkozó követelmények*

Az illetékes hatóság elismerhet olyan, azonos biztonsági szintet eredményező műszaki

szabályzatot, amely célja a tudományos és műszaki haladás követése, vagy amely olyan szakterületre vonatkozik, amelyre a 6.8.2.6 bekezdésben nem szerepel szabvány, ill. olyan részterületet érint, amellyel a 6.8.2.6 bekezdésben szereplő szabvány nem foglalkozik. A 6.8.2 szakasz minimális követelményeinek azonban ezeknek a tartányoknak is meg kell felelniük.

Az elismert szabályzatok jegyzékét az illetékes hatóságnak meg kell küldenie az ENSZ Európai Gazdasági Bizottság Titkárságának. A jegyzéknek tartalmaznia kell a szabályzat(ok) címét, dátumát, tárgyát és elérhetőségének részleteit. A Titkárság a jegyzékeket a honlapján nyilvánosságra hozza.

A vizsgálatokra és a jelölésekre a 6.8.2.6 bekezdésben felsorolt, megfelelő szabványok is alkalmazhatók.

### 6.8.3 A 2 osztályra vonatkozó különleges előírások

#### 6.8.3.1 A tartányok gyártása

**6.8.3.1.1** A sűrített, a cseppfolyósított, ill. az oldott gázok szállítására használt tartányokat acélból kell készíteni. Hegesztés nélküli tartány esetén a 6.8.2.1.12 pontban előírtaktól eltérően 14%-os legkisebb szakadási nyúlás és az anyagtól függő, a következőkben megadott értékhatárokkal egyenlő vagy ezeknél kisebb  $\sigma$  feszültség elfogadható:

- a) ha hőkezelés után a minimálisan szavatolt jellemzők  $R_e/R_m$  aránya 0,66-nál nagyobb, de nem haladja meg a 0,85-öt:

$$\sigma \leq 0,75 R_e;$$

- b) ha hőkezelés után a minimálisan szavatolt jellemzők  $R_e/R_m$  aránya nagyobb, mint 0,85:  $\sigma \leq 0,5 R_m$ .

**6.8.3.1.2** A hegesztett tartányok gyártási anyagára és gyártására a 6.8.5 szakasz előírásait kell alkalmazni.

**6.8.3.1.3** (fenntartva)

*A battériás járművek és a MEG-konténerek gyártása*

**6.8.3.1.4** A battériás jármű vagy MEG-konténer elemeit képező palackokat, nagypalackokat, gázhordókat és palackkötegeket a 6.2 fejezet szerint kell gyártani.

**Megjegyzés:** 1. Azokra a palackkötegekre, amelyek nem battériás jármű vagy MEG-konténer elemei, a 6.2 fejezet követelményei vonatkoznak.

2. A battériás jármű vagy MEG-konténer elemeit képező tartányokat a 6.8.2.1 és a 6.8.3.1 bekezdés szerint kell gyártani.

3. A leszerelhető tartányok<sup>13)</sup> nem tekinthetők battériás jármű vagy MEG-konténer elemeinek.

**6.8.3.1.5** Az elemeknek és rögzítésüknek alkalmasnak kell lenniük a megengedett legnagyobb rakomány mellett a 6.8.2.1.2 pontban meghatározott erők felvételére. Bármelyik erő hatására a feszültség az elem és rögzítésének leginkább igénybevett részén nem lehet nagyobb a 6.2.5.3 bekezdésben meghatározott  $\sigma$  értéknél palackok, nagypalackok, gázhordók és palackkötegek esetén, illetve a 6.8.2.1.16 pontban meghatározott  $\sigma$  értéknél tartányok esetében.

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13) A „leszerelhető tartány” meghatározására lásd az 1.2.1 szakaszt.

**6.8.3.2 Szerelvények**

- 6.8.3.2.1** A tartányok kifolyócsöveinek vakkarimával vagy azzal egyenértékű megbízhatóságú szerkezettel elzárhatóknak kell lenniük. A mélyhűtött, cseppfolyósított gázok szállítására használt tartányoknál ezeket a vakkarimákat vagy az azzal egyenértékű szerkezeteket el lehet látni legfeljebb 1,5 mm átmérőjű nyomáscsökkentő furatokkal.
- 6.8.3.2.2** A cseppfolyósított gázok szállítására használt tartányokat a 6.8.2.2.2 és a 6.8.2.2.4 pontban - előírt nyílásokon kívül el lehet látni folyadékszint-mutató, hőmérő vagy nyomásmérő behelyezésére alkalmas nyílásokkal, valamint légtelenítőnyílással, ha az üzemeltetéshez, ill. a biztonság érdekében szükségesek.
- 6.8.3.2.3** A gyúlékony és/vagy mérgező cseppfolyósított gázok szállítására használt  
| 1 m<sup>3</sup>-nél nagyobb befogadóképességű  
tartányok minden töltő- és ürítőnyílását el kell látni olyan, azonnal záródó belső biztonsági szerkezettel, amely a tartány véletlen elmozdulása vagy tűz esetén önműködően lezár. A zárszerkezetnek távolról is működtethetőnek kell lennie.
- 6.8.3.2.4** A gyúlékony és/vagy mérgező cseppfolyósított gázok szállítására használt tartányok minden 1,5 mm-nél nagyobb névleges átmérőjű nyílását – kivéve a biztonsági szelepek nyílásait és a zárt légtelenítő nyílásokat – fel kell szerelni belső zárszerkezettel.
- 6.8.3.2.5** A 6.8.2.2.2, a 6.8.3.2.3 és a 6.8.3.2.4 pont előírásaitól eltérően a mélyhűtött, cseppfolyósított gázok szállítására használt tartányoknál a belső zárszerkezet helyett külső zárszerkezet is alkalmazható, ha ez a külső szerkezet legalább a tartány falával egyenértékű védelmet nyújt a külső sérülésekkel szemben.
- 6.8.3.2.6** Ha a tartány mérőeszközzel van felszerelve, ennek a szállított anyaggal közvetlenül érintkező része nem lehet áttetsző anyagból. Ha hőmérők vannak, ezek nem nyúlhatnak be közvetlenül a gázba vagy a folyadékba a tartány falán keresztül.
- 6.8.3.2.7** A tartány felső részén levő töltő- és ürítőnyílásokat a 6.8.3.2.3 pontban előírtakon kívül fel kell szerelni egy második, külső zárszerkezettel is. Ennek vakkarimával vagy más, egyenértékű biztonságot adó szerkezettel zárhatóknak kell lennie.
- 6.8.3.2.8** A biztonsági szelepeknek meg kell felelniük a következő 6.8.3.2.9 – 6.8.3.2.12 pont követelményeinek.
- 6.8.3.2.9** A sűrített, a cseppfolyósított, ill. az oldott gázok szállítására használt tartányokat el lehet látni rugóterhelésű biztonsági szelepekkel. A biztonsági szelepeknek önműködően kell nyílniuk (lefújniuk) a tartány próbanyomásának 0,9...1,0-szeresénél. Ezeket úgy kell kialakítani, hogy ellenálljanak a dinamikus igénybevételeknek, beleértve a folyadék hullámozását is. Súlyterhelésű (ellensúlyos) szelepek alkalmazása tilos. A biztonsági szelepek szükséges teljesítményét a 6.7.3.8.1.1 pontban található képlettel kell meghatározni.
- 6.8.3.2.10** Ha a tartányt tengeri szállításra szánják, a 6.8.3.2.9 pont követelményei nem akadályozhatják az IMDG Kódexnek megfelelő biztonsági szelepek felszerelését.
- 6.8.3.2.11** A mélyhűtött, cseppfolyósított gázok szállítására használt tartányokat legalább két, egymástól független biztonsági szeleppel kell ellátni, amelyek a tartányon feltüntetett legnagyobb üzemi nyomáson képesek kinyílni. A biztonsági szelepek közül kettőt úgy kell méretezni, hogy egyenként képesek legyenek a normális üzemelés során a párolgással létrejövő gázokat kiengedni a tartányból oly módon, hogy a nyomás ne emelkedjen 10%-nál nagyobb mértékben a tartányon megjelölt üzemi nyomás fölé.
- A biztonsági szelepek közül az egyik olyan hasadótárcsával helyettesíthető, amely a próbanyomásnál átszakad.
- Kettős falú tartánynál a vákuum megszűnése, vagy egyszeres falú tartánynál a szigetelés 20%-ának tönkremenetele esetén a nyomáscsökkentő szerkezetek kombinációjának olyan

kiömlési keresztmetszetet kell szabaddá tenni, hogy a tartányban a nyomás ne léphesse túl a próbanyomást. A 6.8.2.1.7 pont előírásait a vákuumszigetelésű tartányokra nem kell alkalmazni.

**6.8.3.2.12** A mélyhűtött, cseppfolyósított gázok szállítására használt tartányok nyomáscsökkentő szerkezeteit úgy kell kialakítani, hogy még a legkisebb üzemi hőmérsékleten is hibátlanul működjenek. Az e hőmérsékleten való hibátlan működést az egyes szerkezetek vizsgálatával vagy gyártási típus vizsgálatával kell megállapítani és igazolni.

**6.8.3.2.13** A gördíthető, leszerelhető tartányok szelepeit |  
védőkupakkal kell ellátni.

#### *Hőszigetelés*

**6.8.3.2.14** Ha a cseppfolyósított gázok szállítására használt tartány hőszigetelt, akkor ennek a szigetelésnek

- vagy napsugárzás elleni fényvédő tetőből kell állnia, amely a tartány felületének legalább a felső harmadát, de legfeljebb a felső felét takarja, és attól legalább 4 cm-es légréteg választja el;
- vagy szigetelőanyagból készült, elegendő vastagságú teljes burkolatból kell állnia.

**6.8.3.2.15** A mélyhűtött, cseppfolyósított gázok szállítására használt tartányokat hőszigeteléssel kell ellátni, amit teljes (folytonos) burkolattal kell védeni. Ha a tartány és a burkolat között légüres tér van (vákuumszigetelés), a védőburkolatot úgy kell méretezni, hogy alakváltozás nélkül legalább 100 kPa (1 bar) külső nyomást (túlnyomást) viseljen el. A „tervezési nyomás” 1.2.1 szakaszban adott meghatározásától eltérően a méretezés során a külső és a belső erősítő elemek figyelembe vehetők. Ha a burkolat gázzáró, külön szerkezettel meg kell akadályozni, hogy a szigetelőrétegben a tartány vagy a szerelvények tömítetlensége esetén veszélyes nyomás lépjen fel. Ezen a szerkezeten keresztül a nedvesség nem szívároghat be a hőszigetelő rétegbe.

**6.8.3.2.16** Az atmoszferikus nyomáson  $-182\text{ °C}$  alatti forráspontú, cseppfolyósított gázok szállítására használt tartányokon sem a hőszigeteléshez, sem a felerősítő elemekhez nem szabad gyúlékony anyagot felhasználni.

A vákuumszigetelt tartányoknál – az illetékes hatóság beleegyezésével – a burkolat és a tartányfal közötti felerősítő elemek tartalmazhatnak műanyagot.

**6.8.3.2.17** A 6.8.2.2.4 pont követelményeitől eltérően a mélyhűtött, cseppfolyósított gázok szállítására használt tartányokat nem kell vizsgálónnyílással ellátni.

#### *Battériás járművek és MEG-konténerek szerelvényei*

**6.8.3.2.18** Az üzemi és szerkezeti szerelvényeket úgy kell kialakítani vagy elrendezni, hogy normális szállítási és kezelési körülmények között ne sérülhessenek úgy meg, hogy a nyomástartó tartály tartalma a szabadba jusson. Amennyiben a battériás jármű, ill. a MEG-konténer keretváza és az elemek közötti kapcsolat lehetővé teszi a szerkezeti részegységek egymáshoz képesti elmozdulását, a szerelvényeket úgy kell rögzíteni, hogy az ilyen elmozdulás a részegységek sérülésének veszélye nélkül lehetővé váljon. A zárószelepekhez vezető gyűjtőcső vezetéknek elegendően hajlékonynak kell lennie, hogy ne következhesen be a szelep, ill. a csővezeték nyíródása, ill. a nyomástartó tartály tartalma ne szabadulhasson ki. A töltő- és ürítőszerkezeteket (beleértve a karimákat és a menetes dugókat is), valamint az esetleges védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.

**6.8.3.2.19** A sérülésből adódó elfolyás elkerülése érdekében a gyűjtőcső rendszert, az ürítő szerelvényeket (csőcsonkokat, zárószerkezeteket) és a zárószelepeket úgy kell kialakítani, hogy a külső erőhatásra történő leszakadás ellen védve legyenek, vagy az ilyen erőhatásnak ellen tudjanak állni.

**6.8.3.2.20** A gyűjtőcső rendszert  $-20\text{ °C} \dots +50\text{ °C}$  hőmérséklet tartományban történő üzemelésre kell tervezni.

A gyűjtőcső rendszert úgy kell tervezni, gyártani és felszerelni, hogy ne jöjjön létre sérülésveszély a hőtágulás és összehúzódás, a mechanikai ütések és rezgések következtében. Minden csővezeték megfelelő fémes anyagból kell készíteni. Ahol csak lehetséges hegesztett csökötetéseket kell alkalmazni.

A rézcsövek csatlakozásait keményforrasztással kell készíteni vagy azzal azonos szilárdságú, fémes csökötetést kell alkalmazni. A forrasztófém (keményforrasztó) olvadáspontja nem lehet 525 °C-nál alacsonyabb. A kötések nem csökkenthetik a csővezeték szilárdságát, mint az csavarmentes kötéseknel előfordulhat.

- 6.8.3.2.21** Az UN 1001 oldott acetilén kivételével a gyűjtőcső rendszer legnagyobb megengedett  $\sigma$  feszültsége a tartány próbanyomásánál nem haladhatja meg az anyagra szavatolt folyáshatár 75%-át.

A gyűjtőcső rendszer szükséges falvastagságát az UN 1001 oldott acetilén esetében jóváhagyott műszaki szabályzat alapján kell kiszámítani.

*Megjegyzés:* A folyáshatárra lásd a 6.8.2.1.11 pontot.

Ezen bekezdés alapvető követelményei teljesítettnek tekinthetők, ha a következő szabványokat alkalmazzák: (fenntartva).

- 6.8.3.2.22** A 6.8.3.2.3, a 6.8.3.2.4 és a 6.8.3.2.7 pont követelményeitől eltérően a battériás jármű, ill. MEG-konténer elemeit képező palackoknál, nagypalackoknál, gázhordóknál és palackkötegeknél az előírt zárószerkezet a gyűjtőcső rendszeren belül is elhelyezhető.

- 6.8.3.2.23** Ha az egyik elemen biztonsági szelep van, és az elemek között zárószerkezetek vannak, akkor minden egyes elemet el kell látni ilyen biztonsági szeleppel.

- 6.8.3.2.24** A töltésre és ürítésre használt berendezések gyűjtőcsőre rögzíthetők.

- 6.8.3.2.25** A mérgező gázok szállítására szolgáló minden elemnek, beleértve a palackkötegek minden egyes palackját, zárószeleppel elválaszthatónak kell lennie.

- 6.8.3.2.26** A mérgező gázok szállítására szolgáló battériás járműveken és MEG-konténereken nem lehetnek biztonsági szelepek, kivéve, ha a biztonsági szelep előtt hasadótárcsa van. Ez utóbbi esetben a hasadótárcsa és a biztonsági szelep elrendezésének meg kell felelnie az illetékes hatóság követelményeinek.

- 6.8.3.2.27** Ha a battériás járművet, ill. MEG-konténert tengeri szállításra szánják, a 6.8.3.2.26 pont követelményei nem akadályozhatják az IMDG Kódexnek megfelelő biztonsági szelep felszerelését.

- 6.8.3.2.28** Azokat a tartályokat, amelyek gyúlékony gázok szállítására használt battériás jármű, ill. MEG-konténer elemei, legfeljebb 5000 liter űrtartalmú csoportokká kell egyesíteni, amelyeknek zárószeleppel elválaszthatónak kell lenniük.

Ha a gyúlékony gázok szállítására használt battériás jármű, ill. MEG-konténer e fejezetnek megfelelő tartányokból áll, minden elemnek zárószeleppel elválaszthatónak kell lennie.

### **6.8.3.3** *Típusjóváhagyás*

Nincs különleges előírás.

### **6.8.3.4** *Vizsgálatok*

- 6.8.3.4.1** Minden hegesztett tartány anyagát, kivéve azokat a palackokat, nagypalackokat, gázhordókat és a palackkötegek palackjait, amelyek battériás jármű, ill. MEG-konténer elemei, a 6.8.5 szakaszban előírt módszerrel kell megvizsgálni.

- 6.8.3.4.2** A próbanyomásra vonatkozó alapkövetelményeket a 4.3.3.2.1 – 4.3.3.2.4 pont tartalmazza, és a legkisebb próbanyomások a 4.3.3.2.5 pontban a gázok és gázkeverékek táblázatában

találhatók.

**6.8.3.4.3** Az első folyadéknomás-próbát a hőszigetelés felhelyezése előtt kell végrehajtani. Ha a tartányt, szerelvényeit, a csővezetékét és az egyéb szerelvényeket külön-külön vizsgálták, akkor a tartányt összeszerelés után kell a tömörségi próbának alávetni.

**6.8.3.4.4** A tömegre töltött sűrített gázok, valamint a cseppfolyósított gázok és az oldott gázok szállítására használt minden egyes tartány űrtartalmát hatóság által elismert szakértő felügyelete mellett a víztöltet tömegének vagy térfogatának mérésével kell megállapítani; az űrtartalom-meghatározás mérési hibája legfeljebb 1% lehet. A tartány méretei alapján számítással való megállapítás tilos. A 4.1.4.1 bekezdés P200 és P203 csomagolási utasításában, valamint a 4.3.3.2.2 és a 4.3.3.2.3 pontban foglaltaknak megfelelő, legnagyobb megengedett töltést hatóság által elismert szakértőnek kell megállapítani.

**6.8.3.4.5** A hegesztési varratokat a 6.8.2.1.23 pontban a  $\lambda = 1,0$  tényezőhöz tartozó előírásoknak megfelelően kell vizsgálni.

**6.8.3.4.6** A 6.8.2.4 bekezdés követelményeitől eltérően a 6.8.2.4.2 pont szerinti időszakos vizsgálatot:

- a) az UN 1008 bór-trifluorid, az UN 1017 klór, az UN 1048 hidrogén-bromid, vízmentes, az UN 1050 hidrogén-klorid, vízmentes, az UN 1053 hidrogén-szulfid vagy az UN 1079 kén-dioxid szállítására használt tartányoknál  
 legalább három évenként | legalább két és fél évenként  
 kell végrehajtani;
- b) a mélyhűtött, cseppfolyósított gázok szállítására használt tartányoknál  
 legfeljebb hat évvel | legfeljebb nyolc évvel  
 az üzembe helyezés után és azt követően legalább 12 évenként kell végrehajtani.

Minden időszakos vizsgálat után legfeljebb hat évvel a 6.8.2.4.3 pont szerinti közbenső vizsgálatot kell végrehajtani. Két, egymást követő időszakos vizsgálat között az illetékes hatóság tömörségi próba vagy a 6.8.2.4.3 pont szerinti közbenső vizsgálat megtartását kívánhatja meg.

Ha a tartányt, szerelvényeit, a csővezetékét és az egyéb szerelvényeket külön-külön vizsgálták, akkor a tartányt összeszerelés után kell a tömörségi próbának alávetni.

**6.8.3.4.7** Vákuumszigeteléssel ellátott tartányoknál a belső állapot ellenőrzését és a folyadéknomás-próbát a hatóságilag elismert szakértő beleegyezésével tömörségi próbával és a vákuum mérésével lehet helyettesíteni.

**6.8.3.4.8** Ha a mélyhűtött, cseppfolyósított gázok szállítására használt tartányokon az időszakos vizsgálat során nyílásokat vágnak, a használatbavétel előtt a tartány használhatóságát (légmentes zárását) biztosító visszahegesztés módját hatóság által elismert szakértőnek kell engedélyeznie.

**6.8.3.4.9** A gázok szállítására használt tartányok tömörségi próbáját legalább a következő nyomással kell végezni:

- a sűrített, a cseppfolyósított, ill. az oldott gázoknál a próbanyomás 20%-a;
- a mélyhűtött, cseppfolyósított gázoknál a legnagyobb üzemi nyomás 90%-a.

*Battériás járművek és MEG-konténerek vizsgálata*

**6.8.3.4.10** A battériás járművek és MEG-konténerek elemeit és szerelvényeit együtt vagy külön-külön az első üzembe helyezés előtt vizsgálatnak kell alávetni (üzembe helyezés előtti vizsgálat). Ezt követően az olyan battériás járműveket, ill. MEG-konténereket, amelyek elemei tartályok, legalább ötévenként kell vizsgálatnak alávetni. Az olyan battériás járműveket, ill. MEG-konténereket, amelyek elemei tartályok, a 6.8.3.4.6 pont szerint kell vizsgálatnak alávetni. Függetlenül az utolsó időszakos vizsgálat időpontjától, soron kívüli vizsgálatot kell végezni, ha a 6.8.3.4.14 pont szerint erre szükség van.



- 6.8.3.4.11** Az üzembe helyezés előtti vizsgálatnak magában kell foglalnia:
- annak ellenőrzését, hogy a tartány megfelel-e a jóváhagyott mintapéldánynak;
  - a szerkezeti jellemzők ellenőrzését;
  - a belső és a külső állapot vizsgálatát;
  - a folyadéknomás-próbát<sup>14)</sup> a 6.8.3.5.10 pontban előírt táblán feltüntetett próbanyomással végrehajtva;
  - a tömörség vizsgálatát a legnagyobb üzemi nyomáson; és
  - a szerelvények megfelelő működésének ellenőrzését.
- Ha a nyomáspróbát az egyes elemeken és szerelvényeiken külön-külön végezték, a tömörségi próbát összeszerelt állapotban kell végrehajtani.
- 6.8.3.4.12** A palackokat, a nagypalackokat, a gázhordókat és a palackkötegeket alkotó palackokat a 4.1.4.1 bekezdés P200 és P203 csomagolási utasítása szerint kell vizsgálni.
- A battériás jármű, ill. MEG-konténer gyűjtőcső rendszere próbanyomásának ugyanakkorának kell lennie, mint a battériás jármű, ill. MEG-konténer elemeinek a próbanyomása. A gyűjtőcső rendszer folyadéknomás-próbája vízzel vagy az illetékes hatóság vagy az általa felhatalmazott szervezet hozzájárulásával más folyadékkal vagy gázzal is végezhető. E követelménytől eltérően az UN 1001 oldott acetilén szállítására használt battériás jármű, ill. MEG-konténer gyűjtőcső rendszer próbanyomásának legalább 30 MPa-nak (300 bar-nak) kell lennie.
- 6.8.3.4.13** Az időszakos vizsgálatnak a legnagyobb üzemi nyomással végzett tömörségi próbából és a szerkezet, az elemek és az üzemi szerelvények szétszerelés nélküli külső szemrevételezéséből kell állnia. Az elemeket és a csővezetékét a 4.1.4.1 bekezdés P200 csomagolási utasításában meghatározott időszakonként a 6.2.1.6, ill. 6.2.3.5 bekezdés követelményei szerint kell vizsgálni. Ha a nyomáspróbát az egyes elemeken és szerelvényeiken külön-külön végezték, a tömörségi próbát összeszerelt állapotban kell végrehajtani.
- 6.8.3.4.14** Soron kívüli vizsgálatot szükséges végezni, ha a battériás jármű, ill. MEG-konténer sérült, rozsdás, szivárog, vagy bármely más körülmény a battériás jármű, ill. MEG-konténer sértetlenségét befolyásolhatja. A soron kívüli vizsgálatnak, ill. az elemek esetleg szükséges szétszerelésének mértékét az határozza meg, hogy a battériás jármű, ill. MEG-konténer mennyire sérült vagy hibás. A soron kívüli vizsgálatnak azonban legalább a 6.8.3.4.15 pont szerintiekre kell kiterjednie.
- 6.8.3.4.15** A vizsgálat során biztosítani kell, hogy:
- a) külsőleg ellenőrizték az elemeket, hogy nincs rajtuk rozsdás, kipattogzás, kopás, horpadás, torzulás, hegesztési hiba vagy bármilyen más (pl. szivárgás), ami miatt a battériás jármű, ill. MEG-konténer szállítása nem lenne biztonságos;
  - b) ellenőrizték a csővezetékét, a szelepeket és a tömítéseket, hogy nincs rajtuk rozsdás, sérülés vagy bármilyen más (pl. szivárgás), ami miatt a battériás jármű, ill. MEG-konténer töltése, ürítése vagy szállítása nem lenne biztonságos;
  - c) a csőkarima csatlakozásoknál és vakkarimáknál a hiányzó vagy laza csavarokat vagy csavaranyákat pótolják, ill. meghúzzák;
  - d) minden biztonsági szerkezet és szelep mentes a korróziótól, deformációtól és minden olyan sérüléstől vagy meghibásodástól, ami megakadályozhatja normális működését. A távműködtetésű zárószerkezeteket és az önzáró szelepeket ki kell próbálni, hogy megfelelően működnek-e;
  - e) az előírt jelölések a battériás járművön, ill. a MEG-konténeren olvashatóak, és a vonatkozó követelményeknek megfelelnek; és

14) Különleges esetekben az illetékes hatóság által elismert szakértő hozzájárulásával a folyadéknomás-próba vízen kívül más folyadékkal vagy gázzal is elvégezhető, amennyiben ez az eljárás nem veszélyes.

- f) a battériás jármű, ill. MEG-konténer váz- és tartószerkezete, ill. emelésre szolgáló berendezései megfelelő állapotban vannak.

**6.8.3.4.16** A 6.8.3.4.10 – 6.8.3.4.15 pont szerinti vizsgálatokat, ellenőrzéseket és próbákat az illetékes hatóság által elismert szakértőnek kell végeznie, és e műveletek eredményéről tanúsítványt kell kiadnia, még akkor is, ha negatív eredménnyel jártak. A tanúsítványban – a 6.8.2.3.1 ponttal összhangban – hivatkozni kell azon anyagok felsorolására, amelyek szállítására a battériás járművet, ill. a MEG-konténert jóváhagyták. Minden egyes megvizsgált tartány, battériás jármű, ill. MEG-konténer tartány-vizsgálati könyvéhez (gépkönyvéhez) csatolni kell a tanúsítvány másolatát (ld. a 4.3.2.1.7 pontot).

### **6.8.3.5 Jelölés**

**6.8.3.5.1** A 6.8.2.5.1 pontban előírt fémtáblán vagy a tartány falán – ha a fal úgy van megerősítve, hogy a tartány szilárdságát nem csökkenti – a következő kiegészítő adatokat kell feltüntetni beütéssel vagy más hasonló módon.

**6.8.3.5.2** Csak egyféle anyag szállítására használt tartányokon:

- a gáz helyes szállítási megnevezését, ezenkívül az m.n.n. tételek alá sorolt gázoknál a műszaki megnevezést<sup>15)</sup>.

Ezt a jelölést ki kell egészíteni:

- térfogatra (nyomásra) töltött, sűrített gázok szállítására használt tartányok esetében a 15 °C-on a tartányra megengedett legnagyobb töltési nyomással; és
- a tömegre töltött, sűrített gázok, valamint a cseppfolyósított, a mélyhűtött, cseppfolyósított és az oldott gázok szállítására használt tartányok esetében a legnagyobb megengedett töltési tömeggel kg-ban és a töltési hőmérséklettel, ha az –20 °C alatt van.

**6.8.3.5.3** Többféle anyag szállítására használható (többcélú) tartányokon:

- a tartányra engedélyezett gázok helyes szállítási megnevezését és ezenkívül az m.n.n. tételek alá tartozó gázok esetében a műszaki megnevezést.<sup>15)</sup>

Ezen kívül minden gázra meg kell adni a legnagyobb megengedett töltési tömeget kg-ban.

**6.8.3.5.4** A mélyhűtött, cseppfolyósított gázok szállításához használt tartányokon:

- a legnagyobb engedélyezett üzemi nyomást.

**6.8.3.5.5** A hőszigeteléssel ellátott tartányokon:

- a „hőszigetelt” vagy „vákuummal hőszigetelt” feliratot.

**6.8.3.5.6** A 6.8.2.5.2 pontban előírt adatokon kívül a következőket kell felírni magára a tartányjárműre vagy egy táblára: | magára a tankkonténerre vagy egy táblára:

- a) a bizonyítvány szerinti (lásd a 6.8.2.3.1 pontot) tartánykódot a tartány tényleges próbanyomásával együtt;
  - az „engedélyezett legalacsonyabb töltési hőmérséklet ...” feliratot;
- b) ha a tartányt csak egyetlen anyag szállítására használják:

15) A „helyes szállítási megnevezés”, ill. – adott esetben – az „m.n.n. tétel helyes szállítási megnevezése a műszaki névvel kiegészítve” helyett a következő megnevezések is engedélyezettek:

- az UN 1078 hűtőgáz, m.n.n. esetében: F1 keverék, F2 keverék, F3 keverék;
- az UN 1060 metil-acetilén és propadién keverék, stabilizált esetén: P1 keverék, P2 keverék;
- az UN 1965 szénhidrogén-gáz keverék, cseppfolyósított, m.n.n. esetén: A keverék, A01 keverék, A02 keverék, A0 keverék, A1 keverék, B1 keverék, B2 keverék, B keverék, C keverék. A 2.2.2.3 bekezdésben a 2F osztályozási kód alatt az UN 1965 anyaghoz fűzött 1. megjegyzésben felsorolt kereskedelmi nevek csak kiegészítésképpen használhatók;
- az UN 1010 butadiének, stabilizált esetén: 1,2-butadién, stabilizált, 1,3-butadién, stabilizált.



- a gáz helyes szállítási megnevezését, ezenkívül az m.n.n. tételek alá sorolt gázoknál a műszaki megnevezést<sup>15)</sup>;
  - a tömegre töltött, sűrített gázok esetében, valamint a cseppfolyósított gázok, a mélyhűtött, cseppfolyósított gázok és az oldott gázok esetében a legnagyobb megengedett töltési tömeget kg-ban;
- c) ha a tartány többcélú:
- a tartányra engedélyezett gázok helyes szállítási megnevezését és ezenkívül az m.n.n. tételek alá tartozó gázok esetében a műszaki megnevezést<sup>15)</sup>;
  - ezen kívül minden gázra meg kell adni a legnagyobb megengedett töltési tömeget kg-ban;
- d) ha a tartány hőszigetelt:
- a „hőszigetelt” vagy „vákuummal hőszigetelt” feliratot a nyilvántartásba vevő ország egyik hivatalos nyelvén, valamint, ha ez a nyelv nem angol, francia vagy német, akkor ezen nyelvek egyikén, kivéve, ha a szállítás által érintett országok közötti megállapodások másként rendelkeznek.

**6.8.3.5.7** (fenntartva)

**6.8.3.5.8** Leszerelhető tartányokat hordozó járművek esetén ezeket az adatokat nem kell megkövetelni.

**6.8.3.5.9** (fenntartva)

*A battériás járművek és MEG-konténerek jelölése*

**6.8.3.5.10** Ellenőrzés céljából könnyen elérhető, szembetűnő helyre minden battériás járműre és MEG-konténerre nem korrodálódó fémtáblát kell tartósan rögzíteni. A táblán beütéssel vagy bármilyen más, hasonló módon legalább a következő adatokat kell feltüntetni:

- a jóváhagyás száma;
- a gyártó megnevezése vagy jele;
- a gyártási sorozat száma;
- a gyártás éve;
- a próbanyomás (túlnyomás)<sup>16)</sup>;
- a tervezési hőmérséklet<sup>16)</sup> (csak akkor, ha nagyobb, mint +50 °C vagy kisebb, mint –20 °C);
- a 6.8.3.4.10 – 6.8.3.4.13 pont szerint végrehajtott első, üzembe helyezés előtti vizsgálat és a legutóbbi időszakos vizsgálat időpontja (hónap, év);
- a vizsgálatokat végző szakértő bélyegzőlenyomata.

**6.8.3.5.11** A következő adatokat magán a battériás járművön vagy egy táblán kell feltüntetni:

- a tulajdonos vagy az üzemben tartó neve;
  - az elemek száma;
  - az elemek összes űrtartalma<sup>16)</sup>;
- és tömegre töltött battériás járműveknél:
- a saját tömeg<sup>16)</sup>;
  - a megengedett legnagyobb összes tömeg<sup>16)</sup>;

A következő adatokat magán a MEG-konténeren vagy egy táblán kell feltüntetni:

- a tulajdonos vagy az üzemben tartó neve;
- az elemek száma;
- az elemek összes űrtartalma<sup>16)</sup>;
- a megengedett legnagyobb rakott tömeg<sup>16)</sup>;
- a jóváhagyási bizonyítvány szerinti tartánycód (lásd a 6.8.2.3.1 pontot) a MEG-konténer tényleges próbanyomásával együtt<sup>16)</sup>;

16) A mértékegységet a szám után fel kell tüntetni.

- azon gázok helyes szállítási megnevezése (m.n.n. tétel alá sorolt gázok esetén kiegészítve a műszaki megnevezéssel<sup>17)</sup>), amelyek szállítására a MEG-konténert használják;
- és tömegre töltött MEG-konténereknél:
- a saját tömeg<sup>16)</sup>.

**6.8.3.5.12** A battériás jármű, ill. a MEG-konténer vázán a betöltőhely közelében elhelyezett táblán a következőket kell feltüntetni:

- a sűrített gázok szállítására használt elemeknél a legnagyobb megengedett töltési nyomást<sup>16)</sup> 15 °C-on;
- a gáz helyes szállítási megnevezését a 3.2 fejezet szerint és ezenkívül az m.n.n. tételek alá sorolt gázok esetében a műszaki megnevezést<sup>17)</sup>;

és ezenkívül cseppfolyósított gázok esetében:

- a legnagyobb megengedett töltési tömeget<sup>16)</sup> elemenként.

**6.8.3.5.13** A palackokat, a nagypalackokat, a gázhordókat, valamint a palackkötegek palackjait a 6.2.2.7 bekezdés szerint kell jelöléssel ellátni. Ezeket a tartályokat egyedileg nem kell az 5.2 fejezetben előírt veszélyességi bárcákkal ellátni.

A battériás járműveket és a MEG-konténereket az 5.3 fejezet szerint kell jelölni és nagybárcával ellátni.

**6.8.3.6** *A szabvány szerint tervezett, gyártott és vizsgált battériás járművekre, ill. MEG-konténerekre vonatkozó előírások*

**Megjegyzés:** A szabványokban megnevezett, az ADR értelmében felelős személyeknek vagy szervezeteknek be kell tartaniuk az ADR előírásait.

A következő táblázatban felsorolt szabványokat a battériás jármű, ill. MEG-konténer gyártási idejétől függően kell alkalmazni a 6.8 fejezetnek a táblázat (1) oszlopában hivatkozott követelményeinek kielégítésére. A szabványokat a (4) oszlop szerinti esetekben kell, ill. az (5) oszlop szerinti esetekben lehet alkalmazni. A 6.8 fejezetnek a táblázat (1) oszlopában hivatkozott követelményei azonban minden esetben elsőbbséget élveznek.

Ha ugyanarra a követelményre több szabvány van kötelezően alkalmazandónak feltüntetve, akkor csak az egyiket kell alkalmazni, de azt teljes egészében, kivéve, ha a következő táblázatban másként van megadva.

| A vonatkozó bekezdés,<br>ill. pont   | Hivatkozás        | A dokumentum címe  | Kötelező<br>alkalmazni, ha a<br>battériás jármű, ill.<br>MEG-konténer<br>gyártási ideje: | Alkalmazható, ha<br>a battériás jármű,<br>ill. MEG-<br>konténer gyártási<br>ideje: |
|--|-------------------|--|--|--|
| (1)  | (2)               | (3)  | (4)  | (5)  |
| 6.8.3.1.4 és 6.8.3.1.5,<br>6.8.3.2.18 – 6.8.3.2.26,<br>6.8.3.4.10 – 6.8.3.4.12 és<br>6.8.3.5.10 – 6.8.3.5.13 | EN 13807:<br>2003 | Szállítható gázpalackok.<br>Battériás járművek.<br>Tervezés, gyártás,<br>azonosítás és vizsgálat | 2009. jan. 1-től   | 2009. jan. 1. előtt  |

17) A „helyes szállítási megnevezés”, ill. – adott esetben – az „m.n.n. tétel helyes szállítási megnevezése a műszaki névvel kiegészítve” helyett a következő megnevezések is engedélyezettek:

- az UN 1078 hűtőgáz, m.n.n. esetében: F1 keverék, F2 keverék, F3 keverék;
- az UN 1060 metil-acetilén és propadién keverék, stabilizált esetén: P1 keverék, P2 keverék;
- az UN 1965 szénhidrogén-gáz keverék, cseppfolyósított, m.n.n. esetén: A keverék, A01 keverék, A02 keverék, A0 keverék, A1 keverék, B1 keverék, B2 keverék, B keverék, C keverék. A 2.2.2.3 bekezdésben a 2F osztályozási kód alatt az UN 1965 anyaghoz fűzött 1. megjegyzésben felsorolt kereskedelmi nevek csak kiegészítésként használhatók;
- az UN 1010 butadién, stabilizált esetén: 1,2-butadién, stabilizált, 1,3-butadién, stabilizált.

**6.8.3.7** *A nem szabvány szerint tervezett, gyártott és vizsgált battériás járművekre, ill. MEG-konténerekre vonatkozó előírások*

Azokat a battériás járműveket, ill. MEG-konténereket, amelyeket nem a 6.8.3.6 bekezdésben felsorolt szabványok szerint terveztek, gyártottak és vizsgáltak, az illetékes hatóság által elismert műszaki szabályzat előírásai szerint kell tervezni, gyártani és vizsgálni. A 6.8.3 szakasz minimális követelményeinek azonban meg kell felelniük.

**6.8.4** **Különleges előírások**

**Megjegyzés:** 1. A legfeljebb 60 °C lobbaspontú folyadékokra és a gyúlékony gázokra lásd még a 6.8.2.1.26, a 6.8.2.1.27 és a 6.8.2.2.9 pontot is.

2. A legalább 1 MPa (10 bar) próbanyomású tartányokra és a mélyhűtött, cseppfolyósított gázok szállítására szolgáló tartányokra lásd a 6.8.5 szakaszt.

Ha a 3.2 fejezet „A” táblázat 13 oszlopában fel vannak tüntetve, a következő különleges előírásokat kell alkalmazni:

**a) Gyártás (TC)**

**TC1** A tartány anyagára és gyártására a 6.8.5 szakasz követelményei vonatkoznak.

**TC2** A tartányt és szerelvényeit legalább 99,5%-os tisztaságú alumíniumból vagy olyan alkalmas acélból kell készíteni, ami nem hajlamos a hidrogén-peroxid elbontására. Amennyiben a tartány legalább 99,5%-os tisztaságú alumíniumból készül, a falvastagságnak nem kell 15 mm-nél nagyobbnak lennie még akkor sem, ha a 6.8.2.1.17 pont szerinti méretezés nagyobb értéket adna.

**TC3** A tartányt ausztenites acélból kell gyártani.

**TC4** A tartányt zománcból vagy azonos hatékonyságú anyagból készített béléssel kell ellátni, ha a tartány anyagát az UN 3250 klór-ecetsav megtámadja.

**TC5** A tartányt legalább 5 mm vastag ólombéléssel vagy ezzel egyenértékű béléssel kell ellátni.

**TC6** Ha a tartányhoz alumínium használatára van szükség, az ilyen tartányt legalább 99,5%-os tisztaságú alumíniumból kell gyártani, a falvastagságnak nem kell 15 mm-nél nagyobbnak lennie még akkor sem, ha a 6.8.2.1.17 pont szerinti méretezés nagyobb értéket adna.

**TC7** A tartány tényleges legkisebb falvastagsága nem lehet 3 mm-nél kisebb.

**b) Szerelvények (TE)**

**TE1** (törölve)

**TE2** (törölve)

**TE3** A tartánynak a következő előírásoknak is meg kell felelnie. A melegítőberendezés nem nyúlhat be a tartány belsejébe, hanem azt a tartány külsejére kell felszerelni. A foszfor eltávolítására használt csövet azonban fűtőköpennyel lehet ellátni. A köpeny fűtőkészülékét úgy kell beállítani, hogy a foszfor hőmérséklete ne emelkedjen a tartány töltési hőmérséklete fölé. A töltő- és ürítőcsőnek a tartány felső részébe kell csatlakoznia, nyílások a tartányban csak a foszfor legmagasabb megengedett szintje fölötti részén

lehetnek, és reteszelve kupakkal teljesen zárhatóknak kell lenniük.

A tartányt a foszforszint ellenőrzésére mérőberendezéssel kell ellátni, és ha védőfolyadékként vizet használnak, olyan rögzített szintjelzéssel kell ellátni, amely a megengedett legmagasabb vízszintet mutatja.

- TE4** A tartányt nehezen gyulladó anyagból készített hőszigeteléssel kell ellátni.
- TE5** Ha a tartány hőszigeteléssel van ellátva, az ilyen hőszigetelést nehezen gyulladó anyagból kell készíteni.
- TE6** A tartány ellátható olyan szerkezettel, amely megakadályozza a túlzott nyomás vagy vákuum kialakulását a tartányban, és a kialakítása eleve kizárja, hogy szivárogon vagy a szállított anyagtól eltömődjön.
- TE7** A tartány ürítőberendezését két, egymástól függetlenül működő, egymás mögötti zárószerkezettel kell ellátni, amelyek közül az első jóváhagyott típusú, pillanatzáró szeleppel ellátott belső zárószelepből, a második az ürítőcsonk mindegyik végén külső tolózárból áll. Mindkét külső tolózár kibocsátónyílásán vakkarimát vagy más azonos biztonságot nyújtó szerkezetet kell alkalmazni. A belső zárószelepnek a tartányon akkor is rögzítve és zárva kell maradnia, ha az ürítőcső leszakad.
- TE8** A tartány külső töltő-ürítőcső csatlakozásait olyan anyagból kell készíteni, amely nem hajlamos a hidrogén-peroxid bomlásának előidézésére.
- TE9** A tartány felső részén olyan zárószerkezetet kell elhelyezni, amely megakadályozza a tartányban a szállított anyag bomlásából adódó túlnyomás kialakulását, a folyadék kiszivárgását és idegen anyagoknak a tartányba bejutását.
- TE10** A tartány zárószerkezeteit úgy kell kialakítani, hogy a szállítás során a megszilárduló anyag ne akadályozza a szerkezet működését. Ha a tartány hőszigetelő anyaggal van borítva, az anyagnak szervetlennek és gyúlékony anyagoktól teljesen mentesnek kell lennie.
- TE11** A tartányt és üzemi szerelvényeit úgy kell kialakítani, hogy megakadályozzák idegen anyagoknak a tartányba való bejutását, a folyadék kiszivárgását és a tartányban az anyag bomlásából adódó túlnyomás kialakulását. Megfelel ennek az előírásnak az olyan biztonsági szelep, amely megakadályozza idegen anyagoknak a tartányba való bejutását.
- TE12** A tartányt a 6.8.3.2.14 pont előírásainak megfelelő hőszigeteléssel kell ellátni. Ha a tartányban a szerves peroxid ÖBH értéke 55 °C vagy annál kisebb, vagy ha a tartány alumíniumból készült, a tartányt teljes mértékben szigetelni kell. A fényvédő tetőt és a tartány általa nem fedett minden részét, illetve a teljes hőszigetelés külső felületét vagy fehérre kell festeni, vagy világos színű, metál fényezésűnek kell lennie. A festést minden szállítás előtt meg kell tisztítani és sárgulás vagy sérülés esetén fel kell újítani. A hőszigetelésnek nem szabad semmiféle gyúlékony anyagot tartalmaznia. A tartányt hőmérséklet érzékelő szerkezettel kell ellátni.

A tartányt biztonsági szelepekkel és vészlefúvó szerkezetekkel kell ellátni. Vákuumszelepek is használhatók. A vészlefúvó szerkezeteknek a szerves peroxid tulajdonságai és a tartány szerkezeti jellemzői alapján meghatározott nyomáson kell működésbe lépniük. A tartány testben olvadóbetétek nem engedélyezettek.

A tartányt rugóterhelésű biztonsági szelepekkel kell ellátni, ami meg-

akadályozza a tartányban az 50 °C-on keletkező bomlástermékek és felszabaduló gőzök okozta lényeges nyomásnövekedést. A biztonsági szelep(ek) nyitónyomását és teljesítményét a TA2 különleges előírásban előírt vizsgálatok eredményei alapján kell meghatározni. A nyitónyomás azonban semmi esetre sem lehet akkora, hogy a tartány felborulása esetén a szelepen keresztül folyadék szabadulhasson ki.

A vészlefvívó szerkezetek rugóterhelésű vagy hasadótárcsás típusúak lehetnek, és lehetővé kell tenniük minden bomlástermék és gőz eltávolítását, amely az öngyorsuló bomlás alatt fejlődik, vagy akkor, ha legalább egy óráig olyan láng veszi körül, amely a következő képlettel jellemezhető:

$$q = 70961 \cdot F \cdot A^{0,82},$$

ahol

$$q = \text{hőfelvétel} \quad [\text{W}]$$

$$A = \text{nedvesített felület} \quad [\text{m}^2]$$

$$F = \text{szigetelési együttható} \quad [-]$$

$F = 1$  nem szigetelt tartányokra, vagy

$$F = \frac{U(923 - T_{po})}{47032} \text{ szigetelt tartányokra,}$$

ahol

$$K = \text{a szigetelőréteg hővezetési együtthatója} \quad [\text{W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}]$$

$$L = \text{a szigetelőréteg vastagsága} \quad [\text{m}]$$

$$U = K/L = \text{a szigetelőréteg hőátadási együtthatója} \quad [\text{W} \cdot \text{m}^{-2} \cdot \text{K}^{-1}]$$

$$T_{po} = \text{a peroxid hőmérséklete lefűvaskor} \quad [\text{K}]$$

A vészlefvívó szerkezet(ek) nyitónyomásának nagyobbak kell lennie, mint az előzőekben meghatározottak és azt a TA2 különleges előírásban előírt vizsgálatok eredményei alapján kell meghatározni. A vészlefvívó szerkezetet úgy kell méretezni, hogy a tartányban a legnagyobb nyomás soha ne haladja meg a tartány próbanyomását.

**Megjegyzés:** A vészlefvívó szerkezet méretezésére a „Vizsgálatok és kritériumok kézikönyv” 5. Függelékben található példa.

A teljes hőszigetelésű tartányoknál a vészlefvívó szerkezet(ek) teljesítményét és beállítását a felület 1%-át kitevő szigetelés veszteséget feltételezve kell meghatározni.

A tartányok vákuumszelepeit és rugóterhelésű biztonsági szelepeit lángzárral kell ellátni, kivéve, ha a szállítandó anyagok és azok bomlástermékei nem éghetőek. A lefűvási teljesítménynek a lángzár által okozott csökkenésére figyelemmel kell lenni.

**TE13** A tartányt hőszigeteléssel kell ellátni és fel kell szerelni külső fűtőberendezéssel.

**TE14** A tartányt hőszigeteléssel kell ellátni. A tartánnyal közvetlenül érintkezésben levő hőszigetelés gyulladási hőmérsékletének legalább 50 °C-kal magasabbnak kell lennie annál a legmagasabb hőmérsékletnél, amelyre a tartányt kialakították.

- TE15** (törölve)
- TE16** (fenntartva)
- TE17** (fenntartva)
- TE18** A 190 °C-nál magasabb hőmérsékleten betöltött anyagok szállítására szolgáló tartányt a felső töltőnyílásra merőleges eltérítő lemezekkel kell ellátni, ami megakadályozza a töltés során a falhőmérséklet hirtelen helyi növekedését.
- TE19** A tartány felső részére szerelt szerelvényeket és tartozékokat a következőképpen kell védeni:
- süllyesztett házba kell beszerelni; vagy
  - belső biztonsági szeleppel kell ellátni; vagy
  - zárófedéllel, vagy keresztirányú és/vagy hosszirányú elemekkel, vagy bármilyen más egyenértékűen hatásos készülékkel kell védeni, amelyeknek olyan kiképzésűeknek kell lenniük, hogy felborulás esetén a szerelvények és tartozékok ne szenvedjenek károsodást.
- A tartány alsó részére szerelt szerelvényeket és tartozékokat a következőképpen kell védeni:
- A csőcsatlakozó peremeket, az oldalt elhelyezett elzárókészülékeket és az összes ürítőberendezést a tartány legkülső szélétől legalább 200 mm-rel beljebb kell elhelyezni, vagy olyan korláttal kell védeni, amelynek keresztmetszeti tényezője a haladási irányra merőlegesen legalább 20 cm<sup>3</sup>; a talajtól való távolságuknak teli tartány esetén is legalább 300 mm-nek kell lennie.
- A tartány hátsó felületére szerelt összes szerelvényt és tartozékot a 9.7.6 szakaszban előírt lökhárítóval kell védeni. A talajtól mért távolságuknak akkorának kell lennie hogy a lökhárító kielégítő védelmet biztosítson részükre.
- TE20** Függetlenül a 4.3.4.1.2 pontban szereplő csoportos hozzárendelés szerinti tartány rangsor által megengedett egyéb tartánykódoktól, a tartányt biztonsági szeleppel kell ellátni.
- TE21** A zárószerkezeteket rögzíthető sapkával kell védeni.
- TE22** (fenntartva)
- TE23** A tartányt olyan szerkezettel kell ellátni, amely megakadályozza a túlzott nyomás vagy vákuum kialakulását a tartányban, és a kialakítása eleve kizárja,

hogyan szivároghoz vagy a szállított anyagtól eltömlödjön.

**TE24** Ha a bitumen szállítására és ki-  
szórására szolgáló tartány az ürítöcsö  
végén szöröfejjel van ellátva, a  
6.8.2.2.2 pont szerint szükséges  
záröszkezet a szöröfej előtt az  
ürítöcsöre szerelt záröszkeppel is  
helyettesíthető.

**TE25** (fenntartva)

c) Típusjövahagyás (TA)

**TA1** A tartányt nem szabad szerves anyagok szállítására jövahagyni.

**TA2** Ez az anyag a származási ország illetékes hatósága által meghatározott feltételek mellett szállítható rögzített vagy leszerelhető tartányban vagy tankkonténerben, ha a következőkben említett vizsgálatok alapján az illetékes hatóság úgy ítéli meg, hogy a szállítás biztonságosan végrehajtható. Ha a származási ország nem valamely ADR Szerződő Fél, ezeket a feltételeket a küldemény által érintett első ADR Szerződő Fél illetékes hatóságának kell elismernie.

A tartány típusjövahagyásához vizsgálatokat kell végezni:

- annak bizonyítására, hogy a szállított anyag összeférhető minden olyan anyaggal, amellyel normál esetben a szállítás során érintkezésbe kerül;
- hogy megfelelő adatok álljanak rendelkezésre ahhoz, hogy a tartány szerkezeti jellemzőit is figyelembe véve a veszlefüvő szerkezetek és a biztonsági szelepek tervezhetők legyenek; és
- az anyag biztonságos szállításához szükséges különleges követelmények meghatározásához.

A vizsgálatok eredményeit fel kell tüntetni a típusjövahagyási bizonyítványban.

**TA3** Ez az anyag csak LGAV vagy SGAV tartánykódú tartányokban szállítható; a 4.3.4.1.2 pont szerinti tartány rangsor nem alkalmazható.

**TA4** Az 1.8.7 szakasz megfeleléség-értékelésre vonatkozó eljárását az illetékes hatóságnak, ill. megbízottjának vagy az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, A típusú vizsgáló szervezetnek kell végrehajtani.

d) Vizsgálatok (TT)

**TT1** A tiszta alumíniumból készült tartányokat üzembe helyezés előtt és időszakosan elegendő 250 kPa (2,5 bar) nyomással (túlnyomással) a folyadéknymás-próbának alávetni.

**TT2** A tartány belső bevonatát minden évben az illetékes hatóság által elismert szakértővel kell ellenőriztetni, akinek a tartány belsejét meg kell vizsgálni.

**TT3** A tartányt 6.8.2.4.2 pont előírásaitól eltérően legalább nyolcévenként kell időszakos vizsgálatnak alávetni, aminek ki kell terjednie a megfelelő készülékkel végzett falvastagság ellenőrzésre. Ilyen tartánynál a 6.8.2.4.3 pont szerinti tömörségi próbát és ellenőrzést legalább négyévenként el kell végezni.

**TT4** A tartányt



- három évenként | két és fél évenként  
alkalmas készülékkel (pl. ultrahanggal) a korrózióállóságra meg kell vizsgálni
- TT5** A tartányon a folyadéknnyomás-próbát  
három évenként | két és fél évenként  
meg kell ismételni.
- TT6** A tartányt legalább három évenként  
időszakos vizsgálatnak kell alávetni,  
ennek keretében folyadéknnyomás-  
próbát is kell végezni.
- TT7** A 6.8.2.4.2 pont előírásaitól eltérően a belső állapot időszakos vizsgálatát az  
illetékes hatóság által jóváhagyott programmal is lehet helyettesíteni.
- TT8** Az UN 1005 vízmentes ammónia szállítására jóváhagyott tartányokat,  
amelyeket az anyagszabvány szerinti finom szemcseszerkezetű, 400 N/mm<sup>2</sup>-  
nél nagyobb folyáshatárú acélból gyártottak, a 6.8.2.4.2 pont szerinti minden  
időszakos vizsgálat alkalmával a felületi repedések észleléséhez mágneses  
repedésvizsgálatnak kell alávetni.
- Minden tartány alsó részén minden kör- és hosszvarratot legalább  
hosszúságuk 20%-át kitevő mértékben, valamint minden csőcsonk hegesztést  
és a javított vagy csiszolt területeket meg kell vizsgálni.
- TT9** Az 1.8.7 szakasz vizsgálatokra (beleértve a gyártás felügyeletét is) vonatkozó  
eljárását az illetékes hatóságnak, ill. megbízottjának vagy az 1.8.6.4  
bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint  
akkreditált, A típusú vizsgáló szervezetnek kell végrehajtani.
- e) Jelölés (TM)
- Megjegyzés:** Ezeket az adatokat a jóváhagyó ország valamelyik hivatalos nyelvén, és  
ezenkívül, ha ez a nyelv nem angol, francia vagy német, akkor angol,  
francia vagy német nyelven is meg kell szövegezni, hacsak a szállítást  
által érintett államok közötti megállapodások másként nem rendelkeznek.
- TM1** A tartányt a 6.8.2.5.2 pontban előírtakon kívül el kell látni a „**Szállítás alatt  
tilos kinyitni. Öngyulladásra hajlamos**” felirattal (lásd az előző megjegyzést  
is).
- TM2** A tartányt a 6.8.2.5.2 pontban előírtakon kívül el kell látni a „**Szállítás alatt  
tilos kinyitni. Vízzel érintkezve gyúlékony gázokat fejleszt**” felirattal (lásd  
az előző megjegyzést is).
- TM3** A tartányon a 6.8.2.5.1 pontban előírt táblán fel kell tüntetni az engedélyezett  
anyagok megnevezését és a tartány megengedett legnagyobb rakomány  
tömegét kg-ban.
- TM4** A tartányon a 6.8.2.5.2 pontban előírt fémtáblán vagy a tartány falán – ha az  
úgy van megerősítve, hogy szilárdságát nem csökkenti – a következő  
kiegészítő adatot kell feltüntetni beütéssel vagy más hasonló módon: az anyag  
kémiai elnevezése engedélyezett koncentrációjával együtt.
- TM5** A tartányra a 6.8.2.5.1 pontban előírt adatokon kívül fel kell írni a tartány  
legutóbbi belső vizsgálatának idejét (hónap, év).
- TM6** (fenntartva)
- TM7** A 6.8.2.5.1 pontban előírt táblára beütéssel vagy más hasonló módon fel kell



tüntetni az 5.2.1.7.6 pontban ábrázolt sugárveszély szimbólumot is. A stilizált lóherét közvetlenül a tartány falába is be lehet vésni, ha a falak úgy meg vannak erősítve, hogy a bevésés nem csökkenti a tartány szilárdságát.

**6.8.5** A legalább 1 MPa (10 bar) próbanyomású rögzített hegesztett tartányok, leszerelhető hegesztett tartányok és tankkonténerek hegesztett tartányai gyártási anyagaira és gyártására, valamint a 2 osztályba tartozó mélyhűtött, cseppfolyósított gázok szállítására használt rögzített hegesztett tartányok, leszerelhető hegesztett tartányok és tankkonténerek hegesztett tartányai gyártási anyagaira és gyártására vonatkozó előírások

**6.8.5.1** *Anyagok és tartányok*

**6.8.5.1.1**

- a) A következő anyagok szállítására szolgáló tartányokat acélból kell gyártani:
- a 2 osztály sűrített, cseppfolyósított és oldott gázai;
  - a 4.2 osztály UN 1380, 2445, 2845, 2870, 3194 és 3391 – 3394 számú anyagai; és
  - a 8 osztály anyagai közül az UN 1052 vízmentes hidrogén-fluorid és az UN 1790 - fluor-hidrogénsav 85%-nál több hidrogén-fluorid tartalommal.
- b) A következő anyagok szállítására szolgáló, finom szemcseszerkezetű acélból gyártott tartányokat a hőhatás okozta feszültség kiküszöbölésére hőkezelésnek kell alávetni:
- 2 osztály maró gázai és az UN 2073 ammónia oldat; valamint
  - a 8 osztály anyagai közül az UN 1052 vízmentes hidrogén-fluorid és az UN 1790 - fluor-hidrogénsav 85%-nál több hidrogén-fluorid tartalommal.
- c) A 2 osztályba tartozó mélyhűtött, cseppfolyósított gázok szállítására használt tartányokat acélból, alumíniumból, alumíniumötvözetből, rézből vagy rézötvözetből, pl. sárgarézből kell gyártani. A rézből vagy rézötvözetből gyártott tartányokat csak olyan gázokhoz szabad használni, amelyek nem tartalmaznak acetilént; az etilén azonban tartalmazhat 0,005% acetilént.
- d) Csak olyan anyagok használhatók, amelyek a tartány és felszerelései legkisebb és legnagyobb üzemi hőmérsékletéhez megfelelők.

**6.8.5.1.2**

*A tartányok gyártásához használható anyagok a következők:*

- a) olyan acélok, amelyek a legkisebb üzemi hőmérsékleten sem hajlamosak a ridegtörésre (lásd a 6.8.5.2.1 pontot):
- szerkezeti acélok (kivéve a 2 osztály mélyhűtött, cseppfolyósított gázaihoz);
  - finom szemcseszerkezetű acél – 60 °C hőmérsékletig;
  - nikkellel ötvözött acél (0,5...9% nikkeltartalommal) a nikkeltartalomtól függően – 196 °C hőmérsékletig;
  - ausztenites króm-nikkel acél –270 °C hőmérsékletig;
- b) legalább 99,5% tisztasági fokú alumínium vagy alumíniumötvözetek (lásd a 6.8.5.2.2 pontot);
- c) legalább 99,9%-os tisztasági fokú, oxigénmentes réz vagy 56%-nál több rezet tartalmazó rézötvözetek (lásd a 6.8.5.2.3 pontot).

**6.8.5.1.3**

- a) Az acélból, alumíniumból vagy alumíniumötvözetből gyártott tartányok csak hegesztettek vagy varrat nélküliek lehetnek.

- b) Az ausztenites acélból, rézből vagy rézötvözetből gyártott tartányok keményforrasztással is készülhetnek.

**6.8.5.1.4** A szerelvényeket és a tartozékokat vagy csavarozással, vagy a következő módon lehet a tartányokra rögzíteni:

- a) acélból, alumíniumból és alumíniumötvözetből készült tartányokra hegesztéssel;  
b) ausztenites acélból, vörösrézből vagy rézötvözetből készült tartányokra hegesztéssel vagy keményforrasztással.

**6.8.5.1.5** A tartányokat úgy kell kialakítani, és úgy kell a járműre, az alvázra vagy a konténerkeretbe rögzíteni, hogy eleve kizárt legyen a teherviselő elemek olyan lehülése, amely ridegtörést okozhatna. A tartányokat rögzítő szerkezeti részeket is oly módon kell kialakítani, hogy szükséges mechanikai szilárdságuk még akkor is megmaradjon, ha a tartány a legkisebb üzemi hőmérsékleten van.

## **6.8.5.2** *Vizsgálati követelmények*

### **6.8.5.2.1** *Acéltartányok*

A tartányok gyártásához használt anyagoknak és a hegesztési varratoknak a legkisebb üzemi hőmérsékleten, de legalább  $-20\text{ }^{\circ}\text{C}$ -on a fajlagos ütmunka szempontjából legalább a következő feltételeknek kell megfelelniük:

- A vizsgálatot V bemetszésű próbatestekkel kell végezni.
- Szerkezeti acél, finom szemcseszerkezetű acél, 5%-nál kevesebb Ni-tartalmú ferrites acélötvözet, 5...9% Ni-tartalmú ferrites acélötvözet és ausztenites króm-nikkel acél próbapálca esetén a legkisebb fajlagos ütmunkának (lásd 6.8.5.3.1 – 6.8.5.3.3)  $34\text{ J/cm}^2$ -nek kell lenni. A próbatest hossz tengelyének a hengerlési irányra merőlegesnek, a V alakú bemetszésnek a lemez felületére merőlegesnek kell lennie (az ISO R148 szerint). (A szerkezeti acél próbapálca hossz tengelye az érvényes ISO szabványok szerint a hengerlési iránnyal egybeeshet.)
- Ausztenites acéloknál csak a hegesztési varratokat kell a fajlagos ütmunka-vizsgálatnak alávetni.
- A  $-196\text{ }^{\circ}\text{C}$ -nál kisebb üzemi hőmérsékletek esetén a fajlagos ütmunka-vizsgálatot nem a legkisebb üzemi hőmérsékleten, hanem  $-196\text{ }^{\circ}\text{C}$ -on hajtják végre.

### **6.8.5.2.2** *Alumínium- vagy alumíniumötvözet-tartányok*

A tartányok hegesztési varratainak meg kell felelniük az illetékes hatóság által előírt követelményeknek.

### **6.8.5.2.3** *Réz vagy rézötvözet tartányok*

A fajlagos ütmunka kielégítő voltának meghatározásához nem szükséges vizsgálatot végezni.

## **6.8.5.3** *A fajlagos ütmunka-vizsgálat*

**6.8.5.3.1** 10 mm-nél vékonyabb, de legalább 5 mm vastag lemezeknél  $10\text{ mm} \times e\text{ mm}$  keresztmetszetű próbatestet kell használni, ahol  $e$  a lemez vastagsága. Szükség esetén megengedett a 7,5 mm-re vagy 5 mm-re történő megmunkálás. A legkisebb  $34\text{ J/cm}^2$  értéknek minden esetben meg kell lennie.

**Megjegyzés:** 5 mm-nél vékonyabb lemezeknél és hegesztési varrataiknál fajlagos ütmunka-vizsgálatot nem kell végezni.

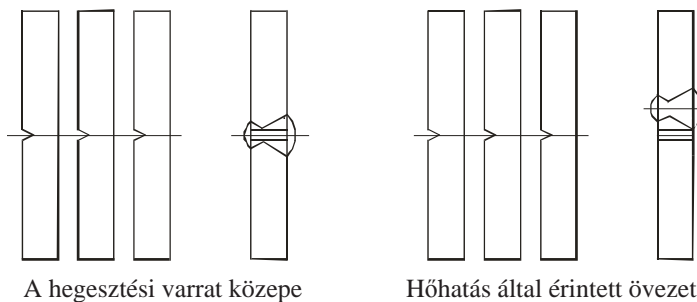
**6.8.5.3.2** a) Lemez vizsgálatokor a fajlagos ütmunkát három próbatesten kell meghatározni. A próbatestet a hengerlés irányára merőlegesen kell kivágni, de szerkezeti acél esetén a

hengerlés irányában is kivágható.

b) A hegesztési varratok vizsgálatakor a próbatestet a következőképpen kell kivágni:

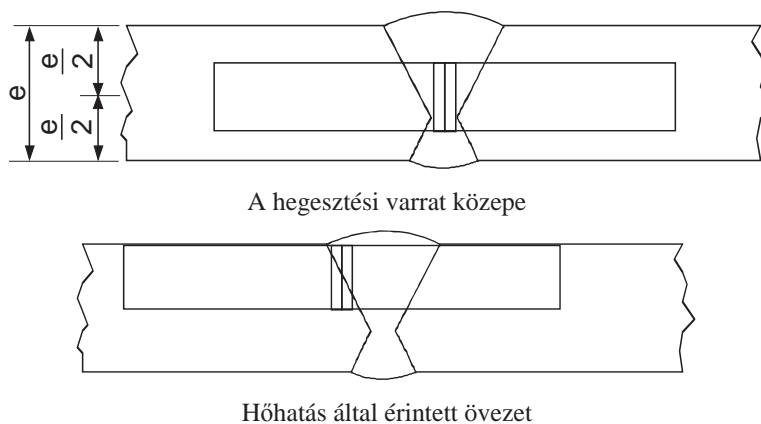
$e \leq 10$  mm esetén:

- három próbatestet a hegesztési varrat közepén levő bemetszéssel;
- három próbatestet a hőhatás által érintett övezet közepén levő bemetszéssel; a V alakú bemetszésnek a mintadarab közepén, a megolvadt övezet határán kell lennie;



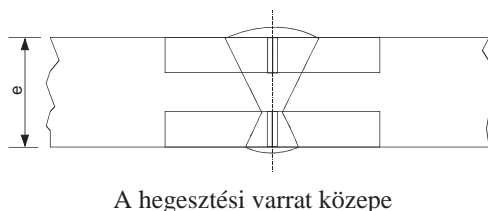
$10 \text{ mm} < e \leq 20$  mm esetén:

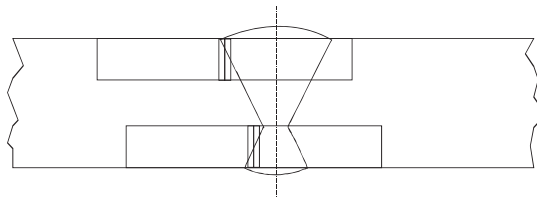
- három próbatestet a hegesztési varrat közepéről;
- három próbatestet a hőhatás által érintett övezetből; a V alakú bemetszésnek a mintadarab közepén, a megolvadt övezet határán kell lennie;



$e > 20$  mm esetén:

- három-három próbatestből álló két készletet (egy készletet a lemez felső oldalán és egy készletet a lemez alsó oldalán) az ábrán megjelölt helyekről kivágva; ha a kivágás a hőhatás által érintett övezetből történik, a V alakú bemetszésnek a mintadarab közepén, a megolvadt övezet határán kell lennie.





Hőhatás által érintett övezet

- 6.8.5.3.3**
- a) Lemezek esetében a három próba eredménye középértékének meg kell felelni a 6.8.5.2.1 pontban jelzett  $34 \text{ J/cm}^2$  legkisebb értéknek. A három érték közül legfeljebb egy lehet kisebb, mint e legkisebb érték, de ez sem lehet kisebb, mint  $24 \text{ J/cm}^2$ .
  - b) Hegesztéseknél a hegesztési varrat közepéből vett három próbatest vizsgálatakor az eredmény középértéke nem lehet kisebb, mint a  $34 \text{ J/cm}^2$  legkisebb érték. A három érték közül legfeljebb egy lehet kisebb, mint e legkisebb érték, de ez sem lehet kisebb, mint  $24 \text{ J/cm}^2$ .
  - c) A hőhatás által érintett övezet esetén (amikor a V alakú bemetszés a mintadarab közepén, a megolvadt övezet határán van) a három próbatest közül legfeljebb egynek lehet kisebb értéke, mint a legkisebb  $34 \text{ J/cm}^2$ , de ez sem lehet kisebb, mint  $24 \text{ J/cm}^2$ .

**6.8.5.3.4** Ha a 6.8.5.3.3 pontban előírt követelmények nem teljesülnek, a vizsgálatot egyszer meg lehet ismételni akkor, ha

- a) az első három próba eredményének középértéke kisebb, mint a  $34 \text{ J/cm}^2$  legkisebb érték, vagy
- b) az egyedi értékek közül egynél többnek az értéke kisebb, mint a  $34 \text{ J/cm}^2$  legkisebb érték, de legalább  $24 \text{ J/cm}^2$ .

**6.8.5.3.5** A lemez vagy a hegesztés ismételt fajlagos ütmunka-vizsgálatkor az egyedi értékek közül egyik sem lehet kisebb, mint a legkisebb  $34 \text{ J/cm}^2$  érték. Az eredeti és az ismételt vizsgálati eredmények átlagának legalább  $34 \text{ J/cm}^2$ -nek kell lenni.

A hőhatás által érintett övezeten végzett ismételt fajlagos ütmunka-vizsgálat esetében az egyedi értékek egyike sem lehet kisebb, mint  $34 \text{ J/cm}^2$ .

#### **6.8.5.4** *Hivatkozás a szabványokra*

A 6.8.5.2 és a 6.8.5.3 bekezdés követelményei a következő szabványok alkalmazása esetén teljesítettnek tekinthetők:

EN 1252-1:1998 Kriogén tartályok. Alapanyagok. 1. rész: Szívóssági követelmények  $-80^\circ\text{C}$ -nál kisebb hőmérsékletekhez.

EN 1252-2:2001 Kriogén tartályok. Alapanyagok. 2. rész: Szívóssági követelmények  $-80^\circ\text{C}$  és  $-20^\circ\text{C}$  hőmérséklet között.

**6.9 FEJEZET****A SZÁLVÁZAS MŰANYAGBÓL GYÁRTOTT, RÖGZÍTETT  
TARTÁNYOK (TARTÁNYJÁRMŰVEK), LESZERELHETŐ  
TARTÁNYOK, TANKKONTÉNEREK ÉS TARTÁNYOS  
CSEREFELÉPÍTMÉNYEK TERVEZÉSÉRE, GYÁRTÁSÁRA,  
SZERELVÉNYEIRE, TÍPUSJÓVÁHAGYÁSÁRA, VIZSGÁLATÁRA  
ÉS JELÖLÉSÉRE VONATKOZÓ KÖVETELMÉNYEK**

**Megjegyzés:** A mobil tartányokra és az UN többemeles gázkonténerekre (UN MEG-konténerekre) lásd a 6.7 fejezetet; a fémből gyártott, rögzített tartányokra (tartányjárművekre), leszerelhető tartányokra, tankkonténerekre és tartányos cserefelépítményekre, valamint a battériás járművekre és többemeles gázkonténerekre (MEG-konténerekre) – az UN MEG-konténerek kivételével – lásd a 6.8 fejezetet; a hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra lásd a 6.10 fejezetet.

**6.9.1      Általános előírások**

- 6.9.1.1**      A szálvázaz műanyag tartányokat az illetékes hatóság által elismert minőségbiztosítási program szerint kell tervezni, gyártani és vizsgálni; a laminálási munkákat és a műanyag betétek hegesztését csak szakképzett személyzet végezheti az illetékes hatóság által elismert eljárással.
- 6.9.1.2**      A szálvázaz műanyag tartányok tervezésére és vizsgálatára a 6.8.2.1.1, a 6.8.2.1.7, a 6.8.2.1.13, a 6.8.2.1.14 a) és b), a 6.8.2.1.25, a 6.8.2.1.27, a 6.8.2.1.28 és a 6.8.2.2.3 pont előírásait ugyancsak be kell tartani.
- 6.9.1.3**      A szálvázaz műanyag tartányokhoz fűtőelemek nem használhatók.
- 6.9.1.4**      A tartányjárművek stabilitására a 9.7.5.1 bekezdés követelményeit kell alkalmazni.

**6.9.2      Gyártás**

- 6.9.2.1**      A tartányt alkalmas anyagból kell gyártani, amely a  $-40\text{ °C}$  és  $+50\text{ °C}$  közötti üzemi hőmérséklet-tartományban összeférhető a szállítandó anyaggal, kivéve, ha annak az országnak az illetékes hatósága, amelyben a szállítás történik, a különleges éghajlati viszonyok miatt más hőmérséklet-tartományt ír elő.
- 6.9.2.2**      A tartány a következő három fő részből áll:
- belső betét,
  - szerkezeti réteg,
  - külső réteg.
- 6.9.2.2.1**      A belső betét a tartányfal belső része, amely tartós vegyszerállósága révén elsődleges gátat képez a szállítandó anyaggal szemben, így megakadályoz minden veszélyes reakciót a tartány tartalmával, ill. megakadályozza a szerkezeti réteg minden olyan, lényeges gyengülését, amit a szállított anyagnak a belső betéten keresztüli diffúziója okozna.
- A belső betét vagy szálvázaz műanyag vagy hőre lágyuló műanyag betét lehet.
- 6.9.2.2.2**      A szálvázaz műanyag betétnek a következőkből kell állnia:
- a)      egy fedőrétegből („gel-coat”): amely egy megfelelő, műgyantában dús felületi réteg,

amely a műgyantával és a szállítandó anyaggal összeférhető fátýolszövettel van megerősítve. Ennek a rétegnek a száltömeg tartalma legfeljebb 30% lehet, a vastagságának 0,25 és 0,6 mm között kell lennie;

- b) erősítő réteg(ek)ből: amely egy vagy több, legalább 2 mm vastagságú réteg, amely legalább 900 g/m<sup>2</sup> üvegpaplant vagy vágott szálát tartalmaz, és amelynek üvegrost-tartalma legalább 30 tömeg%, kivéve, ha az egyenértékű biztonság kisebb üvegrost-tartalomnál bizonyított.

**6.9.2.2.3** A hőre lágyuló műanyag betét a 6.9.2.3.4 pont szerinti hőre lágyuló műanyagból készült lemez, amelyet a kívánt alakúra hegesztenek össze és amelyhez a szerkezeti réteget ragasztják. A betét és a szerkezeti réteg között megfelelő ragasztóval tartós kötést kell kialakítani.

***Megjegyzés:** Gyúlékony folyékony anyagok szállítása esetén a betétnél a 6.9.2.14 bekezdés szerinti kiegészítő intézkedésekre lehet szükség az elektrosztatikus töltés felhalmozódásának megelőzésére.*

**6.9.2.2.4** A tartány szerkezeti rétege az a rész, amely a mechanikai igénybevételek elviselése céljából a 6.9.2.4 – 6.9.2.6 bekezdés szerint különlegesen van kialakítva. Ez a rész rendszerint meghatározott elrendezésű, több szálvázis rétegből áll.

**6.9.2.2.5** A külső réteg a tartánynak az a része, amely a környezeti hatásoknak közvetlenül ki van téve. Legalább 0,2 mm vastag, műgyantában dús rétegből kell állnia. 0,5 mm-nél vastagabb réteg esetén üvegpaplant kell alkalmazni. Ennek a rétegnek az üvegrost-tartalma csak 30 tömeg%-nál kevesebb lehet, és alkalmasnak kell lennie a külső körülmények, különösen a szállítandó anyaggal való esetleges érintkezés elviselésére. A tartány szerkezeti rétegének az ultrabolya sugárzás okozta károsodással szembeni védelmére a műgyantának töltőanyagot vagy adalékanyagot kell tartalmaznia.

### **6.9.2.3 Nyersanyagok**

**6.9.2.3.1** A szálvázis műanyag tartányok gyártásához használt minden anyag eredetének és műszaki tulajdonságainak ismertnek kell lennie.

#### **6.9.2.3.2 Műgyanták**

A műgyanta keverék feldolgozását szigorúan a gyártó ajánlásai szerint kell végezni, ez elsősorban a térhálósítók, az iniciátorok és a gyorsítók használatára vonatkozik. A következő műgyanták használhatók:

- telítetlen poliésztergyanták;
- vinilgyanták;
- epoxigyanták;
- fenolgyanták.

A műgyanták ISO 75-1:1993 szabvány szerint meghatározott hőtorzulási hőmérsékletének legalább 20 °C-kal magasabbnak kell lennie, mint a tartány legnagyobb üzemi hőmérséklete, de semmilyen esetben sem lehet 70 °C-nál alacsonyabb.

#### **6.9.2.3.3 Szálvázis erősítés**

A szerkezeti réteg erősítő anyagának megfelelő minőségű rostanyagból, pl. az ISO 2078:1993 szabvány szerinti E vagy ECR minőségű üvegszálakból kell állnia. A belső betét fedőrétegéhez az ISO 2078:1993 szabvány szerinti C minőségű üvegszál is használható. Hőre lágyuló műanyagból készült fátýolszövet a belső betéthez csak akkor használható, ha a szállítandó anyaggal való összeférhetősége bizonyított.

#### **6.9.2.3.4 A hőre lágyuló műanyag betét anyaga**

A betét anyagaként olyan hőre lágyuló műanyagok használhatók, mint pl. a kemény

poli(vinil-klorid) (kemény PVC), a polipropilén (PP), a poli(vinilidén-fluorid) (PVDF), a poli(tetrafluor-etilén) (PTFE) stb.

#### 6.9.2.3.5 Adalékanyagok

A műgyanta kezeléséhez szükséges adalékanyagok, pl. katalizátorok, gyorsítók, térhálósítók és tixotrop anyagok, valamint a tartány tulajdonságainak javítására használt anyagok, pl. töltőanyagok, színezékek, pigmentek stb. a tartány élettartama alatt a várható hőmérsékleti viszonyok között nem gyengíthetik az anyagot.

#### 6.9.2.4 A tartányt, a tartozékait, az üzemi és szerkezeti szerelvényeit úgy kell kialakítani, hogy tervezett élettartamuk alatt a szállított anyag vesztesége nélkül (nem számítva az esetleges szelepeken keresztül kiszabaduló gázmennyiséget) ellenálljanak:

- a normális szállítási körülmények között fellépő statikus és dinamikus terheléseknek;
- a 6.9.2.5 – 6.9.2.10 bekezdésben előírt minimális terheléseknek.

#### 6.9.2.5 A 6.8.2.1.14 a), ill. b) pontban előírt nyomáson és a tartányra meghatározott legnagyobb sűrűségű szállított anyag által a legnagyobb töltési foknál kifejtett statikus nehézségi erő hatására a tartány bármely rétegében hosszirányban és a kerület mentén a $\sigma$ mértékadó feszültség nem haladhatja meg a következő értéket:

$$\sigma \leq \frac{R_m}{K},$$

ahol:

$R_m$  = a szakítószilárdság értéke, azaz a vizsgálati eredmények átlagértéke mínusz a vizsgálati eredmények standard szórásának kétszerese. A vizsgálatokat legalább hat, a gyártási típust és a gyártási eljárást reprezentáló mintadarabon az EN 61:1997 szabvány előírásai szerint kell végrehajtani;

$$K = S \cdot K_0 \cdot K_1 \cdot K_2 \cdot K_3,$$

ahol

$K$  legkisebb értékének 4-nek kell lennie; és

$S$  = biztonsági tényező. Általában, ha a tartányhoz a 3.2 fejezet „A” táblázat 12 oszlopában olyan tartánykód tartozik, amely a második részében „G” betűt tartalmaz (lásd a 4.3.4.1.1 pontot), akkor  $S$  értékének legalább 1,5-nek kell lennie. Olyan anyagok szállítására szolgáló tartányoknál, amelyek fokozott biztonsági szintet igényelnek, azaz a tartányhoz a 3.2 fejezet „A” táblázat 12 oszlopában olyan tartánykód hivatkozik, amely a második részében a „4” számjegyet tartalmazza (lásd a 4.3.4.1.1 pontot), az  $S$  értékét 2-vel meg kell szorozni, kivéve, ha a tartány sérülés elleni védelemmel van ellátva, ami hossz- és keresztirányú szerkezeti elemeket is tartalmazó, teljes fémvázból áll;

$K_0$  = a kúszás, az öregedés, valamint a szállítandó anyagok kémiai hatásának eredményeként az anyag tulajdonságaiban bekövetkező romlást figyelembe vevő tényező. Ezt a következő képlettel kell meghatározni:

$$K_0 = \frac{1}{\alpha\beta},$$

ahol  $\alpha$  a kúszási tényező,  $\beta$  az öregedési tényező, az EN 977:1997 szabvány szerinti vizsgálatok elvégzése után, az EN 978:1997 szabvány szerint meghatározva. Alternatívaként a  $K_0 = 2$  biztonságos érték is alkalmazható. Az  $\alpha$  és a  $\beta$  tényezőt  $2\sigma$  értékhez tartozó kezdeti behajlásnál kell meghatározni;



$K_1$  = az üzemi hőmérsékletet és a műgyanta termikus tulajdonságait figyelembe vevő tényező, amit a következő egyenlettel kell meghatározni és amelynek legkisebb értéke 1;

$$K_1 = 1,25 - 0,0125 (HDT - 70),$$

ahol  $HDT$  a műgyanta hőtorzulási hőmérséklete °C-ban;

$K_2$  = az anyag kifáradására vonatkozó tényező;  $K_2 = 1,75$  értéket kell használni, kivéve, ha az illetékes hatóság mást hagyott jóvá. A 6.9.2.6 bekezdésben említett, dinamikai méretezéshez  $K_2 = 1,1$  értéket kell használni;

$K_3$  = a keményedésre vonatkozó tényező, értékei a következők:

- ha a kikeményítés jóváhagyott és dokumentált eljárással történik: 1,1;
- minden más esetben: 1,5.

**6.9.2.6** A 6.8.2.1.2 pontban jelzett dinamikus igénybevételeknél a mértékadó feszültség nem haladhatja meg a 6.9.2.5 bekezdésben előírt érték és az  $\alpha$  tényező hányadosát.

**6.9.2.7** A 6.9.2.5 és a 6.9.2.6 bekezdésben meghatározott feszültségeknél a bekövetkező nyúlás egyetlen irányban sem lehet nagyobb, mint a 0,2% és a műgyanta szakadási nyúlásának egytizede közül a kisebbik érték.

**6.9.2.8** Az előírt próbanyomásnál, ami nem lehet kisebb, mint a 6.8.2.1.14 a), ill. b) pontban meghatározott tervezési nyomás, a tartányban fellépő legnagyobb nyúlás nem lehet nagyobb, mint a műgyanta szakadási nyúlása.

**6.9.2.9** A tartánynak alkalmasnak kell lennie arra, hogy mindenféle, szemmel látható belső vagy külső sérülés nélkül elviselje a 6.9.4.3.3 pont szerinti golyó ejtési próbát.

**6.9.2.10** Az egyesítéseknél (beleértve a végek, a hullámtörő lemezek és a válaszfalak egyesítését a tartányfallal) kialakított átlapoló laminálásoknak alkalmasnak kell lenniük az előzőekben említett statikus és dinamikus igénybevételek elviselésére. Az átlapoló laminálásokban a feszültség-koncentráció elkerülésére a ferde tekercselés menetemelkedése nem lehet 1:6-nál meredekebb.

Az átlapoló laminálás és az általa összekapcsolt tartány alkotórészek közötti nyírószilárdság nem lehet kisebb, mint:

$$\tau = \frac{Q}{l} \leq \frac{\tau_R}{K},$$

ahol:

$\tau_R$  = az EN ISO 14125:1998 (három pontos módszer) szabvány szerinti hajlítási nyírószilárdság, amelynek legkisebb értéke  $\tau_R = 10 \text{ N/mm}^2$ , ha mért adat nem áll rendelkezésre;

$Q$  = az egységnyi szélességére jutó terhelés, amelyet az egyesítésnek a statikus és dinamikus terhelések hatására el kell viselnie;

$K$  = a statikus és dinamikus igénybevételekre a 6.9.2.5 bekezdés szerint számított tényező; és

$l$  = az átlapoló laminálás hossza.

**6.9.2.11** A tartányon levő nyílásokat úgy kell megerősíteni, hogy a 6.9.2.5 és a 6.9.2.6 bekezdésben meghatározott statikus és dinamikus igénybevételekkel szemben legalább akkora biztonsági tényezővel rendelkezzenek, mint maga a tartány. A nyílások száma a lehető legkisebb legyen. Az ovális alakú nyílások tengelyeinek aránya legfeljebb 2 lehet.



- 6.9.2.12** A tartányhoz csatlakozó csőkarimák és csővezetékek méretezése során a kezelésnél és a csavarok meghúzásánál fellépő erőket ugyancsak figyelembe kell venni.
- 6.9.2.13** A tartányt úgy kell kialakítani, hogy a 6.9.4.3.4 pont szerinti vizsgálati követelményeknek megfelelő, 30 percen át tartó tűz hatására jelentősen nem szivároghat. Az illetékes hatóság hozzájárulása esetén a vizsgálatról el lehet tekinteni, amennyiben hasonló tartány típus vizsgálata elegendő bizonyítékot szolgáltat.
- 6.9.2.14** *A legfeljebb 60 °C lobbánáspontú anyagok szállítására vonatkozó különleges követelmények*
- A legfeljebb 60 °C lobbánáspontú folyékony anyagok szállítására használt szálvázaz műanyag tartányokat úgy kell kialakítani, hogy a különböző szerkezeti részek elektrosztatikus feltöltődését, és így az elektrosztatikus töltések veszélyes felhalmozódását elkerüljék.
- 6.9.2.14.1** A tartány belső és külső felületi ellenállásának mért értéke legfeljebb  $10^9$  ohm lehet. Ez elérhető a műgyantához adott adalékanyagokkal vagy közbenső vezetőképes rétegek, például fém- vagy szén-szál háló beiktatásával.
- 6.9.2.14.2** A földelési ellenállás mért értéke legfeljebb  $10^7$  ohm lehet.
- 6.9.2.14.3** A tartány minden elemét egymással, valamint a tartány üzemi és szerkezeti szerelvényeinek fém részeivel és a járművel elektromosan össze kell kötni. Az egymással érintkező elemek és szerelvények között az elektromos ellenállás legfeljebb 10 ohm lehet.
- 6.9.2.14.4** A felületi ellenállást és a földelési ellenállást az üzembe helyezés előtt minden egyes tartányon vagy a tartány mintadarabján az illetékes hatóság által elismert eljárással meg kell mérni.
- 6.9.2.14.5** Az egyes tartányok földelési ellenállását az időszakos vizsgálat részeként az illetékes hatóság által elismert eljárással meg kell mérni.
- 6.9.3 Szerelvények**
- 6.9.3.1** A 6.8.2.2.1, a 6.8.2.2.2 és a 6.8.2.2.4 – 6.8.2.2.8 pont követelményeit kell alkalmazni.
- 6.9.3.2** Ezenkívül, amennyiben egy tételnél a 3.2 fejezet „A” táblázat 13 oszlopában a 6.8.4 b) pont szerinti különleges előírás (TE) is fel van tüntetve, akkor azt is alkalmazni kell.
- 6.9.4 Típusvizsgálat és jóváhagyás**
- 6.9.4.1** Minden szálvázaz műanyag tartány típus anyagait és gyártási mintapéldányát a következők szerinti gyártási típus vizsgálatnak kell alávetni.
- 6.9.4.2 Anyagvizsgálat**
- 6.9.4.2.1** A használandó műgyanta szakadási nyúlását az EN ISO 527-5:1997 szabvány szerint, a hőtorzulási hőmérsékletét az ISO 75-1:1993 szabvány szerint kell meghatározni.
- 6.9.4.2.2** A következő anyagjellemzőket a tartányból kivágott mintán kell meghatározni. A gyártással párhuzamosan készített minták csak akkor használhatók, ha a tartányból nem lehet mintát kivágni. Vizsgálat előtt a belső betétet el kell távolítani.
- A következőket kell megvizsgálni:
- a tartány palástjának és fenekeinek réteg vastagságát;
  - az üvegszál összetételét és tömegarányát, az erősítő rétegek irányát és felépítését;
  - a szakítószilárdságot, a szakadási nyúlást és a rugalmassági moduluszt a

igénybevételek irányában, az EN ISO 527-5:1997 szabvány szerint. Ezenkívül a műgyanta szakadási nyúlását ultrahangos módszerrel meg kell határozni;

- a hajlítoszilárdságot és a behajlás mértékét az EN ISO 14125:1998 szabvány szerinti hajlítási kúszásvizsgálattal, amit legalább 50 mm széles próbatesten, a falvastagság legalább 20-szorosát kitevő alátámasztási távolsággal, 1000 órás időtartamig kell végezni. Ezenkívül ezzel a vizsgálattal az EN 978:1997 szabvány szerinti  $\alpha$  kúszási tényezőt és  $\beta$  öregedési tényezőt is meg kell határozni.

**6.9.4.2.3** Az egyesítések rétegek közötti nyírószilárdságát reprezentatív mintán kell meghatározni az EN ISO 14130:1997 szabvány szerinti szakítóvizsgálat keretében.

**6.9.4.2.4** A tartány és a szállítandó anyag vegyi összeférhetőségét az illetékes hatóság egyetértésével a következő módszerek valamelyikével bizonyítani kell. Ennek során a tartány és a szerelvényei anyagainak a szállítandó anyagokkal való összeférhetőségét minden szempontból igazolni kell, beleértve a tartány kémiai roncsolódását, a szállítandó anyag kritikus reakciójának iniciálását és a kettő közötti veszélyes kölcsönhatást.

- A tartány roncsolódásának megállapításához a tartányból és az esetleges belső betétek hegesztési tartományából mintát kell venni és az EN 977:1997 szabvány szerinti vegyi összeférhetőségi vizsgálatnak kell alávetni 50 °C-on, 1000 órás időtartamig. Az EN 978:1997 szabvány szerinti hajlítási vizsgálattal meghatározott szilárdság és rugalmassági modulus csökkenése az eredeti mintához képest legfeljebb 25% lehet. Repedések, hólyagok, kipattogzás, a rétegek és a betét szétválása és egyenetlenségek nem fogadhatók el.
- A szállítandó anyagoknak a tartány azon anyagaival való összeférhetőségére, amelyekkel az adott hőmérsékleten, időtartamban és üzemi körülmények között érintkezésbe kerülhetnek, hiteles és dokumentált pozitív tapasztalatok vannak.
- A szakirodalomban, szabványban vagy más forrásban az illetékes hatóság számára elfogadható műszaki adatok találhatóak.

#### **6.9.4.3** *Típusvizsgálat*

A tartány mintadarabját a következőkben meghatározott vizsgálatoknak kell alávetni. E célból az üzemi szerelvények szükség esetén más szerelvényekre cserélhetők.

**6.9.4.3.1** A mintadarabot meg kell vizsgálni, hogy megfelel-e a gyártási típusnak. Ennek ki kell terjednie a belső és külső szemrevételezésre és a fő méretek megmérésére.

**6.9.4.3.2** A mintadarabon minden olyan helyre, ahol a méretezési számítással való összehasonlítás szükséges, nyúlásmérő bélyeget kell elhelyezni, a tartányt meg kell terhelni és a mérési eredményeket fel kell jegyezni. A terheléseknek a következőknek kell lenni:

- a tartányt a legnagyobb töltési fokig meg kell tölteni vízzel. Ezeket a mérési eredményeket kell felhasználni a 6.9.2.5 bekezdés szerinti méretezési számítások hitelesítéséhez;
- a tartányt a legnagyobb töltési fokig meg kell tölteni vízzel, járműre kell erősíteni és vezetési és fékezési próbák végrehajtásával mindhárom irányban gyorsulásnak kell kitenni. A 6.9.2.6 bekezdés szerinti méretezési számítással való összehasonlítás céljából a mérési eredményeket a 6.8.2.1.2 pontban előírt és a ténylegesen mért gyorsulások arányában extrapolálni kell;
- a vízzel töltött tartányt az előírt próbanyomásnak kell kitenni. E terhelés hatására a tartányon nem lehet szemmel látható sérülés vagy szivárgás.

**6.9.4.3.3** A mintadarabot az EN 976-1:1997, 6.6 szabvány szerinti golyó ejtési próbának kell alávetni. A tartányon sem kívül, sem belül nem lehet szemmel látható sérülés.

**6.9.4.3.4** A mintadarabot – felszerelt üzemi és szerkezeti szerelvényekkel – legnagyobb ürtartalmának 80%-áig meg kell tölteni vízzel, és 30 percen át úgy kell kitenni nyílt tüzelőolaj tűznek vagy ugyanilyen hatású más tűznek, hogy a láng teljesen körülvegye. A tüzelőanyag felületének

minden irányban legalább 50 cm-rel nagyobbak kell lennie, mint a tartány, a tüzelőanyag felszíne és a tartány közötti távolságnak pedig 50 és 80 cm között kell lennie. A tartány folyadékszint alatt lévő részeinek, a nyílásoknak és a zárószerkezeteknek is, a csepegéstől eltekintve, szivárgásmentesnek kell maradniuk.

#### **6.9.4.4** *Típusjóváhagyás*

**6.9.4.4.1** Minden új tartánytípusra az illetékes hatóságnak vagy az általa kijelölt szervnek jóváhagyást kell kiadnia annak tanúsítására, hogy a típus a kívánt célra alkalmas, és e fejezetnek a gyártásra és a szerelvényekre vonatkozó követelményeinek, valamint a szállítandó anyagra vonatkozó különleges előírásoknak megfelel.

**6.9.4.4.2** A jóváhagyásnak a számításokat és minden anyagvizsgálat eredményét és a mintadarab vizsgálatának az eredményeit is tartalmazó vizsgálati jegyzőkönyvet kell alapul venni, valamint a méretezési számítással való összehasonlítását, és utalnia kell a gyártási típus jellemzőire és a minőségbiztosítási programra.

**6.9.4.4.3** A jóváhagyásban fel kell tüntetni azokat az anyagokat, ill. anyagcsoportokat, amelyekkel a tartány összeférhető. Az anyagok kémiai elnevezését vagy a megfelelő gyűjtőmegnevezést (lásd a 2.1.1.2 bekezdést), valamint az osztályt és az osztályozási kódot meg kell adni.

**6.9.4.4.4** Ezenkívül tartalmaznia kell a jóváhagyott típus alapján gyártott tartányokra a meghatározott tervezési és küszöbértékeket (élettartam, üzemi hőmérséklet-tartomány, üzemi és próbanyomás, anyagjellemzők) és a gyártásnál, vizsgálatnál, típusjóváhagyásnál, jelölésnél és használatnál betartandó minden óvintézkedést.

#### **6.9.5** **Vizsgálat**

**6.9.5.1** Minden, a jóváhagyott típus alapján gyártott tartánynál a következő anyagvizsgálatokat és vizsgálatokat kell elvégezni.

**6.9.5.1.1** A tartányból kivágott mintán – a szakítóvizsgálat kivételével – a 6.9.4.2.2 pont szerinti anyagvizsgálatokat kell végrehajtani azzal az eltéréssel, hogy a hajlítási kúszásvizsgálat időtartamát 100 órára lehet csökkenteni. A gyártással párhuzamosan készített minták csak akkor használhatók, ha a tartányból nem lehet mintát kivágni. A típusra jóváhagyott értékeknek meg kell felelni.

**6.9.5.1.2** Üzembe helyezés előtt a tartányt és szerelvényeit együtt vagy külön-külön vizsgálatnak kell alávetni. A vizsgálatnak magában kell foglalnia:

- annak ellenőrzését, hogy a tartány megfelel-e a jóváhagyott típusnak;
- a szerkezeti jellemzők ellenőrzését;
- a belső és külső állapot vizsgálatát;
- a folyadéknomás-próbát a 6.8.2.5.1 pontban előírt táblán feltüntetett próbanyomással végrehajtva;
- a szerelvények megfelelő működésének ellenőrzését;
- tömörségi próbát, ha a tartányt és szerelvényeit külön-külön vetették alá a nyomáspróbának.

**6.9.5.2** A tartányok időszakos vizsgálatára a 6.8.2.4.2 – 6.8.2.4.4 pont követelményeit kell alkalmazni. Ezenkívül a 6.8.2.4.3 pont szerinti vizsgálatnak a tartány belső állapotának vizsgálatára is ki kell terjednie.

**6.9.5.3** A 6.9.5.1 és a 6.9.5.2 bekezdés szerinti vizsgálatokat az illetékes hatóság által elismert szakértőnek kell elvégeznie. A vizsgálatok eredményeiről bizonyítványt kell kiállítani. A bizonyítványban fel kell sorolni azokat az anyagokat, amelyek a 6.9.4.4 bekezdés szerint a tartányban szállíthatók.

**6.9.6 Jelölés**

**6.9.6.1** A szálvázaz műanyag tartányok jelölésére a 6.8.2.5 bekezdés előírásait kell alkalmazni a következő eltéréssel:

- a tartánytábla a tartányra laminálható vagy alkalmas műanyagból is készíthető;
- a tervezési hőmérséklet-tartományt mindig fel kell tüntetni.

**6.9.6.2** Ezenkívül, amennyiben egy tételnél a 3.2 fejezet „A” táblázat 13 oszlopában a 6.8.4 e) pont szerinti különleges előírás (TM) is fel van tüntetve, akkor azt is alkalmazni kell.

**6.10 FEJEZET****A HULLADÉKOK SZÁLLÍTÁSÁRA SZOLGÁLÓ, VÁKUUMMAL  
ÜZEMELŐ TARTÁNYOK GYÁRTÁSÁRA, SZERELVÉNYEIRE,  
TÍPUSJÓVÁHAGYÁSÁRA, VIZSGÁLATÁRA ÉS JELÖLÉSÉRE  
VONATKOZÓ ELŐÍRÁSOK**

**Megjegyzés:** 1. A mobil tartányokra és az UN többbelemes gázkonténerekre (UN MEG-konténerekre) lásd a 6.7 fejezetet; a fémből gyártott rögzített tartányokra (tartányjárművekre), leszerelhető tartányokra, tankkonténerekre és tartányos cserefelépítményekre, valamint a battériás járművekre és többbelemes gázkonténerekre (MEG-konténerekre) – az UN MEG-konténerek kivételével – lásd a 6.8 fejezetet; a szálvázaz műanyag tartányokra lásd a 6.9 fejezetet.

2. Ez a fejezet a rögzített tartányokra, a leszerelhető tartányokra, a tankkonténerekre és a tartányos cserefelépítményekre vonatkozik.

**6.10.1 Általános előírások****6.10.1.1 Meghatározások**

**Megjegyzés:** Az olyan tartány, amely mindenben megfelel a 6.8 fejezet előírásainak, nem minősül „hulladékok szállítására szolgáló, vákuummal üzemelő tartány”-nak.

**6.10.1.1.1** A „védett terület” a következőképpen elhelyezkedő területeket jelenti:

- a) a tartány alsó részén, az alsó alkotó mindkét oldalán, 60°-os középponti szöghöz tartozó sávban;
- b) a tartány felső részén, a felső alkotó mindkét oldalán, 30°-os középponti szöghöz tartozó sávban;
- c) a gépjárművön lévő tartányon az elülső tartányfenéken;
- d) a hátsó tartányfenék azon részén, mely a 9.7.6 szakaszban előírt védőszerkezet (lökharító) által védett részen belül helyezkedik el.

**6.10.1.2 Alkalmazási terület****6.10.1.2.1** A 6.10.2 – 6.10.4 szakasz különleges előírásai a hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra vonatkoznak, és kiegészítik vagy módosítják a 6.8 fejezet előírásait.

A hulladékok szállítására szolgáló, vákuummal üzemelő tartányokat nyitható fenékekkel is el lehet látni, ha a 4.3 fejezet előírásai a szállítandó anyag alulról történő ürítését engedélyezik (amire a 3.2 fejezet „A” táblázat 12 oszlopában a 4.3.4.1.1 pont szerinti tartánykód harmadik részében „A” vagy „B” betű utal).

A hulladékok szállítására szolgáló, vákuummal üzemelő tartányoknak meg kell felelniük a 6.8 fejezet minden olyan előírásának, amelyet e fejezet előírásai nem módosítanak. Ennek ellenére a 6.8.2.1.19, a 6.8.2.1.20 és a 6.8.2.1.21 pont előírásait nem kell betartani.

**6.10.2 Gyártás****6.10.2.1** A tartányokat a töltési vagy ürítési nyomás 1,3-szeresével egyenlő tervezési nyomásra, de legalább 400 kPa (4 bar) túlnyomásra kell méretezni. Amennyiben a szállítandó anyagra a 6.8 fejezetben nagyobb tervezési nyomást ír elő, úgy ezt a nagyobb nyomást kell alkalmazni.

**6.10.2.2** A tartányokat 100 kPa (1 bar) vákuum elviselésére kell méretezni.

### **6.10.3 Szerelvények**

**6.10.3.1** A szerelvényeket úgy kell a tartányon elhelyezni, hogy a szállítás és a kezelés során leszakadás vagy sérülés veszélye ellen biztosítva legyenek. Ez az előírás teljesítettnek tekinthető, ha a szerelvényeket az ún. védett területen (lásd 6.10.1.1.1) helyezik el.

**6.10.3.2** A tartányok alulról ürítése megoldható külső csővezetékkel és a tartányhoz a lehető legközelebb elhelyezett zárószeleppel, és egy második zárószerkezettel, amelyik vakkarima vagy más, ugyanennyire hatékony szerkezet lehet.

**6.10.3.3** A tartányhoz, illetve több kamrás tartány esetén az egyes kamrákhoz tartozó zárószelepek állásának és zárási irányának egyértelműnek és a talajszintről ellenőrizhetőnek kell lennie.

**6.10.3.4** A külső töltő- vagy ürítőszerelvények (csőcsonkok, oldalsó zárószerkezetek) sérüléséből adódó elfolyás elkerülése érdekében a belső főelzáró szelepet vagy – ha van – az első, külső főelzáró szelepet és fészükét (üléküket) úgy kell kialakítani, hogy a külső erőhatásra történő leszakadás veszélye ellen védve legyenek, vagy az ilyen erőhatásnak ellen tudjanak állni. A töltő- és ürítőszerkezeteket (beleértve a karimákat és menetes dugókat is), valamint az esetleges védőkupakokat a véletlen kinyílás ellen biztosítani kell.

**6.10.3.5** A tartányokat nyitható fenékkal is el lehet látni, a nyitható fenéknek azonban meg kell felelnie a következő feltételeknek:

- a) a fenéket úgy kell kialakítani, hogy zárt állásban szivárgásmentesen rögzítve legyen;
- b) a fenék véletlenül ne nyílhasson ki;
- c) gépi nyitó/záró szerkezet esetén energia kimaradáskor a fenéknek biztosan zárva kell maradnia;
- d) megszakítót vagy egyéb biztonsági berendezést kell beépíteni, amely megakadályozza a fenék kinyitását akkor, ha a tartányban túlnyomás van. Ez az előírás nem vonatkozik azokra a fenékekre, amelyeknek gépi működtetésű nyitó/záró szerkezetük van, ahol a működtető szerkezet kényszervezérelt. Ez esetben viszont biztonsági („holtember”) berendezést kell alkalmazni, valamint azt úgy kell elhelyezni, hogy a kezelő mindvégig megfigyelhesse a fenék mozgását, és a fenék nyitása, zárása ne veszélyeztesse a kezelőt; és
- e) gondoskodni kell arról, hogy ha a jármű, a tankkonténer vagy a tartányos cserefelépítmény felborul, a fenék védve legyen és ne nyíljon ki.

**6.10.3.6** Ha a hulladékok szállítására használt, vákuummal üzemelő tartányon a tisztítást vagy ürítést segítő dugattyú van, akkor a tartányt olyan határoló/rögzítő szerkezettel kell ellátni, amely minden üzemi helyzetben meggátolja a dugattyú kiengedését a tartányból, ha a dugattyúra a tartány legnagyobb üzemi nyomásával azonos erő hat. A pneumatikus dugattyúval ellátott tartányok és tartánykamrák legnagyobb üzemi nyomása legfeljebb 100 kPa (1 bar) lehet. A dugattyút olyan anyagból és oly módon kell kialakítani, hogy a dugattyú mozgása során ne keletkezzen szikra.

A dugattyú válaszfalként is szolgálhat, ha helyzetében rögzítve van. Ha a dugattyú rögzítéséhez használt eszköz bármely része a tartányon kívülre esik, úgy kell elhelyezni, hogy véletlen sérüléseknek ne legyen kitéve.

**6.10.3.7** A tartányt szívócsővel is fel lehet szerelni, ha

- a) az olyan, belső vagy külső elzárószeleppel van ellátva, amely közvetlenül a tartányra vagy a tartányra hegesztett csonkra van rögzítve; a tartány, ill. a csont és a külső elzárószelep közé forgatókoszorú helyezhető, ha az az ún. védett területre kerül és a külső elzárószelep működtető szerkezete házzal vagy fedéllel védve van a külső erőhatásra történő leszakadás veszélye ellen;

- b) az a) pontban említett elzárószelep úgy van kialakítva, hogy menet közben nem maradhat nyitva; és
- c) a szívócső úgy van kiképezve, hogy ha véletlenül a tartánynak ütközik, nem okozza annak szivárgását.

**6.10.3.8**

A tartányt a következő kiegészítő üzemi szerelvényekkel kell ellátni:

- a) A vákuumszivattyút, illetve a kompresszor kivezetését úgy kell kialakítani, hogy a gyúlékony vagy mérgező gőzöket olyan helyre terelje, ahol nem okozhatnak veszélyt;
- b) Ha a gyúlékony hulladékok szállítására szolgáló tartányokra szerelt vákuumszivattyút, ill. kompresszor szikraképződést okozhat, akkor a szívó- és a kipufogócsonkon is olyan eszközt kell alkalmazni, amely megakadályozza a láng közvetlen áthatolását;
- c) Azokon a szivattyúkon, amelyek túlnyomást is elő tudnak állítani, a csővezetékre szerelve olyan biztonsági szelep szükséges, amely nyomás alatt tartható. A biztonsági szelepet úgy kell beállítani, hogy a tartány legnagyobb üzemi nyomásánál kisebb nyomáson nyíljon ki;
- d) Elzárószelepet kell elhelyezni a tartány vagy a tartányra szerelt túltöltés gátló kivezetőnyílása és a tartányt a vákuumszivattyúval, illetve a kompresszorral összekötő csővezeték közé;
- e) A tartányt megfelelő vákuum-, illetve nyomásmérővel kell felszerelni, amit úgy kell elhelyezni, hogy a vákuumszivattyút, illetve a kompresszort kezelő személy könnyen leolvashassa. A nyomásmérő skáláján a tartány legnagyobb üzemi nyomásának értékét megkülönböztető jellel kell ellátni;
- f) A tartányt, illetve minden tartánycamrát szintjelzővel kell ellátni. Kémlelőablak akkor használható e célra, ha
  - i) a kémlelőablak a tartány falában van és azzal azonos nyomásállóságú, vagy a tartány külsejére van erősítve;
  - ii) a tartányhoz való alsó és felső csatlakozásnál olyan elzárószelep van, amely közvetlenül a tartányhoz van erősítve és úgy van kialakítva, hogy a menet közben a szelep nem lehet nyitva;
  - iii) tartány legnagyobb üzemi nyomásán is megfelelően működik; és
  - iv) úgy van elhelyezve, hogy véletlen sérülésnek ne legyen kitéve.

**6.10.3.9**

A hulladékok szállítására szolgáló, vákuummal üzemelő tartányt el kell látni hasadótárcsával ellátott biztonsági szeleppel.

A szelepnak önműködően kell nyílnia (lefújnia) a tartány próbanyomásának 0,9...1,0-szeresénél. Súlyterhelésű (ellensúlyos) szelep alkalmazása tilos.

A hasadótárcsának legkorábban akkor kell felszakadnia, ha a nyomás eléri a szelep nyitónyomását és legkésőbb akkor, ha a nyomás eléri a tartány próbanyomását.

A biztonsági szerkezeteket úgy kell kialakítani, hogy ellenálljanak a dinamikus igénybevételeknek, beleértve a folyadék hullámozását is.

A hasadótárcsa és a biztonsági szelep közti térbe nyomásmérőt vagy más, alkalmas jelzőeszközt kell csatlakoztatni, ami lehetővé teszi, hogy észleljék a hasadótárcsa repedését, kilyukadását vagy szivárgását, ami a biztonsági szelep hibás működését okozhatja.

**6.10.4****Vizsgálatok**

A hulladékok szállítására szolgáló, vákuummal üzemelő tartányokat rögzített és leszerelhető tartányok esetében legalább háromévenként, ill. tankkonténerek és tartányos cserefelépítmények esetében legalább kettő és fél évenként a 6.8.2.4.3 pontban előírt vizsgálatokon kívül a belső állapot vizsgálatának is alá kell vetni.



**6.11 FEJEZET****AZ ÖMLESZTETTÁRU-KONTÉNEREK TERVEZÉSÉRE,  
GYÁRTÁSÁRA ÉS VIZSGÁLATÁRA VONATKOZÓ  
KÖVETELMÉNYEK****6.11.1 Meghatározások**

E szakasz alkalmazásában

a *zárt ömlesztettáru-konténer* olyan teljesen zárt ömlesztettáru-konténer, amelynek teteje, oldal- és homlokfalai, ill. padlója (beleértve a garatszerű fenék kialakítást is) merev. E fogalomba beletartoznak a nyitható tetejű, oldal- és homlokfalú ömlesztettáru-konténerek is, ha a szállítás alatt zárva tarthatók. A zárt ömlesztettáru-konténereken lehetnek olyan nyílások, amelyek lehetővé teszik a gőzök és gázok, ill. a szabad levegő kicserélődését, azonban normális szállítási körülmények között megakadályozzák a szilárd anyag tartalom kiszabadulását, valamint a csapadék és a fröccsenő víz bejutását;

a *ponyvás ömlesztettáru-konténer* olyan nyitott tetejű ömlesztettáru-konténer, amelynek fenékrésze (beleértve a garatszerű fenék kialakítást is), oldal- és homlokfalai merevek, és hajlékony „eszközzel” van lefedve;

**6.11.2 Alkalmazás és általános követelmények**

**6.11.2.1** Az ömlesztettáru-konténereket és üzemi és szerkezeti szerelvényeiket úgy kell tervezni és gyártani, hogy a tartalom elvesztése nélkül ellenálljanak a tartalom által kifejtett belső nyomásnak és a normális kezelés és szállítás során fellépő feszültségeknek.

**6.11.2.2** Ha a konténer üritőszeleppel van ellátva, annak zárt állásban rögzíthetőnek kell lennie és a teljes üritőrendszert alkalmas módon védeni kell a sérülésektől. A karos zárószerkezetű szelepeknek a nem szándékos nyitással szemben biztosíthatónak kell lennie, és nyitott, ill. zárt állásának jól észlelhetőnek kell lennie.

**6.11.2.3 Az ömlesztettáru-konténerek típusát jelölő kód**

A következő táblázat tartalmazza az ömlesztettáru-konténerek típusát jelölő kódokat:

| Az ömlesztettáru-konténer típusa | Kód |
|----------------------------------|-----|
| Ponyvás ömlesztettáru-konténer   | BK1 |
| Zárt ömlesztettáru-konténer      | BK2 |

**6.11.2.4** A tudományos és műszaki haladás figyelembe vétele érdekében az illetékes hatóság elfogadhat olyan alternatív megoldásokat, amelyek legalább olyan biztonságosak, mintha a fejezet követelményeit teljesítették volna.

**6.11.3 A CSC előírásainak megfelelő, ömlesztett áru szállításra használt konténerek tervezésére, gyártására és vizsgálatára vonatkozó előírások****6.11.3.1 Tervezési és gyártási követelmények**

**6.11.3.1.1** E szakasz tervezési és gyártási követelményei teljesítettnek tekinthetők, ha az ömlesztettáru-konténer megfelel az ISO 1496-4:1991 „1 sorozatú teherkonténerek - Meghatározások és vizsgálat - 4 rész: Nem nyomástartó konténerek száraz áruhoz” szabványnak és a konténer portömör.

**6.11.3.1.2** Az ISO 1496-4:1991 „1 sorozatú teherkonténerek - Meghatározások és vizsgálat - 1 rész: Általános rendeltetésű teherkonténerek” szabvány szerint tervezett és vizsgált konténereket



olyan üzemi berendezéssel kell ellátni, amelyek – a konténerhez való csatlakozásukkal együtt – úgy vannak kialakítva, hogy annyira megerősítsék a homlokfalakat és a konténer hosszirányú teherbírását, ami ahhoz szükséges, hogy a konténer megfeleljen az ISO 1496-4:1991 szabvány megfelelő vizsgálati követelményeinek.

**6.11.3.1.3** Az ömlesztettáru-konténernek portömörnek kell lennie. Ha a konténer portömörre tételéhez bélést használnak, azt megfelelő anyagból kell készíteni. A béléshez használt anyag szilárdságának és a bélés kialakításának meg kell felelnie a konténer befogadóképességének és szándékolt használatának. A bélés egyesítéseinek és zárásainak el kell viselniük a normális kezelés és szállítás során fellépő nyomásokat és ütések. A szellőztetett ömlesztettáru-konténereknél az esetleges bélés nem akadályozhatja a szellőző szerkezetek működését.

**6.11.3.1.4** A billentéssel ürített ömlesztettáru-konténerek üzemi berendezéseinek alkalmasnak kell lenniük a teljes töltőtömeg megtartására a döntött helyzetben.

**6.11.3.1.5** Minden eltolható tetőt, ill. oldal- vagy homlokfal szakaszt olyan zárószerkezettel kell ellátni, amelynek rögzítőszerkezete úgy van kialakítva, hogy zárt helyzetét a talajon álló megfigyelő észlelhesse.

#### **6.11.3.2** *Üzemi szerelvények*

**6.11.3.2.1** A töltő- és ürítőszerkezeteket úgy kell elhelyezni, hogy a szállítás és a kezelés során leszakadás vagy sérülés veszélye ellen biztosítva legyenek. A töltő- és ürítőszerkezeteket a nem szándékos kinyitás ellen biztosítani kell. A zárószerkezetek nyitott és zárt helyzetét és zárási irányát jól láthatóan fel kell tüntetni.

**6.11.3.2.2** A nyílások tömítéseit úgy kell kialakítani, hogy az ömlesztettáru-konténer kezelése, töltése és ürítése ne okozza sérülésüket.

**6.11.3.2.3** Ha szellőzésre van szükség, az ömlesztettáru-konténert légcserét biztosító eszközzel kell ellátni, akár természetes légáramlás biztosításával, pl. nyílásokkal, vagy aktív elemekkel, pl. ventilátorokkal. A szellőzést úgy kell biztosítani, hogy soha ne jöhessen létre vákuum a konténerben. A gyúlékony anyagok vagy gyúlékony gázokat vagy gőzöket kibocsátó anyagok szállítására szolgáló konténerek szellőző elemeit úgy kell kialakítani, hogy ne képezzenek gyújtóforrást.

#### **6.11.3.3** *Vizsgálat*

**6.11.3.3.1** Az e szakasz követelményei szerint ömlesztettáru-konténerként használt, karbantartott és minősített konténereket a CSC előírásai szerint kell vizsgálni és jóváhagyni.

**6.11.3.3.2** Az ömlesztettáru-konténerként használt és minősített konténereket a CSC szerint kell időszakos vizsgálatnak alávetni.

#### **6.11.3.4** *Jelölés*

**6.11.3.4.1** Az ömlesztettáru-konténerként használt konténereket a CSC szerint „Biztonsági jóváhagyási táblá”-val kell megjelölni.

**6.11.4 A nem a CSC előírásainak megfelelő, ömlesztett áru szállításra használt konténerek tervezésére, gyártására és vizsgálatára vonatkozó előírások**

***Megjegyzés:** Ha az e szakasz előírásainak megfelelő konténereket szilárd anyagok ömlesztett szállítására használják, a fuvarokmányba a következő bejegyzést kell tenni: „A(z) ... illetékes hatósága által jóváhagyott BK(x) ömlesztettáru-konténer” (lásd az 5.4.1.1.17 pontot).*

**6.11.4.1** Az e szakasz alkalmazásában az ömlesztettáru-konténer fogalom alá tartoznak az „offshore” ömlesztettáru-konténerek, a billenőputtonyok, az ömlesztettáru-silók, a cserefelépítmények, a konténertechnikók, a görgős konténerek és a járművek rakodóteteje.

***Megjegyzés:** Ezen ömlesztettáru-konténerek közé tartoznak azok a 7.1.3 szakaszban említett UIC 591 és 592-2 – 592-4 Döntvénynek megfelelő konténerek is, amelyek nem felelnek meg a CSC előírásainak.*

**6.11.4.2** Az ömlesztettáru-konténereket úgy kell tervezni és gyártani, hogy elég erősek legyenek a normális kezelés és szállítás során fellépő ütődések és igénybevételek elviselésére, beleértve a szállítási módok közötti átrakás során fellépő igénybevételeket is.

**6.11.4.3** (fenntartva)

**6.11.4.4** Az ömlesztettáru-konténereket az illetékes hatóságnak kell jóváhagynia és a jóváhagyásnak tartalmaznia kell a 6.11.2.3 bekezdés szerinti, az ömlesztettáru-konténer típusát jelölő kódot és adott esetben a vizsgálatra vonatkozó követelményeket.

**6.11.4.5** Ha a veszélyes áru megtartásához bélésre van szükség, annak ki kell elégítenie a 6.11.3.1.3 pont előírásait.

**6.12 FEJEZET**

**A MEMU-k TARTÁNYAINAK, ÖMLESZTETTÁRU-  
KONTÉNEREINEK ÉS ROBBANÓANYAG SZÁLLÍTÁSÁRA  
SZOLGÁLÓ, KÜLÖNLEGES RAKTEREINEK TERVEZÉSÉRE,  
GYÁRTÁSÁRA, SZERELVÉNYEIRE, TÍPUSJÓVÁHAGYÁSÁRA,  
VIZSGÁLATÁRA ÉS JELÖLÉSÉRE VONATKOZÓ  
KÖVETELMÉNYEK**

*Megjegyzés: 1.: A mobil tartányokra lásd a 6.7 fejezetet; a fémből gyártott, rögzített tartányokra (tartányjárművekre), leszerelhető tartányokra, tank-konténerekre és tartányos cserefelépítményekre lásd a 6.8 fejezetet; a szállvázaz műanyag tartányokra lásd a 6.9 fejezetet, a hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra lásd a 6.10 fejezetet; az ömlesztettáru-konténerekre lásd a 6.11 fejezetet.*

*2.: Ez a fejezet az 1. megjegyzésben említett fejezetek követelményeinek nem mindenben megfelelő rögzített tartányokra, leszerelhető tartányokra, tank-konténerekre és tartányos cserefelépítményekre, valamint az ömlesztettáru-konténerekre és a robbanóanyag szállítására szolgáló, különleges rakterekre vonatkozik.*

**6.12.1      Alkalmazási terület**

E fejezet követelményeit a MEMU-val történő veszélyes áru szállításra használt tartányokra, ömlesztettáru-konténerekre és különleges rakterekre kell alkalmazni.

**6.12.2      Általános előírások**

**6.12.2.1**      A tartányokra a 6.8 fejezet követelményeit az e fejezet különleges előírásai által módosított formában kell betartani, az 1.2.1 szakaszban rögzített tartányok minimális befogadóképességére vonatkozó meghatározás nem érvényes e tartányokra.

**6.12.2.2**      A MEMU-val történő veszélyes áru szállításra használt ömlesztettáru-konténereknek a BK2 típusra vonatkozó követelményeknek kell megfelelniük.

**6.12.2.3**      Ha egy tartány vagy egy ömlesztettáru-konténer többféle anyagot tartalmaz, az anyagokat legalább egy kettős fallal kell elválasztani, melyek egyben a páralecsapódás elvezetésére alkalmas üres légteret határolnak.

**6.12.3      Tartányok****6.12.3.1      1000 liter vagy annál nagyobb befogadóképességű tartányok**

**6.12.3.1.1**      A tartányokra a 6.8.2 szakasz követelményeit kell betartani.

**6.12.3.1.2**      Azon a tartányon, amelyikre a 6.8.2 szakasz előírásai szerint biztonsági szelep szükséges, hasadótárcsának is kell lenni, vagy egyéb, az illetékes hatóság által jóváhagyott nyomáscsökkentő eszköznek.

- 6.12.3.1.3** Azoknál a nem kör keresztmetszetű tartányoknál (pl. a koffer alakú vagy ellipszis keresztmetszetű tartányoknál), amelyeket nem lehet a 6.8.2.1.4 pont, ill. az ott említett szabványok vagy műszaki szabályzat szerint méretezni, az illetékes hatóság által meghatározott nyomáspróbával is lehet bizonyítani, hogy a megengedett igénybebevételt képes elviselni.

Ezekre a tartányokra a 6.8.2.1 bekezdés követelményeit kell betartani, a 6.8.2.1.3, a 6.8.2.1.4 és a 6.8.2.1.13 – 6.8.2.1.22 pontok kivételével.

A tartány falvastagsága nem lehet kisebb a következő táblázatban megadott értékeknél:

| Anyag                          | Legkisebb falvastagság |
|--------------------------------|------------------------|
| Rozsdamentes ausztenites acél  | 2,5 mm                 |
| Egyéb acél                     | 3 mm                   |
| Alumínium ötvözet              | 4 mm                   |
| 99,80%-os tisztaságú alumínium | 6 mm                   |

A tartányt az oldalirányú ütközésekből vagy felborulásból eredő sérülések ellen védelemmel kell ellátni. Ez lehet a 6.8.2.1.20 pont szerinti védelem, vagy az illetékes hatóság jóváhagyhat egyéb megoldást is.

- 6.12.3.1.4** A 6.8.2.5.2 pont követelményeitől eltérően a tartányon nem kell feltüntetni sem a tartánykódot, sem a különleges előírásokat.

**6.12.3.2** *1000 liternél kisebb befogadóképességű tartányok*

- 6.12.3.2.1** A tartányok gyártására a 6.8.2.1 bekezdés követelményeit kell betartani, a 6.8.2.1.3, a 6.8.2.1.4, a 6.8.2.1.6, a 6.8.2.1.10 – 6.8.2.1.23 és a 6.8.2.1.28 pontok kivételével.

- 6.12.3.2.2** A tartányok szerelvényeire a 6.8.2.2.1 pont követelményeit kell betartani. Azon a tartányon, melyikre a 6.8.2 szakasz előírásai szerint biztonsági szelep szükséges, hasadótárcsának is kell lenni, vagy egyéb, az illetékes hatóság által jóváhagyott nyomáscsökkentő eszköznek.

- 6.12.3.2.3** A tartány falvastagsága nem lehet kisebb a következő táblázatban megadott értékeknél:

| Anyag                          | Legkisebb falvastagság |
|--------------------------------|------------------------|
| Rozsdamentes ausztenites acél  | 2,5 mm                 |
| Egyéb acél                     | 3 mm                   |
| Alumínium ötvözet              | 4 mm                   |
| 99,80%-os tisztaságú alumínium | 6 mm                   |

- 6.12.3.2.4** A tartányoknak lehetnek nem domború szerkezeti részei. Megerősítésként (merevítésként) alkalmazhatók ívelt vagy hullámos falak, ill. merevítő bordák is. A tartány minden oldalán – legalább az egyik irányban – a párhuzamos merevítések közötti távolság ne legyen nagyobb, mint a falvastagság százszorosa.

- 6.12.3.2.5** A hegesztéseket szakszerűen kell elkészíteni, és teljes biztonságot kell nyújtaniuk. A hegesztést vizsgázott hegesztőnek olyan hegesztési eljárással kell végeznie, amelynek alkalmasságát (beleértve a szükséges hőkezelést is) vizsgálatokkal igazolták.

- 6.12.3.2.6** A 6.8.2.4 bekezdés követelményeit nem kell betartani. A MEMU tulajdonosának vagy használójának felelősségére azonban üzembehelyezés előtti és időszakos vizsgálatokat kell végezni. A tartány és a szerelvények külső és belső állapotát szemrevételezéssel meg kell

vizsgálni, és legalább három évenként az illetékes hatóság által megfelelőnek tartott módon tömörségi vizsgálatot kell végezni.

**6.12.3.2.7** A 6.8.2.3 bekezdés típusjövahagyásra és a 6.8.2.5 bekezdés jelölésre vonatkozó követelményeit nem kell alkalmazni.

#### **6.12.4 Szerelvények**

**6.12.4.1** Az UN 1942 és az UN 3375 tételhez használt, alsó ürítésű tartányokat legalább két zárószerkezettel kell ellátni. Az egyik zárószerkezet lehet a tartányhoz tartozó keverő vagy a betöltésre szolgáló szivattyú is.

**6.12.4.2** Az első zárószerkezet után elhelyezkedő csővezeték csak könnyen olvadó anyagból lehet (pl.gumitömlő) vagy könnyen olvadó részeinek kell lennie.

**6.12.4.3** A külső szivattyú vagy ürítőszerelvény (csővezeték) sérüléséből adódó elfolyás elkerülése érdekében az első zárószerkezetet és fészket (ülékét) a külső erőhatásra történő leszakadás veszélye ellen védeni kell, vagy úgy kell kialakítani, hogy az ilyen erőhatásnak ellen tudjon állni. A töltő- és ürítőszerkezeteket (beleértve a karimákat és a menetes dugókat is), valamint az esetleges védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.

**6.12.4.4** Az UN 3375 tételhez használt tartányokon a 6.8.2.2.6 pont szerinti szellőző-berendezés „hattyúnyakkal” helyettesíthető. Az ilyen szerelvényt védeni kell a külső erőhatásra történő leszakadás veszélye ellen, vagy úgy kell kialakítani, hogy az ilyen erőhatásnak ellen tudjon állni.

#### **6.12.5 Robbanóanyag szállítására szolgáló, különleges raktér**

A gyutacsokat és/vagy detonátorszerkezeteket, valamint a D összeférhetőségi csoport anyagait és tárgyait tartalmazó küldeménydarabok szállítására szolgáló raktereket úgy kell kialakítani, hogy hatékony elkülönítést biztosítson, hogy ne álljon fenn a detonáció átvitelének a veszélye a gyutacsoktól és/vagy detonátorszerkezetektől a D összeférhetőségi csoport anyagaira, ill. tárgyaira. Az elkülönítést elválasztott rekeszek használatával vagy a két fajta robbanóanyag (robbanótárgy) egyikének különleges védőburkolat-rendszerbe történő helyezésével kell megvalósítani. Az illetékes hatóságnak az elkülönítés mindkét módját jóvá kell hagyni. Ha a raktérhez használt anyag fém, a teljes belső felületét megfelelő tűzállóságú anyaggal kell bevonni. A robbanóanyag szállítására szolgáló rakteret úgy kell elhelyezni, hogy védve legyen a nehéz terepen való rázkódástól, sérüléstől, a szállított többi veszélyes anyaggal való veszélyes kölcsönhatástól, valamint a járműtől származó gyújtóforrások (pl. kipufogó, stb.) ellen.

**Megjegyzés:** Az EN 13501-1:2001 szabvány szerinti B-S3-d2 osztályba sorolt anyagok megfelelnek a tűzállósági követelménynek.

**7. RÉSZ****A SZÁLLÍTÁS FELTÉTELEIRE, A BERAKÁSRA,  
A KIRAKÁSRA ÉS AZ ÁRUKÉZELÉSRE  
VONATKOZÓ ELŐÍRÁSOK**

**7.1 FEJEZET****ÁLTALÁNOS ELŐÍRÁSOK**

- 7.1.1** A veszélyes áruk szállításához e fejezet előírásai szerint és ezenkívül küldeménydarabos szállításnál a 7.2 fejezet, ömlesztett áru szállításnál a 7.3 fejezet, illetve tartányos szállításnál a 7.4 fejezet előírásai szerint meghatározott szállítóeszköz alkalmazása kötelező. Ezenkívül a berakásra, a kirakásra és az árukezelésre a 7.5 fejezet előírásait is be kell tartani.

Az egyes veszélyes árukra a 3.2 fejezet „A” táblázat 16, 17 és 18 oszlopa mutatja, hogy e rész mely előírásait kell betartani.

- 7.1.2** E rész előírásain kívül a veszélyes áruk szállítására használt járműveknek tervezésük, szerkezetük, és amennyiben szükséges, jóváhagyásuk tekintetében meg kell felelniük a 9. rész vonatkozó előírásainak.

- 7.1.3** Ha egy nagykonténer, tankkonténer vagy mobil tartány „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) módosított kiadása, ill. az UIC 591 Döntvény (1998. 01. 01. állapot, 2. kiadás), 592-2 Döntvény (2004. 10. 01. állapot, 6. kiadás), 592-3 Döntvény (1998. 01. 01. állapot, 2. kiadás) és 592-4 Döntvény (2004. 09. 01. állapot, 2. kiadás) meghatározása szerint konténernek minősül, csak akkor használható veszélyes áru szállítására, ha a nagykonténer, ill. a tankkonténer vagy a mobil tartány teherhordó váza megfelel ezeknek az előírásoknak.

- 7.1.4** A nagykonténer csak akkor adható fel szállításra, ha szerkezetileg megfelelő állapotú.

A „szerkezetileg megfelelő” azt jelenti, hogy a konténer szerkezeti részei, így az alsó és felső hossztartók, az alsó és felső keresztartók (küszöbök és homlokgerendák), a padló keresztartók, a sarokoszlopok és a sarokelemek mentesek a nagyobb hibáktól. „Nagyobb hibának” számít a szerkezeti elemek 19 mm-nél nagyobb mélységű görbülete vagy horpadása, a hosszúságtól függetlenül; a szerkezeti elemek repedése vagy törése; egynél több vagy helytelen toldás (pl. átlapolt illesztés) az alsó vagy felső keresztartókon vagy homlokgerendákon; kettőnél több toldás bármelyik alsó és felső hosszartón; bármilyen toldás az alsó keresztartón (küszöbön) vagy a sarokoszlopon; beszorult, elcsavarodott, törött, hiányzó vagy más okból használhatatlan ajtópántok és egyéb szerelvények; nem záró tömítések; általában a szerkezet olyan torzulása, ami a kezelőberendezés pontos csatlakoztatását, illetve a járművön vagy az alvázon való elhelyezést és rögzítést akadályozza.

Ezenkívül, függetlenül a szerkezet anyagától, elfogadhatatlan a konténer bármely elemének károsodása, pl. az oldalfal lemezelésének rozsdásodása, az üvegszövet szétválása. Megengedett viszont a normális mértékű elhasználódás, beleértve a rozsdásodást, enyhe ferdüléseket és a karcolásokat és olyan egyéb sérüléseket, amelyek nem befolyásolják a konténer használhatóságát és időjárásállóságát.

A megrakás előtt a konténert ellenőrizni kell annak biztosítására, hogy mentes legyen az előző rakomány maradványaitól, és hogy a belső padlón és falakon ne legyenek kiálló részek.

- 7.1.5** A nagykonténereknek meg kell felelniük azoknak az előírásoknak, amelyeket ez a rész – és esetleg a 9. rész – az adott rakomány esetén a jármű felépítményére tartalmaz; ilyenkor a jármű felépítményének nem kell ezeket az előírásokat teljesítenie.

Ha azonban a nagykonténert szállító jármű rakfelületének szigetelése és hőállósága megfelel az előírásoknak, akkor a nagykonténer mentesül ezek alól.

Ez az előírás az 1 osztály robbanóanyagainak és tárgyainak szállítására használt kiskonténerekre is vonatkozik.

**7.1.6**

A szállított veszélyes áru természete vagy mennyisége miatt a járműre előírt feltételeket nem változtatja meg az a tény, hogy a veszélyes áru (egy vagy több) konténerben van, a 7.1.5 szakasz első mondatának második részében szereplő kivétellel.



**7.2 FEJEZET****A KÜLDEMÉNYDARABOK SZÁLLÍTÁSÁRA  
VONATKOZÓ ELŐÍRÁSOK**

- 7.2.1** Hacsak a 7.2.2 – 7.2.4 szakaszban nincs másként előírva, a küldeménydarabok:
- a) fedett járműbe vagy zárt konténerbe; vagy
  - b) ponyvás járműbe vagy ponyvás konténerbe; vagy
  - c) nyitott járműre vagy nyitott konténerbe rakhatók.
- 7.2.2** Az olyan küldeménydarabokat, amelyek csomagolása nedvességre érzékeny, fedett vagy ponyvás járműbe, ill. zárt vagy ponyvás konténerbe kell rakni.
- 7.2.3** (fenntartva)
- 7.2.4** A következő különleges előírásokat kell betartani, ha a 3.2 fejezet „A” táblázat 16 oszlopában fel vannak tüntetve:
- V1** A küldeménydarabokat fedett vagy ponyvás járműbe, ill. zárt vagy ponyvás konténerbe kell rakni.
- V2**
- 1) A küldeménydarabokat csak olyan EX/II vagy EX/III járművekbe szabad berakni, amelyek kielégítik a 9. rész vonatkozó előírásait. A jármű kiválasztása a szállított mennyiségtől függ, ami szállítóegységenként korlátozva van a berakásra vonatkozó előírások szerint (lásd a 7.5.5.2 bekezdést).
  - 2) Azok a pótkocsik, kivéve a félpótkocsikat, amelyek megfelelnek az EX/II, ill. az EX/III járművekre előírt feltételeknek, olyan gépjárművel is vontathatók, amely nem felel meg ezeknek az előírásoknak.
- A konténerben történő szállításra lásd a 7.1.3 – 7.1.6 szakaszt is.
- Ha az 1 osztály anyagait vagy tárgyait olyan mennyiségben, amihez EX/III jármű(vek)ből képzett szállítóegységre van szükség, multimodális szállítási mód részeként konténerekben szállítják kikötő, vasúti terminál vagy repülőtér területéről mint érkező, vagy területére mint továbbítandó árut, akkor EX/II jármű(vek)ből képzett szállítóegység is használható, amennyiben a szállított konténerek megfelelnek az IMDG Kódex, a RID vagy az ICAO Műszaki Utasítások megfelelő előírásainak.
- V3** Könnyen folyó, porszerű anyagok és tűzijáték testek esetében a konténer padlózatának nemfémes anyagból készítettnek vagy nemfémes anyaggal bevontnak kell lennie.
- V4** (fenntartva)
- V5** A küldeménydarabok nem szállíthatók kiskonténerekben.
- V6** (fenntartva)
- V7** (fenntartva)

- V8**
- 1) A hőmérséklet-szabályozással stabilizált anyagokat úgy kell továbbítani, hogy a 2.2.41.1.17 és a 2.2.41.4, illetve a 2.2.52.1.16 és a 2.2.52.4 bekezdésben - előírt szabályozási hőmérsékleteket soha ne lépjék túl.
  - 2) A szállításhoz a hőmérséklet-szabályozás módjának kiválasztása számos tényező, pl. a következők függvénye:
    - a szállítandó anyag(ok) szabályozási hőmérséklete;
    - a szabályozási hőmérséklet és a várható környezeti hőmérséklet közötti különbség;
    - a hőszigetelés hatékonysága;
    - a szállítás időtartama;
    - az út során a kérésre beszámított biztonsági tartalék.
  - 3) A szabályozási hőmérséklet túllépésének elkerülésére alkalmas módszerek növekvő hatékonysági sorrendben a következők:

**R1** Hőszigetelés, feltéve, hogy az anyag(ok) kezdeti hőmérséklete elég alacsony a szabályozási hőmérséklethez viszonyítva.

**R2** Hőszigetelés és hűtőközeget rendszer, feltéve, hogy:

    - elfogadható mértékű kérésre is számítva megfelelő mennyiségű, nem gyúlékony hűtőközeget (pl. cseppfolyósított nitrogént vagy szárazjeget) visznek, vagy a hűtőközeg utánpótlását biztosítják;
    - cseppfolyósított oxigént vagy levegőt nem használnak hűtőközegeként;
    - a hűtőhatás még akkor is egyenletes, ha a hűtőközeg túlnyomó része felhasználásra került; és
    - a szállítóegységbe való belépés előtti szellőztetés szükségességére a szállítóegység ajtaján vagy ajtóin levő felirat egyértelműen figyelmeztet.

**R3** Hőszigetelés és egyszerű gépi hűtőrendszer, feltéve, hogy azoknál az anyagoknál, amelyek lobbanáspontja alacsonyabb, mint a vész hőmérséklet + 5 °C, az anyagok gyúlékony gőzei meggyulladásának megakadályozására robbanásbiztos (Eex IIB T3) elektromos szerelvényeket használnak a hűtőkamrában.

**R4** Hőszigetelés és kombinált gépi hűtésű és hűtőközeget rendszer, feltéve, hogy:

    - a két rendszer egymástól független; és
    - az előző R2 és R3 módszer követelményei teljesülnek.

**R5** Hőszigetelés és kettős gépi hűtőrendszer, feltéve, hogy:

    - eltekintve az integrált tápegységtől, a két rendszer egymástól független;
    - mindegyik rendszer egyedül is képes a hőmérséklet megfelelő szabályozásának fenntartására; és
    - azoknál az anyagoknál, amelyek lobbanáspontja alacsonyabb, mint a vész hőmérséklet + 5 °C, az anyagok gyúlékony gőzei meggyulladásának megakadályozására robbanásbiztos (Eex IIB T3) elektromos szerelvényeket használnak a hűtőkamrában.

- 4) Az R4 és az R5 módszer minden szerves peroxidhoz és önreaktív anyaghoz használható.

Az R3 módszer a C, a D, az E és az F típusú szerves peroxidokhoz és önreaktív anyagokhoz használható, és ha a szállítás során a várható legnagyobb környezeti hőmérséklet 10 °C-nál nagyobb mértékben nem haladja meg a szabályozási hőmérsékletet, akkor a B típusú szerves peroxidokhoz és önreaktív anyagokhoz is.

Az R2 módszer a C, a D, az E és az F típusú szerves peroxidokhoz és önreaktív anyagokhoz használható akkor, ha a szállítás során a várható legnagyobb környezeti hőmérséklet 30 °C-nál nagyobb mértékben nem haladja meg a szabályozási hőmérsékletet.

Az R1 módszer a C, a D, az E és az F típusú szerves peroxidokhoz és önreaktív anyagokhoz használható akkor, ha a szállítás során a várható legnagyobb környezeti hőmérséklet legalább 10 °C-kal alacsonyabb, mint a szabályozási hőmérséklet.

- 5) Ha az anyagot hőszigetelt, hűtő vagy gépi hűtésű járműben vagy konténerben kell szállítani, a járműnek, ill. a konténernek ki kell elégítenie a 9.6 fejezet - előírásait.
- 6) Ha az anyag hűtőközeggel megtöltött védőcsomagolásban van, akkor fedett vagy ponyvás járműbe, ill. zárt vagy ponyvás konténerbe kell rakni. A fedett járműveket, ill. a zárt konténereket megfelelően szellőztetni kell. A ponyvás járműveket és konténereket fel kell szerelni oldalfalakkal és hátsó fallal. A ponyvákat vízhatlan és lángmentesített anyagból kell készíteni.
- 7) A hűtőrendszer ellenőrző és hőmérséklet-érzékelő szerkezeteinek könnyen hozzáférhetőek kell lenniük és minden elektromos csatlakozásnak vízállónak kell lennie. A légtér hőmérsékletét a szállítóegységen belül két egymástól független érzékelővel kell mérni és ezek adatait úgy kell rögzíteni, hogy minden hőmérséklet-változás könnyen észlelhető legyen. A hőmérsékletet négy-hat óránként kell ellenőrizni és feljegyezni. Ha a szállított anyag szabályozási hőmérséklete kisebb mint +25 °C, akkor a szállítóegységet el kell látni a hűtőrendszertől független forrású fény és hang vészjelző készülékkel, amit úgy kell beállítani, hogy a szabályozási hőmérsékleten vagy az alatt működésbe lépjen.
- 8) Tartalék hűtőrendszernek vagy tartalék alkatrészeknek rendelkezésre kell állniuk.

**Megjegyzés:** A V8 előírást nem kell betartani a 3.1.2.6 bekezdésben hivatkozott anyagokra, ha ezek az anyagok kémiai inhibitor hozzáadásával vannak stabilizálva úgy, hogy az ÖBH nagyobb, mint 50 °C. Ilyen esetben akkor lehet szükség hőmérséklet-szabályozásra, ha az adott szállítási körülmények között a hőmérséklet meghaladhatja az 55 °C-ot.

**V9** (fenntartva)

**V10** Az IBC-ket fedett vagy ponyvás járműben, ill. zárt vagy ponyvás konténerben kell szállítani.

**V11** A fém és a merev falú műanyag IBC-k kivételével a többi IBC-t fedett vagy ponyvás járműben, ill. zárt vagy ponyvás konténerben kell szállítani.

- V12**    A 31HZ2 típusú IBC-ket fedett járműben vagy zárt konténerben kell szállítani.
- V13**    Ha az anyag 5H1, 5L1 vagy 5M1 típusú zsákokba van csomagolva, fedett járműben vagy zárt konténerben kell szállítani.
- V14**    A 3.3 fejezet 327 különleges előírása szerint, újrahasznosítás vagy ártalmatlanítás céljából szállított aeroszolok csak jól szellőző vagy nyitott járműben, ill. konténerben vihetők.

**7.3 FEJEZET****AZ ÖMLESZTETT SZÁLLÍTÁSRA VONATKOZÓ ELŐÍRÁSOK****7.3.1 Általános előírások****7.3.1.1** Valamely áru csak akkor szállítható ömlesztettáru-konténerben, konténerben vagy járművön ömlesztve, ha:

- a) a 3.2 fejezet „A” táblázat 10 oszlopában BK (betűkkel kezdődő) kóddal jelölt különleges előírás van feltüntetve, amely ezt a szállítási módot kifejezetten megengedi, és ezen szakasz előírásain kívül a 7.3.2 szakasz vonatkozó feltételeit is betartják; vagy
- b) a 3.2 fejezet „A” táblázat 17 oszlopában VV (betűkkel kezdődő) kóddal jelölt különleges előírás van feltüntetve, amely ezt a szállítási módot kifejezetten megengedi, és ezen szakasz előírásain kívül a 7.3.3 szakaszban található, vonatkozó különleges előírás feltételeit is betartják.

Az üres, tisztítatlan csomagolóeszközök azonban szállíthatók ömlesztve, kivéve, ha ezt a szállítási módot az ADR más előírásai kifejezetten tiltják.

*Megjegyzés: A tartányos szállításra lásd a 4.2 és a 4.3 fejezetet.*

**7.3.1.2** Azok az anyagok, amelyek a szállítás alatt valószínűleg előforduló hőmérsékleteken folyékonyá válhatnak, ömlesztve nem szállíthatók.**7.3.1.3** Az ömlesztettáru-konténernek, konténernek, ill. a jármű felépítményének portömörnek kell lennie és úgy kell lezárni, hogy normális szállítás körülmények között (ideértve a rezgések, a hőmérséklet-, a páratartalom- vagy a nyomásváltozás hatását is) a tartalomtól semmi ne szabadulhasson ki.**7.3.1.4** Az ömlesztett szilárd anyagot úgy kell berakni és egyenletesen eloszlatni, hogy minimális legyen az olyan elmozdulás, ami az ömlesztettáru-konténer, a konténer, ill. a jármű sérülését vagy a veszélyes áru szabadba jutását okozhatná.**7.3.1.5** Ha szellőző-szerkezetek vannak felszerelve, azokat tisztán és üzemképes állapotban kell tartani.**7.3.1.6** Az ömlesztett szilárd anyag nem reagálhat veszélyesen az ömlesztettáru-konténer, a konténer, ill. a jármű, a tömítések és a felszerelések – beleértve a tetőket és ponyvákat – azon részeivel, amelyekkel érintkezésbe kerülhet, ill. a védőbevonattal és lényegesen nem gyengítheti azokat. Az ömlesztettáru-konténert, a konténert, ill. a járművet úgy kell gyártani vagy átalakítani, hogy az áru ne hatolhasson be a fa padlóburkolat hézagaiba, és ne érintkezhessen az ömlesztettáru-konténer, a konténer, ill. a jármű olyan részeivel, amelyeket az anyag vagy annak maradéka megtámadhat.**7.3.1.7** Berakás és szállításra történő átadás előtt minden ömlesztettáru-konténert, konténert, ill. járművet meg kell vizsgálni, ill. ki kell tisztítani, hogy ne tartalmazzon a belsejében vagy a külsején semmiféle olyan maradékot, amely:

- a szállítandó anyaggal veszélyes reakcióba léphet;
- hátrányosan befolyásolhatja az ömlesztettáru-konténer, a konténer, ill. a jármű szerkezeti épségét;
- befolyásolhatja az ömlesztettáru-konténer, a konténer, ill. a jármű veszélyes áru megtartó képességét.

- 7.3.1.8** Szállítás alatt semmiféle veszélyes maradék nem tapadhat az ömlesztettáru-konténer, a konténer, ill. a jármű felépítmény külső felületére.
- 7.3.1.9** Amennyiben egymás mögött több zárószervezet van beépítve, töltés előtt először a szállítandó anyaghoz legközelebb esőt kell elzárni.
- 7.3.1.10** Azokat az üres ömlesztettáru-konténereket, konténereket, ill. járműveket, amelyekben szilárd anyagot ömlesztve szállítottak, a megrakott ömlesztettáru-konténerre, konténerre, ill. járműre vonatkozó ADR előírások szerint kell kezelni, kivéve, ha megtették a megfelelő intézkedéseket mindenfajta veszély kiküszöbölésére.
- 7.3.1.11** Ha az ömlesztettáru-konténert, a konténert vagy a járművet olyan áru ömlesztett szállítására használják, amely hajlamos a porrobbanásra, vagy gyúlékony gázok fejlesztésére (pl. bizonyos hulladékok), akkor intézkedéseket kell tenni az anyag töltése, szállítása, ill. ürítése során a gyújtóforrások kiküszöbölésére és az elektrosztatikus feltöltődés elkerülésére.
- 7.3.1.12** Azok az anyagok, pl. hulladékok, amelyek egymással veszélyes reakcióba léphetnek, valamint a különböző osztályok anyagai és az ADR hatálya alá nem tartozó olyan anyagok, amelyek hajlamosak a veszélyes reakcióra, nem tehetők ugyanabba az ömlesztettáru-konténerbe, konténerbe, ill. járműbe.

Veszélyes reakció:

- a) az égés és/vagy jelentős hőfejlődés;
- b) gyúlékony és/vagy mérgező gázok fejlődése;
- c) maró folyékony anyagok képződése;
- d) vegyileg nem állandó anyagok képződése.

- 7.3.1.13** A megrakás előtt az ömlesztettáru-konténert, a konténert, ill. a járművet szemrevételezéssel ellenőrizni kell annak biztosítására, hogy az szerkezetiileg megfelelő legyen, a belső falakon, a padlón és a mennyezeten ne legyenek kiálló részek vagy sérülések, ill. az esetleges belészen és a szállított anyagot tartalmazó eszközön ne legyen olyan hasadás, szakadás vagy egyéb sérülés, ami veszélyeztetné a szállított anyag megtartását. A „szerkezetiileg megfelelő” azt jelenti, hogy az ömlesztettáru-konténer, a konténer, ill. a jármű szerkezeti elemei, pl. ömlesztettáru-konténernél, konténernél az alsó és felső hossztartók, az alsó és felső keresztartók (küszöbök és homlokgerendák), a padló keresztartók, a sarokoszlopok és a sarokelemek mentesek a nagyobb hibáktól. Nagyobb hibának számít:

- a) a szerkezeti vagy tartóelemek görbülése, repedése vagy törése, ami befolyásolja az ömlesztettáru-konténer, a konténer, ill. a jármű felépítmény épségét;
- b) egynél több vagy helytelen toldás (pl. átlapolt illesztés) az alsó vagy felső keresztartókon vagy homlokgerendákon;
- c) kettőnél több toldás bármelyik alsó és felső hossztartón;
- d) bármilyen toldás az alsó keresztartón (küszöbön) vagy a sarokoszlopon;
- e) beszorult, elcsavarodott, törött, hiányzó vagy más okból használhatatlan ajtópántok és egyéb szerelvények;
- f) nem záró tömítések;
- g) általában az ömlesztettáru-konténer, ill. a konténer szerkezetének olyan torzulása, ami a kezelőberendezés pontos csatlakoztatását, illetve a járművön vagy az alvázon való elhelyezést és rögzítést akadályozza;
- h) az emelőszervezet vagy a kezelőberendezés bármilyen sérülése; és

- i) az üzemi vagy szerkezeti berendezések bármilyen sérülése.

**7.3.2 Az ömlesztett szállításra vonatkozó kiegészítő előírások a 7.3.1.1 a) pont alkalmazása esetén**

**7.3.2.1** A 3.2 fejezet „A” táblázat 10 oszlopában szereplő BK1 és a BK2 kódok jelentése a következő:

**BK1:** Ömlesztett szállítás ponyvás ömlesztettáru-konténerben engedélyezett;

**BK2:** Ömlesztett szállítás zárt ömlesztettáru-konténerben engedélyezett.

**7.3.2.2** Az alkalmazott ömlesztettáru-konténernek meg kell felelnie a 6.11 fejezet előírásainak.

**7.3.2.3 A 4.2 osztályba tartozó áruk**

Az ömlesztettáru-konténerben szállított összes tömeget úgy kell korlátozni, hogy az öngyulladás hőmérséklet 55 °C-nál magasabb legyen.

**7.3.2.4 A 4.3 osztályba tartozó áruk**

Ezeket az árukat olyan ömlesztettáru-konténerben kell szállítani, amely víz behatolásával szemben ellenálló.

**7.3.2.5 Az 5.1 osztályba tartozó áruk**

Az ömlesztettáru-konténereket úgy kell gyártani, vagy átalakítani, hogy az áru ne kerülhessen érintkezésbe fával vagy más, összeférhetetlen anyaggal.

**7.3.2.6 A 6.2 osztályba tartozó áruk**

**7.3.2.6.1** A fertőző anyagot tartalmazó állati eredetű anyagok (UN 2814, UN 2900 és UN 3373) ömlesztettáru-konténerben a következő feltételekkel szállíthatók:

- A BK1 kódú, ponyvás ömlesztettáru-konténerek csak akkor használhatók, ha nincsenek legnagyobb befogadóképességükig megrakva, és ezáltal az anyag a ponyvával nem érintkezik. BK2 kódú, zárt ömlesztettáru-konténerek ugyancsak használhatók.
- A zárt és a ponyvás ömlesztettáru-konténereket és nyílásaikat eleve szivárgásmentesre kell kialakítani vagy megfelelő béléssel kell ellátni.
- Az állati eredetű anyagokat a szállítást megelőző berakás előtt megfelelő szerrel alaposan fertőtleníteni kell.
- A ponyvás ömlesztettáru-konténerben kiegészítésképpen takarót kell helyezni, amelyre nehezezként megfelelő fertőtlenítőszerrel kezelt abszorbeáló anyagot kell tenni.
- A zárt vagy ponyvás ömlesztettáru-konténerek csak akkor használhatók ismételten, ha alaposan kitisztították és fertőtlenítették.

**Megjegyzés:** Az illetékes nemzeti egészségügyi hatóságok kiegészítő előírásokat is hozhatnak.

**7.3.2.6.2 A 6.2 osztályba tartozó hulladékok (UN 3291)**

- a) (fenntartva)

- b) A zárt ömlesztettáru-konténereket és nyílásaikat eleve szivárgásmentesre kell kialakítani, belső felületüknek hézagmentesnek/nem-porózusnak kell lennie és nem lehet rajta olyan repedés vagy egyéb hiba, ami a benne lévő csomagolóeszközt megrongálná, a fertőtlenítő hatást csökkentené vagy az anyag nem szándékos kiszabadulását eredményezné.
- c) Az UN 3291 tétel alá tartozó hulladékot a zárt ömlesztettáru-konténeren belül olyan, UN szerint vizsgált és jóváhagyott típusú, szivárgásmentes, lezárt műanyag zsákba kell helyezni, amelyet szilárd anyaghoz, II csomagolási csoportra vizsgáltak és a 6.1.3.1 bekezdés szerinti jelöléssel van ellátva. A műanyag zsáknak ki kell állni az ISO 7765-1:1988 „Műanyag fólia és lemez – Az ütőszilárdság meghatározása szabadon eső dárda módszerével – 1. rész: Lépcsőzetes módszerek” szabvány, valamint az ISO 6383-2:1983 „Műanyagok – Fólia és lemez – A tépőszilárdság meghatározása. 2. rész: Elmendorf módszer” szabvány szerinti ütő- és tépőszilárdság vizsgálatot. Minden zsák ütőszilárdságának legalább 165 g-nak, tépőszilárdságának legalább 480 g-nak kell lennie a zsák hosszirányában, párhuzamos és merőleges síkban egyaránt. Egy zsák legnagyobb nettó tömege 30 kg lehet.
- d) A 30 kg-nál nagyobb tömegű tárgyak (pl. szennyezett ágybetétek) az illetékes hatóság engedélyével műanyag zsákok nélkül is szállíthatók.
- e) Az UN 3291 tétel alá tartozó, folyadékot tartalmazó hulladék csak olyan műanyag zsákban szállítható, amely elegendő nedvszívó anyagot tartalmaz a teljes folyadék mennyiség felszívására úgy, hogy az nem folyik ki az ömlesztettáru-konténerbe.
- f) Az UN 3291 tétel alá tartozó, éles tárgyakat tartalmazó hulladék csak olyan, UN szerint vizsgált és jóváhagyott típusú, merev falú csomagolóeszközben szállítható, amely megfelel a P621, az IBC620, ill. az LP621 csomagolási utasítás előírásainak.
- g) A P621, az IBC620, ill. az LP621 csomagolási utasítás előírásainak megfelelő, merev falú csomagolóeszközök is használhatók. A csomagolóeszközöket megfelelően rögzíteni kell, hogy normál szállítási körülmények között ne rongálódhassanak meg. Ha egyazon zárt ömlesztettáru-konténerben merev falú csomagolóeszközben és műanyag zsákban is szállítanak hulladékot, megfelelően el kell választani őket egymástól, pl. merev válaszfallal, osztófallal, hálóval vagy egyéb módon úgy, hogy normál szállítási körülmények között ne rongálódhassanak meg.
- h) Az UN 3291 tétel alá tartozó hulladékot tartalmazó műanyag zsákokat nem szabad a zárt ömlesztettáru-konténerben annyira összenyomni, hogy tömíttelenné válhassanak.
- i) A zárt ömlesztettáru-konténert minden szállítás után meg kell vizsgálni, hogy a rakomány nem folyt vagy nem szóródott ki benne. Ha az UN 3291 tétel alá tartozó hulladék kifolyt vagy kiszóródott a zárt ömlesztettáru-konténerbe, akkor nem szabad addig újrahasználni, amíg alaposan ki nem tisztították, és – ha szükséges – megfelelő vegyszerrel nem fertőtlenítették. Az UN 3291 tétel alá tartozó hulladékot – az ember-, ill. állatgyógyászati hulladékon kívül – más áruval együtt szállítani nem szabad. Az ugyanabban a zárt ömlesztettáru-konténerben szállított ilyen hulladékokat az esetleges szennyeződés szempontjából meg kell vizsgálni.

**7.3.2.7****A 7 osztályba tartozó anyagok**

A csomagolatlan radioaktív anyagok szállítására lásd a 4.1.9.2.3 pontot.

**7.3.2.8****A 8 osztályba tartozó áruk**

Ezeket az árukat olyan ömlesztettáru-konténerben kell szállítani, amely víz behatolásával szemben ellenálló.



**7.3.3 Az ömlesztett szállításra vonatkozó különleges előírások a 7.3.1.1 b) pont alkalmazása esetén**

A következő különleges előírásokat kell betartani, ha a 3.2 fejezet „A” táblázat 17 oszlopában fel vannak tüntetve:

- VV1** Ömlesztve szállítható fedett vagy ponyvás járműben, zárt konténerben vagy ponyvás nagykonténerben.
- VV2** Ömlesztve szállítható fémszekrényes, fedett járműben, zárt fém konténerben vagy lángmentesített ponyvával fedett és fém felépítményű vagy a rakománytól védett fenekű és oldalfalú, ponyvás járműben és ponyvás nagykonténerben.
- VV3** Ömlesztve szállítható ponyvás járműben és ponyvás nagykonténerben megfelelő szellőzés mellett.
- VV4** Ömlesztve szállítható fémszekrényes, fedett vagy ponyvás járműben és zárt fém konténerben vagy ponyvás fém nagykonténerben. Az UN 2008, 2009, 2210, 2545, 2546, 2881, 3189 és 3190 számú anyagok esetében csak a szilárd hulladékok szállíthatók ömlesztve.
- VV5** Ömlesztve szállítható különlegesen felszerelt járműben és konténerben. A be- és kirakásra szolgáló nyílásoknak légmentesen zárhatónak kell lenniük.
- VV6** (fenntartva)
- VV7** Ömlesztve szállítható fedett vagy ponyvás járműben, zárt konténerben vagy ponyvás nagykonténerben akkor, ha az anyag darabos formában van.
- VV8** Ömlesztve szállítható teljes rakományként fedett járműben, zárt konténerben vagy vízhatlan és lángmentesített ponyvával fedett járműben és nagykonténerben.  
A járművet és a konténert úgy kell kialakítani, hogy a bennük levő anyag ne érintkezhesen fával vagy más gyúlékony anyaggal, vagy pedig – ha a falak és a padló fából vagy más gyúlékony anyagból készültek – ezek teljes felületét el kell látni lángmentesített, vízhatlan béléssel vagy nátrium-szilikátból vagy hasonló anyagból készült bevonattal.
- VV9** Ömlesztve szállítható teljes rakományként ponyvás járműben, zárt konténerben vagy tömör falú, ponyvás nagykonténerben.  
A 8 osztály anyagaihoz a jármű vagy a konténer szekrényét megfelelő, elég erős béléssel kell ellátni.
- VV10** Ömlesztve szállítható teljes rakományként ponyvás járműben, zárt konténerben vagy tömör falú, ponyvás nagykonténerben.  
A jármű vagy konténer szekrényének szivárgásmentesnek kell lennie, vagy pl. megfelelő, elég erős bélés alkalmazásával szivárgásmentessé kell tenni.
- VV11** Ömlesztve szállítható különlegesen felszerelt járműben és konténerben olyan módon, ami nem veszélyezteti az embereket, az állatokat és a környezetet, pl. a berakás zsákokban, vagy légtömör csatlakozásokon keresztül történik.
- VV12** Azok az anyagok, amelyeknél a tartányjárműben, mobil tartányban vagy tankkonténerben történő szállítás az anyag magas hőmérséklete és sűrűsége miatt nem alkalmazható, a származási ország illetékes hatósága által meghatározott szabályok szerint különleges járműben vagy konténerben szállíthatók. Amennyiben

a származási ország nem ADR Szerződő Fél, az előírt feltételeket a küldemény által érintett első ADR Szerződő Fél illetékes hatóságának kell elismernie.

**VV13** Ömlesztve szállítható a származási ország illetékes hatósága által meghatározott szabályok szerint különlegesen felszerelt járműben vagy konténerben. Amennyiben a származási ország nem ADR Szerződő Fél, az előírt feltételeket a küldemény által érintett első ADR Szerződő Fél illetékes hatóságának kell elismernie.

- VV14**
- 1) A használt akkumulátortelegek különlegesen felszerelt járműben vagy konténerben szállíthatók ömlesztve. Műanyagból készült nagykonténerek nem használhatók. A műanyag kiskonténereknek törés nélkül el kell tudniuk viselni az olyan ejtőpróbát, amely során a teljesen megrakott konténert 0,8 m-ről, kemény felületre, a fenéklapjára ejtik  $-18^{\circ}\text{C}$ -on.
  - 2) A jármű vagy konténer rakterét a szállított akkumulátortelegben levő maró anyagnak ellenálló acélból kell kialakítani. Kevésbé ellenálló acél is használható, ha elég nagy a falvastagsága, vagy a maró anyagnak ellenálló műanyag bélése vagy belső borítása van. A raktér méretezésénél figyelembe kell venni a maradékáramokat és az akkumulátortelegek által kifejtett ütőhatásokat.

**Megjegyzés:** *Ellenállónak minősül az acél akkor, ha a maró anyag hatására bekövetkező fokozatos vékonyodása évente 0,1 mm-nél kevesebb.*

- 3) Megfelelő konstrukcióval biztosítani kell, hogy a jármű rakteréből a szállítás során maró anyag ne szivároghasson ki. A nyitott rakfelületet le kell fedni. A lefedésre használt eszközöknek a maró anyaggal szemben ellenállónak kell lenniük.
- 4) Berakodás előtt a jármű vagy a konténer rakterét, beleértve a felszereléseket is, meg kell vizsgálni, hogy van-e rajtuk sérülés. Sérült rakterű járművet vagy konténert nem szabad megrakni.

A járművek vagy konténerek rakterét csak a falak magasságáig szabad megrakni.

- 5) Nem szabad a jármű vagy a konténer rakterébe sem más veszélyes árut, sem olyan különböző anyagokat tartalmazó akkumulátorteleg tenni, amelyek egymással veszélyes reakcióba (lásd a „veszélyes reakció” fogalmát az 1.2.1 szakaszban) léphetnek.

A szállított akkumulátortelegek által tartalmazott maró anyagból a szállítás alatt semmilyen maradék nem tapadhat a jármű rakterének vagy a konténernek a külsejére.

**VV15** Ömlesztve szállítható fedett vagy ponyvás járműben, zárt konténerben vagy teljes falú, ponyvás nagykonténerben, ha az anyag vagy a keverék (készítmény vagy hulladék) az ez alá az UN szám alá tartozó anyagokból legfeljebb 1000 mg mennyiséget tartalmaz kg-onként.

A jármű felépítményének, ill. a konténernek szivárgásmentesnek kell lennie, vagy szivárgásmentessé kell tenni pl. alkalmas és elég erős bélés használatával.

**VV16** Ömlesztve szállítható a 4.1.9.2.3 pont előírásai szerint.

**VV17** Az *SCO-I* tárgyak ömlesztve szállíthatók a 4.1.9.2.3 pont előírásai szerint.

## 7.4 FEJEZET

### A TARTÁNYOS SZÁLLÍTÁSRA VONATKOZÓ ELŐÍRÁSOK

- 7.4.1** Valamely áru csak akkor szállítható tartányban, ha a 3.2 fejezet „A” táblázat 10 vagy 12 oszlopában tartánycód van feltüntetve, illetve akkor, ha az illetékes hatóság a 6.7.1.3 bekezdés szerint engedélyezte. A szállítást a 4.2, ill. a 4.3 fejezet előírásai szerint kell végezni. A járműnek, akár tehergépkocsiról, vontatóról, pótkocsiról vagy félpótkocsiról van szó, meg kell felelnie a 9.1, a 9.2 fejezet és a 9.7.2 szakasz azon előírásainak, amelyek a 3.2 fejezet „A” táblázat 14 oszlopában feltüntetett, használandó járműre vonatkoznak.
- 7.4.2** Az EX/III, FL, OX vagy AT kóddal jelölt járműveket a következők szerint kell használni:
- Ahol EX/III jármű van előírva, csak EX/III jármű használható;
  - Ahol FL jármű van előírva, csak FL jármű használható;
  - Ahol OX jármű van előírva, csak OX jármű használható;
  - Ahol AT jármű van előírva, AT, FL vagy OX jármű egyaránt használható.

**7.5 FEJEZET****A BERA KÁSRA, A KIRAKÁSRA ÉS AZ ÁRUK EZE LÉSRE  
VONATKOZÓ ELŐ ÍRÁSOK****7.5.1 A berakásra, a kirakásra és az árukezelésre vonatkozó általános előírások**

*Megjegyzés: E szakasz alkalmazásában egy konténer, ömlesztettáru-konténer, tankkonténer vagy mobil tartány járműre helyezése berakásnak, a járműről való levétele kirakásnak minősül.*

**7.5.1.1** A be- és kirakás helyére (ideértve a konténer terminált is) érkezéskor a járművezetőnek be kell tartania az előírt rendelkezéseket, valamint a járműnek, ill. a nagykonténernek, ömlesztettáru-konténernek, tankkonténernek és mobil tartánynak is meg kell felelnie ezeknek (különösen a biztonságra, közbiztonságra, tisztaságra és a ki- és berakáshoz használatos berendezések kielégítő üzemelésére vonatkozóan).

**7.5.1.2** A berakás nem hajtható végre,

- ha az okmányok vizsgálata, vagy
- a jármű, ill. a nagykonténer, ömlesztettáru-konténer, tankkonténer és mobil tartány, valamint ki- és berakáshoz használatos berendezéseik szemrevételezése

azt mutatja, hogy a jármű, ill. a nagykonténer, ömlesztettáru-konténer, tankkonténer és mobil tartány, valamint berendezéseik vagy a jármű vezetője nem felel meg az előírásoknak.

**7.5.1.3** A kirakás nem hajtható végre, ha az előzőekben említett vizsgálat során olyan hiányosságokat tapasztalnak, ami a kirakás biztonságát vagy a közbiztonságot befolyásolhatja. Berakás előtt a jármű, ill. a konténer külső felületét és a belsejét is meg kell vizsgálni, hogy ne legyen rajta olyan sérülés, ami a jármű, a konténer vagy a berakandó küldeménydarabok épségét befolyásolná.

**7.5.1.4** A 3.2 fejezet „A” táblázat 17 vagy 18 oszlopával összhangban, a 7.3.3 vagy a 7.5.11 szakasz különleges előírásai szerint bizonyos veszélyes áruk csak „teljes rakományként” (lásd a meghatározást az 1.2.1 szakaszban) szállíthatók. Ilyen esetben az illetékes hatóság előírhatja, hogy az ilyen szállításhoz használt járművet vagy nagykonténert csak egyetlen helyen rakják meg és egyetlen helyen rakják ki.

**7.5.1.5** Ha az álló helyzetet jelző nyilak elő vannak írva, akkor a küldeménydarabokat a jelölésnek megfelelően kell elhelyezni.

*Megjegyzés: Hacsak egy mód van rá, a folyékony veszélyes árukat a száraz veszélyes áruk alatt kell elhelyezni.*

**7.5.2 Együvé rakási tilalom**

**7.5.2.1** A különböző veszélyességi bárcákkal ellátott küldeménydarabok csak akkor rakhatók együvé ugyanabba a járműbe vagy konténerbe, ha az együvé rakás a rajtuk levő veszélyességi bárcák alapján a következő táblázatban megengedett.

*Megjegyzés: Az 5.4.1.4.2 pont értelmében külön fuvarokmányt kell kiállítani minden olyan küldeményre, amelyet nem lehet egy járműbe vagy konténerbe együvé rakni.*

| A bárca száma     | 1            | 1.4            | 1.5 | 1.6 | 2.1<br>2.2<br>2.3 | 3  | 4.1 | 4.1<br>+1 | 4.2 | 4.3 | 5.1 | 5.2 | 5.2<br>+ 1 | 6.1 | 6.2 | 7A<br>7B<br>7C | 8  | 9              |
|-------------------|--------------|----------------|-----|-----|-------------------|----|-----|-----------|-----|-----|-----|-----|------------|-----|-----|----------------|----|----------------|
| 1                 | Lásd 7.5.2.2 |                |     |     |                   |    |     |           |     |     | d)  |     |            |     |     |                |    | b)             |
| 1.4               |              |                |     |     | a)                | a) | a)  |           | a)  | a)  | a)  | a)  |            | a)  | a)  | a)             | a) | a)<br>b)<br>c) |
| 1.5               |              |                |     |     |                   |    |     |           |     |     |     |     |            |     |     |                |    | b)             |
| 1.6               |              |                |     |     |                   |    |     |           |     |     |     |     |            |     |     |                |    | b)             |
| 2.1<br>2.2<br>2.3 |              | a)             |     |     | X                 | X  | X   |           | X   | X   | X   | X   |            | X   | X   | X              | X  | X              |
| 3                 |              | a)             |     |     | X                 | X  | X   |           | X   | X   | X   | X   |            | X   | X   | X              | X  | X              |
| 4.1               |              | a)             |     |     | X                 | X  | X   |           | X   | X   | X   | X   |            | X   | X   | X              | X  | X              |
| 4.1 + 1           |              |                |     |     |                   |    |     | X         |     |     |     |     |            |     |     |                |    |                |
| 4.2               |              | a)             |     |     | X                 | X  | X   |           | X   | X   | X   | X   |            | X   | X   | X              | X  | X              |
| 4.3               |              | a)             |     |     | X                 | X  | X   |           | X   | X   | X   | X   |            | X   | X   | X              | X  | X              |
| 5.1               | d)           | a)             |     |     | X                 | X  | X   |           | X   | X   | X   | X   |            | X   | X   | X              | X  | X              |
| 5.2               |              | a)             |     |     | X                 | X  | X   |           | X   | X   | X   | X   | X          | X   | X   | X              | X  | X              |
| 5.2 + 1           |              |                |     |     |                   |    |     |           |     |     |     | X   | X          |     |     |                |    |                |
| 6.1               |              | a)             |     |     | X                 | X  | X   |           | X   | X   | X   | X   |            | X   | X   | X              | X  | X              |
| 6.2               |              | a)             |     |     | X                 | X  | X   |           | X   | X   | X   | X   |            | X   | X   | X              | X  | X              |
| 7A<br>7B<br>7C    |              | a)             |     |     | X                 | X  | X   |           | X   | X   | X   | X   |            | X   | X   | X              | X  | X              |
| 8                 |              | a)             |     |     | X                 | X  | X   |           | X   | X   | X   | X   |            | X   | X   | X              | X  | X              |
| 9                 | b)           | a)<br>b)<br>c) | b)  | b)  | X                 | X  | X   |           | X   | X   | X   | X   |            | X   | X   | X              | X  | X              |

X =Az együvé rakás megengedett.

- a) Az együvé rakás az 1.4S anyagokkal és tárgyakkal megengedett.
- b) Az 1 osztály áruinak és a 9 osztály biztonsági felszereléseinek (UN 2990, 3072 és 3268) együvé rakása megengedett.
- c) Az 1.4 alosztály G összeférhetőségi csoportjába tartozó légszak gázgenerátorok, légszak modulok, ill. biztonsági öv előfeszítők (UN 0503) és a 9 osztályba tartozó légszak gázgenerátorok, légszak modulok, ill. biztonsági öv előfeszítők (UN 3268) együvé rakása megengedett.
- d) Az UN 0083 C típusú robbantóanyag kivételével a többi robbantóanyag és az 5.1 osztályba tartozó ammónium-nitrátok (UN 1942 és 2067), alkálifém-nitrátok (pl. UN 1486) és alkáliföldfém-nitrátok (pl. UN 1454) együvé rakhatók, amennyiben a nagybárcával való megjelölés, az elkülönítés, a küldeménydarabok elhelyezése és a szállítóegységenként megengedett legnagyobb mennyiség szempontjából a teljes rakományt úgy kezelik, mintha az 1 osztályba tartozó robbantóanyag lenne.

**7.5.2.2** Azokat a küldeménydarabokat, amelyekben az 1 osztály anyagai vagy tárgyai vannak és az 1, az 1.4, az 1.5 vagy az 1.6 számú bárcával vannak ellátva, de különböző összeférhetőségi csoportokba tartoznak, nem szabad egy járműbe vagy konténerbe rakni, kivéve, ha az együvé rakás a következő táblázat szerint ezekre az összeférhetőségi csoportokra megengedett.

| Összeférhető<br>ségi csoport | A | B               | C                   | D                   | E                   | F | G | H | J | L               | N                   | S |
|------------------------------|---|-----------------|---------------------|---------------------|---------------------|---|---|---|---|-----------------|---------------------|---|
| A                            | X |                 |                     |                     |                     |   |   |   |   |                 |                     |   |
| B                            |   | X               |                     | X <sup>a)</sup>     |                     |   |   |   |   |                 |                     | X |
| C                            |   |                 | X                   | X                   | X                   |   | X |   |   |                 | X <sup>b), c)</sup> | X |
| D                            |   | X <sup>a)</sup> | X                   | X                   | X                   |   | X |   |   |                 | X <sup>b), c)</sup> | X |
| E                            |   |                 | X                   | X                   | X                   |   | X |   |   |                 | X <sup>b), c)</sup> | X |
| F                            |   |                 |                     |                     |                     | X |   |   |   |                 |                     | X |
| G                            |   |                 | X                   | X                   | X                   |   | X |   |   |                 |                     | X |
| H                            |   |                 |                     |                     |                     |   |   | X |   |                 |                     | X |
| J                            |   |                 |                     |                     |                     |   |   |   | X |                 |                     | X |
| L                            |   |                 |                     |                     |                     |   |   |   |   | X <sup>d)</sup> |                     |   |
| N                            |   |                 | X <sup>b), c)</sup> | X <sup>b), c)</sup> | X <sup>b), c)</sup> |   |   |   |   |                 | X <sup>b)</sup>     | X |
| S                            |   | X               | X                   | X                   | X                   | X | X | X | X |                 | X                   | X |

*X = Az együvé rakás megengedett.*

- a) *A B összeférhetőségi csoport tárgyait és a D összeférhetőségi csoport anyagait és tárgyait tartalmazó küldeménydarabok ugyanazon járműre vagy konténerbe együvé rakhatók, ha azokat hatékonyan elkülönítik, úgy hogy ne álljon fenn a detonáció átvitelének veszélye a B összeférhetőségi csoport tárgyaitól a D összeférhetőségi csoport anyagaira, ill. tárgyaira. Az elkülönítést elválasztott rekeszek használatával vagy a két fajta robbanóanyag (robbanótárgy) egyikének különleges védőburkolat-rendszerbe helyezésével kell megvalósítani. Az illetékes hatóságnak az elkülönítés mindkét módját jóvá kell hagynia.*
- b) *Az 1.6N osztályozási kód alá besorolt különböző típusú tárgyak csak akkor rakhatók együvé mint 1.6N tárgyak, ha vizsgálattal vagy analógia alapján bizonyított, hogy nem áll fenn a tárgyak közötti kapcsolt robbanás veszélye. Egyéb esetben úgy kell kezelni, mintha az 1.1 alosztályba tartoznának.*
- c) *Ha az N összeférhetőségi csoport tárgyait a C, a D vagy az E összeférhetőségi csoport tárgyaival együtt szállítják, az N összeférhetőségi csoport tárgyait úgy kell tekinteni, mintha a D összeférhetőségi csoport jellemzőivel rendelkeznének.*
- d) *Az L összeférhetőségi csoport anyagait és tárgyait tartalmazó küldeménydarabok ugyanezen összeférhetőségi csoport ugyanolyan típusú anyagait és tárgyait tartalmazó küldeménydarabokkal ugyanabba a járműbe vagy konténerbe együvé rakhatók.*

### 7.5.2.3

Az ugyanazon járműbe való együvé rakás tilalmának alkalmazása során nem kell számításba venni a zárt, tömör falú konténerekben levő anyagokat. A 7.5.2.1 bekezdésben az 1, az 1.4, az 1.5 vagy az 1.6 számú veszélyességi bárcával ellátott küldeménydarabok más küldeménydarabokkal való együvé rakására és a 7.5.2.2 bekezdésben a különböző összeférhetőségi csoportokba tartozó robbanóanyagok együvé rakására vonatkozó tilalmak azonban érvényesek a konténerbe rakott veszélyes áru és az ugyanazon járműbe berakott más áruk között akkor is, ha ez utóbbiak egy vagy több másik konténerben vannak.

### 7.5.3

(fenntartva)

### 7.5.4

#### Élelmiszerekre, egyéb fogyasztási cikkekre és takarmányra vonatkozó óvintézkedések

Ha a 3.2 fejezet „A” táblázat 18 oszlopában egy anyagra vagy tárgyra a CV28 különleges előírás van megadva, akkor az élelmiszerekre, egyéb fogyasztási cikkekre és takarmányra vonatkozó óvintézkedéseket a következők szerint kell fogyanatosítani:

A 6.1 vagy a 6.2 számú bárcával ellátott küldeménydarabokat, és azokat a 9 számú bárcával ellátott küldeménydarabokat, amelyek az UN 2212, 2315, 2590, 3151, 3152 vagy 3245 számú anyagokat tartalmazzák, valamint az ilyen üres, tisztítatlan csomagolóeszközöket (beleértve a nagycsomagolásokat és az IBC-eket is), nem szabad a járműveken, a konténerekben és a be-, ki- és átrakás helyén olyan küldeménydarabokra halmazolni vagy közvetlen közelükbe rakni, amelyekről ismert, hogy élelmiszereket, egyéb fogyasztási cikkeket vagy takarmányt tartalmaznak.

Ha az említett bárcákkal ellátott küldeménydarabokat mégis olyan küldeménydarabok közelébe rakják, amelyekről ismert, hogy élelmiszereket, egyéb fogyasztási cikkeket vagy takarmányt tartalmaznak, akkor a következőképpen kell elkülöníteni:

- az említett bárcával ellátott küldeménydarabok halmazolási magasságát elérő teljes válaszfalakkal; vagy
- olyan küldeménydarabokkal, amelyeken nincs 6.1, 6.2 vagy 9 számú bárca, illetve amelyeken 9 számú bárca van, de nem az UN 2212, 2315, 2590, 3151, 3152 vagy 3245 számú anyagokat tartalmazzák; vagy
- legalább 0,8 m térközzel;

kivéve, ha az említett bárcákkal ellátott küldeménydarabok kiegészítő csomagolásban vannak vagy teljesen be vannak burkolva (pl. fóliával, papírlemez burkolattal vagy más módon).

## 7.5.5 A szállított anyag mennyiségének korlátozása

**7.5.5.1** Ha a következő előírásokat vagy a 3.2 fejezet „A” táblázat 18 oszlopa szerint a 7.5.11 szakasz szállított mennyiség korlátozására vonatkozó kiegészítő előírásait kell alkalmazni, az előírások alapján az egy szállítóegységbe rakható mennyiséget nem befolyásolja az a tény, hogy a veszélyes áruk egy vagy több konténerben vannak.

## 7.5.5.2 A robbanóanyagok és -tárgyak mennyiségének korlátozása

### 7.5.5.2.1 Szállított anyagok és mennyiségek

Az egy szállítóegységben összesen szállítható nettó robbanóanyag-mennyiséget (ill. tárgyak esetében a bennük található összes nettó robbanóanyag-mennyiséget) kg-ban a következő táblázat szerint kell korlátozni (lásd még az együvé rakási tilalmakra a 7.5.2.2. bekezdést):

**Az 1 osztályba tartozó árukban található robbanóanyag szállítóegységenkénti megengedett legnagyobb nettó tömege, kg**

| Szállítóegység       | Alosztály                | 1.1   |          | 1.2    | 1.3    | 1.4      |           | 1.5 és 1.6 | Üres, tisztítatlan csomagolóeszközök |
|----------------------|--------------------------|-------|----------|--------|--------|----------|-----------|------------|--------------------------------------|
|                      | Összeférhetőségi csoport | 1.1A  | Nem 1.1A |        |        | Nem 1.4S | 1.4S      |            |                                      |
| EX/II <sup>a)</sup>  |                          | 6,25  | 1000     | 3000   | 5000   | 15 000   | Korlátlan | 5000       | Korlátlan                            |
| EX/III <sup>a)</sup> |                          | 18,75 | 16 000   | 16 000 | 16 000 | 16 000   | Korlátlan | 16 000     | Korlátlan                            |

a) Az EX/II és EX/III járművek meghatározására lásd a 9. részt.

**7.5.5.2.2** Ha az 1 osztály különböző alosztályainak anyagait és tárgyait – a 7.5.2.2 bekezdés együvé rakási tilalmait megtartva – egy szállítóegységbe rakják, a rakományt úgy kell tekinteni, mintha teljes egészében a legveszélyesebb alosztályba tartozna (1.1, 1.5, 1.2, 1.3, 1.6 és 1.4 sorrendben). Az S összeférhetőségi csoportba tartozó robbanóanyag nettó tömegét azonban a szállított mennyiség korlátozása szempontjából nem kell beszámítani.

Ha az 1.5D osztályozási kódú anyagokat az 1.2 alosztály anyagaival vagy tárgyaival egy

szállítóegységben szállítják, a szállításnál az egész rakományt úgy kell tekinteni, mintha az 1.1 alosztályba tartozna.

#### **7.5.5.2.3** *Robbanóanyag szállítása MEMU-val*

Robbanóanyag szállítása MEMU-val csak a következő feltételekkel engedélyezett:

- a) Az illetékes hatóság engedélye szükséges a területén történő szállításhoz.;
- b) A szállított küldeménydarab(ok)ban csak olyan fajtájú és mennyiségű robbanóanyag lehet, ami a MEMU-val előállítandó anyaghoz szükséges, de semmiképpen sem lehet több, mint :
  - a D összeférhetőségi csoport robbanóanyagából 200 kg; és
  - a gyutacsból és a detonátorszerkezetből együttesen 400 egységkivéve, ha az illetékes hatóság másként engedélyezi.;
- c) A robbanóanyagot tartalmazó küldeménydarabok csak a 6.12.5 szakasz követelményeinek megfelelő raktérben szállíthatók.;
- d) A robbanóanyagot tartalmazó küldeménydarabon kívül más veszélyes áru nem szállítható a raktérben;
- e) A robbanóanyagot tartalmazó küldeménydarabok csak a többi veszélyes anyag berakodása után és közvetlenül a szállítás megkezdése előtt rakodhatók a MEMU-ra.;
- f) Amennyiben az együvé rakás megengedett a robbanóanyagok és az 5.1 osztályba tartozó anyagok (UN 1942 és UN 3375) között, az elkülönítés, rakodás és a megengedett legnagyobb mennyiség szempontjából a teljes rakományt úgy kezelik, mintha az 1 osztályba tartozó robbanóanyag lenne.

#### **7.5.5.3** *A szerves peroxidok és önreaktív anyagok mennyiségének korlátozása*

A B, C, D, E, ill. F típusú, az 5.2 osztályba tartozó szerves peroxidok, ill. 4.1 osztályba tartozó önreaktív anyagok egy szállítóegységben szállítható mennyisége 20 000 kg.

#### **7.5.6** (fenntartva)

#### **7.5.7** *Árukezelés és halmazolás*

##### **7.5.7.1**

A járművet, ill. a konténert – ahol szükséges – a veszélyes áru kezelésére és rögzítésére alkalmas eszközzel kell ellátni. A veszélyes árut tartalmazó küldeménydarabokat, ill. a csomagolatlan veszélyes tárgyakat a járműben, ill. a konténerben alkalmas eszközzel (pl. leszorító hevederekkel, csúszó és állítható kengyelekkel) úgy kell rögzíteni, hogy megakadályozzon a szállítás közben minden olyan elmozdulást, ami a küldeménydarab helyzetét megváltoztatná vagy sérülését okozná. Ha a veszélyes árut egyéb áruval (pl. nehéz gépekkel vagy rekeszekkel) együtt szállítják, minden árut úgy kell becsomagolni és rögzíteni a járműben, ill. a konténerben, hogy a veszélyes áru ne szabadulhasson ki. A küldeménydarabok elmozdulása kitámasztással vagy állványzattal is megakadályozható, vagy úgy is, hogy az üres tereket valamilyen, arra alkalmas anyaggal töltik ki. Ha a rögzítés pánttal vagy hevederrel történik, nem szabad túlfeszíteni, nehogy a küldeménydarab megsérüljön vagy eldeformálódjon.<sup>1)</sup>

1) A veszélyes áruk rakodására útmutatás található az Európai Bizottság „Rakományok rögzítése a közúti szállításban – Útmutató a legjobb európai gyakorlathoz” című kiadványában. A hatóságok és az ipar részére egyéb útmutatók is rendelkezésre állnak.



**7.5.7.2** A küldeménydarabokat csak akkor szabad egymásra halmazolni, ha arra vannak kialakítva. Ha halmazolásra kialakított, de különböző típusú küldeménydarabokat rakodnak együvé, figyelembe kell venni, hogy halmazolás szempontjából összeillenek-e. Ahol szükséges, az alul lévő küldeménydarabokat teherelosztó eszközök segítségével kell védeni a rájuk halmazolt küldeménydarabok okozta sérüléstől.

**7.5.7.3** A veszélyes árut tartalmazó küldeménydarabokat a be- és a kirakás során óvni kell a sérülésektől.

***Megjegyzés:** Különös figyelmet kell szentelni a küldeménydarabok kezelésének, mozgatásának a szállításra való előkészítésük során, a jármű, ill. konténer jellegének, amiben a küldeménydarabokat szállítani fogják, a be- és kirakás módjának, nehogy a helytelen kezelés vagy a talajon, padlózatán való csúsztatás folytán a küldeménydarabok esetleg megsérüljenek.*

**7.5.7.4** A 7.5.7.1 bekezdés előírásai érvényesek a konténereknek a járművekre való felrakására, elhelyezésére és onnan való lerakására is.

**7.5.7.5** A járműszemélyzet tagjai veszélyes anyagokat tartalmazó küldeménydarabokat nem nyithatnak fel.

#### **7.5.8 Kirakás utáni tisztítás**

**7.5.8.1** Ha az olyan jármű vagy konténer kirakása után, amelyben veszélyes árut tartalmazó küldeménydarab volt, megállapítják, hogy a tartalom egy része kiömlött, a járművet, ill. a konténert, amint lehet, de még mindenképpen az újabb megrakás előtt ki kell tisztítani. Ha a tisztítás helyben nem végezhető el, a járművet, ill. a konténert, ügyelve a megfelelő biztonságra, a legközelebbi alkalmas helyre kell szállítani, ahol a tisztítás elvégezhető.

A szállítás akkor megfelelően biztonságos, ha megtették a megfelelő intézkedéseket a kiömlött veszélyes áru ellenőrizhetetlen szabadba jutásának elkerülésére.

**7.5.8.2** Az olyan járműveket vagy konténereket, amelyekben ömlesztett veszélyes áru volt, minden újra megrakás előtt kellőképpen ki kell tisztítani, hacsak az új rakomány nem ugyanolyan veszélyes áruból áll, mint az előző rakomány.

#### **7.5.9 Dohányzási tilalom**

A kezelési műveletek alatt tilos a dohányzás a járművek és konténerek környezetében, ill. járművek és konténerek belsejében.

#### **7.5.10 Az elektrosztatikus töltések felhalmozódásának elkerülése**

Gyúlékony gázok, 60 °C vagy annál alacsonyabb lobbanáspontú folyékony anyagok és a II csomagolási csoportba tartozó UN 1361 szén vagy korom esetén a tartányok töltése és ürítése előtt a jármű alváza, a mobil tartány, ill. a tankkonténer és a föld között jó villamos összeköttetést kell létesíteni. Ezenkívül a töltési sebességet korlátozni kell.

#### **7.5.11 Egyes osztályokra vagy bizonyos árukra vonatkozó kiegészítő előírások**

A 7.5.1 – 7.5.10 szakasz előírásainak kiegészítéseképpen a következő előírásokat kell betartani, ha a 3.2 fejezet „A” táblázat 18 oszlopában fel vannak tüntetve:

**CV1** 1) Tilos:

- a) lakott területen belüli közterületen árut be- és kirakodni az illetékes hatóságok külön engedélye nélkül;
  - b) lakott területen kívüli közterületen árut be- és kirakodni anélkül, hogy erről az illetékes hatóságokat előzetesen értesítették volna, hacsak nem biztonsági okból van szükség sürgős rakodásra.
- 2) Ha az árukezelést bármilyen okból is közterületen kell végezni, a különböző anyagokat és tárgyakat a veszélyességi bárcáknak megfelelően el kell különíteni egymástól.
- CV2** 1) Berakás előtt a jármű vagy a konténer teljes rakfelületét gondosan meg kell tisztítani.
- 2) Tűz és nyílt láng használata tilos az ezen árukat szállító járműveken és konténerekben, azok környezetében, ill. be- és kirakáskor.
- CV3** Lásd a 7.5.5.2 bekezdést.
- CV4** Az L összeférhetőségi csoport anyagai és tárgyai csak teljes rakományként szállíthatók.
- CV5 –**  
**CV8** (fenntartva)
- CV9** A küldeménydarabokat nem szabad dobálni és ütődésnek kiténni.
- A tartályokat a járműben úgy kell elhelyezni, hogy se fel ne borulhassanak, se le ne eshessenek.
- CV10** Az 1.2.1 szakasz meghatározása szerinti palackokat a jármű vagy a konténer hossz tengelyével párhuzamosan vagy arra merőlegesen kell fektetni, a homlokfal közelében levő palackokat azonban a hossz tengelyekre merőlegesen (keresztirányban) kell elhelyezni.
- A rövid és nagy átmérőjű (kb. 30 cm és annál nagyobb) palackokat hosszirányban is el lehet helyezni, de a zárókupakokat a jármű vagy a konténer közepe felé kell irányítani.
- A kellően stabil és a felborulás ellen védő szerkezetben szállított palackokat állítva is el lehet helyezni.
- A fekvő palackokat biztonságosan és alkalmas módon ki kell ékelni, le kell rögzíteni vagy erősíteni, hogy ne mozdulhassanak el.
- CV11** A tartályokat mindig abban a helyzetben kell elhelyezni, amelyre azokat tervezték, és védeni kell minden sérülés lehetőségétől, amit más küldeménydarabok okozhatnak.
- CV12** Ha a tárgyakkal megrakott rakodólapokat egymásra rakják, minden rakodólap réteget az alatta levőn egyenletesen kell elosztani, szükség esetén megfelelő szilárdságú anyagból készített köztes lapokat használva.
- CV13** Ha az anyagból valamennyi kifolyt és a járműben vagy a konténerben szétterjedt, a járművet, ill. a konténert csak azt követően szabad újra használni, ha alaposan kitisztították és – szükség esetén – fertőtlenítették. Az ugyanabban a járműben, ill. konténerben szállított többi anyagot és tárgyat az esetleges szennyeződés miatt ellenőrizni kell.

**CV14** Az árukat a szállítás alatt védeni kell a közvetlen napsugárzástól és hőhatásoktól.

A küldeménydarabokat csak hűvös, jól szellőzőtt helyen, hőforrásoktól távol szabad tárolni.

**CV15** Lásd a 7.5.5.3 bekezdést.

**CV16 –**

**CV19** (fenntartva)

**CV20** Az 5.3 fejezet előírásait és a 7.2 fejezet V1 és V8 5) és 6) különleges előírását nem kell alkalmazni, amennyiben az anyagok csomagolása megfelel a 4.1.4.1 bekezdésben a P520 csomagolási utasítás OP1 vagy az OP2 csomagolási módszerének és az anyag szállítóegységenkénti mennyisége nem haladja meg a 10 kg-ot.

**CV21** Berakás előtt szállítóegységeket gondosan meg kell vizsgálni.

Szállítás előtt a szállítót tájékoztatni kell:

- a hűtőrendszer működéséről, beleértve a menet során a hűtőközeg beszerzésére rendelkezésre álló helyek felsorolását;
- a hőmérséklet-szabályozás megszűnése esetén követendő eljárásokról.

A 7.2 fejezet V8 3) különleges előírásának R2 vagy R4 módszere szerinti hőmérséklet-szabályozás esetén elfogadható mértékű késésre is számítva megfelelő mennyiségű, nem gyúlékony hűtőközeget (pl. cseppfolyósított nitrogént vagy szárazjeget) kell a járművön tartani vagy a hűtőközeg pótlását kell biztosítani.

A küldeménydarabokat úgy kell elhelyezni, hogy könnyen hozzáférhetők legyenek.

Az előírt szabályozási hőmérsékletet a teljes szállítási művelet alatt, beleértve a berakást és kirakást, valamint az esetleges köztes megállásokat, be kell tartani.

**CV22** A küldeménydarabokat úgy kell berakni, hogy a raktéren belüli szabad levegő áramlás biztosítsa a rakomány egyenletes hőmérsékletét. Ha egy jármű vagy nagykonténer tartalma 5000 kg-nál több gyúlékony szilárd anyag és/vagy szerves peroxid, a rakományt legfeljebb 5000 kg tömegű halmazokra kell osztani, amelyeket legalább 0,05 m légréssel kell egymástól elválasztani.

**CV23** A küldeménydarabok kezelése során különleges intézkedéseket kell tenni azok vízzel való érintkezésének megakadályozására.

**CV24** A járműveket és a konténereket berakás előtt alaposan ki kell tisztítani és különösen az éghető maradékoktól (széna, szalma, papír stb.) kell megtisztítani.

A küldeménydarabok elhelyezéséhez tilos könnyen gyúló anyagot használni.

**CV25** 1) A küldeménydarabokat úgy kell elhelyezni, hogy könnyen hozzáférhetők legyenek.

2) Ha a küldeménydarabokat 15 °C-ot meg nem haladó környezeti hőmérsékleten vagy hűtve kell szállítani, a hőmérsékletet a kirakodás vagy a tárolás során is fenn kell tartani.

3) A küldeménydarabokat csak hűvös, jól szellőzőtt helyen, hőforrásoktól távol szabad tárolni.

**CV26** A jármű vagy konténer fából készült részeit, amelyek ezekkel az anyagokkal érintkezésbe kerültek, le kell szerelni és el kell égetni.

**CV27** 1) A küldeménydarabokat úgy kell elhelyezni, hogy könnyen hozzáférhetők legyenek.

2) Ha a küldeménydarabokat hűtve kell szállítani, a hűtőlánc működését a kirakodás és a tárolás során is fenn kell tartani.

3) A küldeménydarabokat csak hűvös, jól szellőzött helyen, hőforrásoktól távol szabad tárolni.

**CV28** Lásd a 7.5.4 szakaszt.

**CV29 –**

**CV32** (fenntartva)

**CV33** *Megjegyzés: 1. A „kritikus csoport” a lakosság egyedeinek olyan csoportja, amely egy adott sugárforrás által és adott besugárzási módon bekövetkező sugárterhelését tekintve elfogadhatóan homogén és jellegzetesen olyan személyekből áll, akiket a legnagyobb tényleges dózis ér az adott besugárzási módon az adott sugárforrástól.*

*2. A „lakosság” kifejezés általános értelemben a népesség minden egyedét jelenti, kivéve a foglalkozásból vagy gyógykezelésből eredően sugárterhelésnek kitett személyeket.*

*3. A „dolgozók” olyan személyek, akik teljes vagy részmunkaidőben vagy időszakosan egy munkaadónál dolgoznak és akiknek a munkahelyi sugárvédelemmel kapcsolatosan jogaik és kötelességeik vannak.*

#### **1) Elkülönítés**

1.1) A radioaktív anyagot tartalmazó küldeménydarabokat, egyesítő-csomagolásokat, konténereket és tartányokat, ill. a csomagolatlan radioaktív anyagokat a szállítás során elkülönítve kell tartani:

- a) a rendszeresen használt munkaterületeken tartózkodó dolgozóktól
  - i) a következő „A” táblázat szerint; vagy
  - ii) olyan távolságra, amelyet 5 mSv/év dózis kritérium és óvatos modell paraméterek alapján határoztak meg;

*Megjegyzés: Az elkülönítés tekintetében nem kell figyelembe venni azokat a dolgozókat, akikről egyéni sugárterhelési nyilvántartás készül.*

b) a lakosság kritikus csoportjának tagjaitól az olyan területeken, ahol a lakosság rendszeresen tartózkodhat:

- i) a következő „A” táblázat szerint; vagy
- ii) olyan távolságra, amelyet 1 mSv/év dózis kritérium és óvatos modell paraméterek alapján határoztak meg;

c) előhívatlan filmekről és fényképszeti lemezekről, valamint postaszákokról

- i) a következő „B” táblázat szerint; vagy

- ii) olyan távolságra, amely úgy van meghatározva, hogy az előhívatlan filmeket és fényképeszeti lemezeket a radioaktív anyag szállítása folytán érő besugárzás filmküldeményenként 0,1 mSv értékre korlátozódjon;

**Megjegyzés:** *A postaszákokat úgy kell kezelni, mintha előhívatlan filmeket és fényképeszeti lemezeket tartalmaznának és ezért a radioaktív anyagoktól ugyanúgy elkülönítve kell tartani.*

- d) egyéb veszélyes áruktól a 7.5.2 szakasz szerint.

**„A” táblázat: A II-SÁRGA vagy a III-SÁRGA kategóriájú küldeménydarabok és személyek közötti legkisebb távolságok**

| A szállítási mutatószámok összege legfeljebb | Besugárzási idő évente (órában)   |      |                                      |     |
|--|---|------|--------------------------------------|-----|
|  | Olyan területek, ahol a lakosság rendszeresen tartózkodhat                |      | Rendszeresen használt munkaterületek |     |
|  | 50  | 250  | 50                                   | 250 |
|  | Elkülönítési távolság m-ben, árnyékoló anyag használata nélkül, legalább: |      |                                      |     |
| 2  | 1   | 3    | 0,5                                  | 1   |
| 4  | 1,5   | 4    | 0,5                                  | 1,5 |
| 8  | 2,5   | 6    | 1,0                                  | 2,5 |
| 12   | 3   | 7,5  | 1,0                                  | 3   |
| 20   | 4   | 9,5  | 1,5                                  | 4   |
| 30   | 5   | 12   | 2                                    | 5   |
| 40   | 5,5   | 13,5 | 2,5                                  | 5,6 |
| 50   | 6,5   | 15,5 | 3                                    | 6,5 |

**„B” táblázat: A II-SÁRGA vagy III-SÁRGA kategóriájú küldeménydarabok és „FOTO” feliratú küldemények vagy postaszások közötti legkisebb távolságok**

| A küldeménydarabok száma legfeljebb |          | A szállítási mutatószámok összege legfeljebb | A szállítás vagy tárolás időtartama órában |     |     |     |    |    |     |     |
|-------------------------------------|----------|--|--|-----|-----|-----|----|----|-----|-----|
| Kategória                           |          |  | 1  | 2   | 4   | 10  | 24 | 48 | 120 | 240 |
| III-SÁRGA                           | II-SÁRGA |  | Legkisebb távolság m-ben                   |     |     |     |    |    |     |     |
|                                     |          | 0,2  | 0,5  | 0,5 | 0,5 | 0,5 | 1  | 1  | 2   | 3   |
|                                     |          | 0,5  | 0,5  | 0,5 | 0,5 | 1   | 1  | 2  | 3   | 5   |
|                                     | 1        | 1  | 0,5  | 0,5 | 1   | 1   | 2  | 3  | 5   | 7   |
|                                     | 2        | 2  | 0,5  | 1   | 1   | 1,5 | 3  | 4  | 7   | 9   |
|                                     | 4        | 4  | 1  | 1   | 1,5 | 3   | 4  | 6  | 9   | 13  |
|                                     | 8        | 8  | 1  | 1,5 | 2   | 4   | 6  | 8  | 13  | 18  |
| 1                                   | 10       | 10   | 1  | 2   | 3   | 4   | 7  | 9  | 14  | 20  |
| 2                                   | 20       | 20   | 1,5  | 3   | 4   | 6   | 9  | 13 | 20  | 30  |
| 3                                   | 30       | 30   | 2  | 3   | 5   | 7   | 11 | 16 | 25  | 35  |
| 4                                   | 40       | 40   | 3  | 4   | 5   | 8   | 13 | 18 | 30  | 40  |
| 5                                   | 50       | 50   | 3  | 4   | 6   | 9   | 14 | 20 | 32  | 45  |

1.2) A II-SÁRGA és III-SÁRGA kategóriájú küldeménydarabok és egyesítőcsomagolások nem szállíthatók utasok által elfoglalt szakaszokban, kivéve az ilyen küldeménydarabok vagy egyesítőcsomagolások kísérésére felhatalmazott futárok számára fenntartott szakaszokat.

1.3) A II-SÁRGA és III-SÁRGA kategóriájú küldeménydarabokat, egyesítőcsomagolásokat vagy konténereket szállító járműveken a jármű személyzet tagjain kívül egyéb személyek nem tartózkodhatnak.

## 2) Aktivitáshatárok

LSA anyagok és SCO tárgyak IP-1 típusú, IP-2 típusú vagy IP-3 típusú küldeménydarabokban vagy csomagolatlanul történő szállításánál az összes aktivitás a járművön nem haladhatja meg a „C” táblázatban található határértékeket.

**„C” táblázat: Aktivitáshatárok járművenként ipari küldeménydarabokban vagy csomagolatlanul szállított LSA anyagokra és SCO tárgyakra**

| Az anyag vagy tárgy jellege  | Aktivitás határ a járműre |
|--|---------------------------|
| <i>LSA-I</i>   | Korlátlan                 |
| <i>LSA-II és LSA-III</i><br>nem éghető szilárd anyagok                                 | Korlátlan                 |
| <i>LSA-II és LSA-III</i><br>éghető szilárd anyagok és minden<br>folyékony anyag és gáz | 100A <sub>2</sub>         |
| <i>SCO</i> tárgyak   | 100A <sub>2</sub>         |

**3) Az áru elhelyezése a szállítás és az átmeneti tárolás során**

- 3.1) A küldeményeket biztonságosan kell elhelyezni.
- 3.2) Feltéve, hogy a felületen a közepes hőáram nem haladja meg a 15 W/m<sup>2</sup> értéket, és a közvetlen környezetben nincs zsákokba csomagolt áru, a küldeménydarab vagy az egyesítőcsomagolás különleges rakodási előírás nélkül más, közönséges darabáruval együtt szállítható, amennyiben az illetékes hatóság engedélye kifejezetten nem ír elő mást.
- 3.3) A konténerek berakásakor és a küldeménydarabok, egyesítőcsomagolások és konténerek rakodásakor a következő előírásokat kell betartani:
- a) A kizárólagos használat esetét és az *LSA-I* anyagokat tartalmazó küldeményeket kivéve, a küldeménydarabok, egyesítőcsomagolások és konténerek számát egy járművön oly módon kell korlátozni, hogy a szállítási mutatószámok összege a járművön ne lépje túl a „D” táblázatban meghatározott értékeket.

**„D” táblázat: Szállítási mutatószám határértékek konténerenként és járművenként nem kizárólagos használat esetén**

| Konténer vagy jármű | A szállítási mutatószámok összegének határértéke konténerenként és járművenként |
|---------------------|---|
| Kiskonténer         | 50  |
| Nagykonténer        | 50  |
| Jármű               | 50  |

- b) A sugárzási szint normális szállítási feltételek esetén a jármű külső felületén egyetlen ponton sem haladhatja meg a 2 mSv/h értéket, és 2 m távolságban egyetlen ponton sem haladhatja meg a 0,1 mSv/h értéket, kivéve a kizárólagos használat mellett szállított küldeményeket, amelyeknél a jármű körüli sugárzási szint határokat a 3.5) b) és c) pont határozza meg;
- c) A kritikussági biztonsági mutatószámok összege egy konténerben vagy járművön nem haladhatja meg az „E” táblázatban megadott értékeket.

**„E” táblázat: Kritikussági biztonsági mutatószámok hasadóanyagot tartalmazó konténereknél és járműveknél**

| Konténer<br>vagy jármű | A kritikussági biztonsági mutatószámok<br>összegének határértéke |                                 |
|------------------------|--|---------------------------------|
|                        | Nem kizárólagos<br>használat esetén                              | Kizárólagos<br>használat esetén |
| Kiskonténer            | 50   | tárgytalan                      |
| Nagykonténer           | 50   | 100                             |
| Jármű                  | 50   | 100                             |

- 3.4) Minden küldeménydarab vagy egyesítőcsomagolás, amelynek szállítási mutatószáma 10-nél nagyobb, ill. minden küldemény, amelynek kritikussági biztonsági mutatószáma 50-nél nagyobb, csak kizárólagos használat mellett szállítható.
- 3.5) A sugárzási szint kizárólagos használat mellett szállított küldeményeknél nem haladhatja meg a következő értékeket:
- 10 mSv/h-t a küldeménydarabok vagy egyesítőcsomagolások külső felületének bármely pontján; azonban a 2 mSv/h értéket is csak akkor haladhatja meg, ha:
    - a jármű el van látva olyan burkolattal, amely a szállítás során illetéktelen személyek számára a rakományhoz való hozzáférést megakadályozza; és
    - megtették a szükséges intézkedéseket ahhoz, hogy a küldeménydarabok vagy egyesítőcsomagolások úgy legyenek rögzítve, hogy azok helyzete a járművön belül normális szállítás során változatlan maradjon; és
    - a szállítás kezdete és befejezése között be- és kirakási műveleteket nem végeznek;
  - 2 mSv/h-t a jármű külső felületének bármely pontján, beleértve a tető- és fenékfelületeket, vagy nyitott járműnél bármely ponton, amely a jármű külső éleitől kiindulva meghosszabbított függőleges síkban vagy a rakomány felületén, ill. a jármű alsó felületén van; és
  - 0,1 mSv/h-t a jármű külső oldalai által alkotott függőleges síkoktól 2 méter távolságban bármely pontban, vagy amennyiben a rakományt nyitott járművön szállítják, a jármű külső élei által meghatározott függőleges síkoktól 2 m távolságban bármely ponton.
- 4) **A hasadóanyagot tartalmazó küldeménydarabok elkülönítése a szállítás és az átmeneti tárolás során**
- Az azonos tárolóhelyen átmenetileg tárolt, hasadóanyagot tartalmazó küldeménydarabok, egyesítőcsomagolások és konténerek számát egy csoportban oly módon kell korlátozni, hogy a CSI-k összege a csoportban ne haladja meg az 50-et. A csoportokat úgy kell tárolni, hogy a többi, hasonló csoporttól legalább 6 méterre legyenek.
  - Ha a kritikussági biztonsági mutatószámok összege egy járművön vagy egy konténerben meghaladja az 50-et, mint azt az előző „E” táblázat megengedi, akkor úgy kell tárolni, hogy legalább 6 m távolság maradjon a hasadóanyagot tartalmazó küldeménydarabok, egyesítőcsomagolások és konténerek más csoportjaitól vagy a radioaktív anyagokat tartalmazó más járművektől.



**5) Sérült vagy szivárgó küldeménydarabok, szennyezett csomagolóeszközök**

- 5.1) Amennyiben egy küldeménydarab nyilvánvalóan sérült vagy tömítetlen, vagy feltételezhető, hogy a küldeménydarab megsérült vagy tömítetlenné vált, az ehhez a küldeménydarabhoz való hozzáférést korlátozni kell és a szennyezettség mértékét, valamint az ebből származó sugárzási szintet szakembernek kell a lehető leggyorsabban megbecsülni. A vizsgálatnak a küldeménydarabra, a járműre, a környező ki- és berakási területre, valamint szükség esetén a járműben szállított minden más árura ki kell terjednie.

A személyek, javak és a környezet védelme céljából, szükség esetén az illetékes hatóságok által hozott intézkedésekkel összhangban további rendelkezéseket kell fogantatosítani, hogy az ilyen szivárgás vagy sérülés következményeit leküzdjék és minimálisra csökkentsék.

- 5.2) A küldeménydarabokat, amelyekből a radioaktív tartalom a normális szállítási feltételekre engedélyezett határokat meghaladó mértékben kiszabadult, felügyelet mellett el szabad távolítani egy elfogadható átmeneti helyre, de csak helyreállítás vagy javítás és sugárszennyezettség-mentesítés után szállíthatók tovább.
- 5.3) A radioaktív anyagok szállítására rendszeresen használt járművek és szerelvényeik szennyezettség szintjét időszakonként ellenőrizni kell. Az ilyen vizsgálatok gyakoriságát a szennyezettség valószínűsége és a radioaktív anyag szállított mennyisége szerint kell meghatározni.
- 5.4) Az 5.5) pontban előírtak kivételével, mindazon járműveket, szerelvényeket vagy más részüket, amelyek a szállítás során a 4.1.9.1.2 pontban meghatározott határokat meghaladó mértékben szennyeződtek radioaktív anyagokkal vagy amelyek 5  $\mu\text{Sv/h}$  értéket meghaladó sugárzási szintet mutatnak, szakembernek kell a lehető leghamarabb a szennyezettségtől mentesíteni; ezeket mindaddig nem szabad újra használni, amíg a nem tapadó szennyezettség mértéke meghaladja a 4.1.9.1.2 pontban megállapított értékeket és amíg a szennyezettségtől való mentesítés után a felületen a tapadó radioaktív szennyezettségből eredő sugárzási szint nem kisebb mint 5  $\mu\text{Sv/h}$ .
- 5.5) A csomagolatlan radioaktív anyagok kizárólagos használat melletti szállítására alkalmazott konténert, tartányt, IBC-t vagy járművet csak a belső felületének tekintetében és csak addig, amíg kifejezetten ezen kizárólagos használat alatt maradnak, mentesíteni kell az előző 5.4) pont és a 4.1.9.1.4 pont követelményei alól.

**6) Egyéb előírások**

Ha egy küldemény nem szolgáltatható ki, akkor a küldeményt biztonságos helyen kell tárolni, az illetékes hatóságokat a lehető leggyorsabban tájékoztatni kell, és a további eljárásra nézve utasítást kell kérni.

- CV34** Nyomástartó tartályok szállítás előtt meg kell győződni arról, hogy a tartályokban a nyomás a lehetséges hidrogénfejlődés következtében nem növekedett.
- CV35** Ha önálló csomagolásként zsákot alkalmaznak, a hőleadás lehetővé tételéhez a zsákokat megfelelően el kell különíteni.
- CV36** A küldeménydarabokat célszerű nyitott vagy jól szellőző járműbe, ill. nyitott vagy jól szellőző konténerbe rakni. Ha ez nem lehetséges és a küldeménydarabokat más fajta fedett járműben, ill. zárt konténerben szállítják, a jármű, ill. a konténer

rakománytér ajtaját a következő, legalább 25 mm magas betűkkel írt felirattal kell megjelölni:

“FIGYELEM!  
NINCS SZELLŐZÉS,  
ÓVATOSAN NYITNI!”

Ezt a feliratot a feladó által alkalmasnak tartott nyelven kell feltüntetni.

**„B” MELLÉKLET**

**A SZÁLLÍTÓESZKÖZÖKRE ÉS A SZÁLLÍTÁSRA  
VONATKOZÓ ELŐÍRÁSOK**

**8. RÉSZ****A JÁRMŰ SZEMÉLYZETÉRE, FELSZERELÉSÉRE,  
ÜZEMELTETÉSÉRE ÉS AZ OKMÁNYOKRA  
VONATKOZÓ KÖVETELMÉNYEK**

**8.1 FEJEZET****ÁLTALÁNOS KÖVETELMÉNYEK A SZÁLLÍTÓEGYSÉGEKRE ÉS  
A JÁRMŰVÖN TARTANDÓ FELSZERELÉSEKRE****8.1.1 Szállítóegységek**

Veszélyes anyaggal megrakott szállítóegységben soha nem lehet egynél több pótkocsi vagy félpótkocsi.

**8.1.2 A szállítóegységen tartandó okmányok****8.1.2.1** Az egyéb szabályok által előírt okmányokon kívül a következő okmányoknak kell a szállítóegységen lenniük:

- a) mindegyik szállított anyagra vonatkozóan az 5.4.1 szakasz szerinti fuvarokmánynak, és ha szükséges, az 5.4.2 szakasz szerinti konténer megrakási bizonyítványnak;
- b) az 5.4.3 szakaszban előírt írásbeli utasításnak;
- c) (fenntartva)
- d) a jármű személyzet minden tagjának az 1.10.1.4 bekezdésben előírt fényképes személyazonosító okmányának.

**8.1.2.2** Ha az ADR előírásai a következő okmányok kiállítását megkövetelik, akkor ezeket is a szállítóegységen kell tartani:

- a) minden egyes szállítóegységre vagy szállítóegység-elemre a 9.1.3 szakasz szerinti jóváhagyási igazolást;
- b) a 8.2.1 szakaszban előírt járművezetői oktatási bizonyítványt;
- c) az 5.4.1.2.1 c), az 5.4.1.2.1 d), ill. az 5.4.1.2.3.3 pontban előírt hatósági engedély másolatát, amennyiben szükséges.

**8.1.2.3** Az 5.4.3 szakaszban előírt írásbeli utasítást a könnyen hozzáférhető helyen kell tartani.**8.1.2.4** (törölve)**8.1.3 A nagybárcák alkalmazása és a jelölés**

A veszélyes árut szállító szállítóegységeket az 5.3 fejezet szerint kell nagybárcákkal és jelöléssel ellátni.

**8.1.4 Tűzoltó eszközök****8.1.4.1** A veszélyes árut szállító szállítóegységekre – a 8.1.4.2 bekezdésben említett szállítóegységek kivételével – a következő előírásokat kell alkalmazni:

- a) Minden szállítóegységet legalább egy darab, a szállítóegység motorjában vagy a vezetőfülkében keletkezett tűz oltására alkalmas hordozható tűzoltó készülékkel kell ellátni. Ennek a hordozható tűzoltó készüléknek legalább 2 kg mennyiségű por oltóanyagú (vagy más oltóanyagú, de azonos oltási képességű) készüléknek kell lennie,

amely A, B és C tűzosztályú<sup>1)</sup> tűzek oltására alkalmas.

b) További készülékek szükségesek a következők szerint:

i) a 7,5 tonnánál nagyobb megengedett legnagyobb össztömegű szállítóegységekre:

A, B és C tűzosztályú tűzek<sup>1)</sup> oltására alkalmas, összesen legalább 12 kg por oltóanyagú (vagy más oltóanyagú, de azonos oltási képességű) hordozható tűzoltó készülék(ek), amelyek közül legalább az egyiknek legalább 6 kg-osnak kell lennie;

ii) a 3,5 tonnánál nagyobb, de legfeljebb 7,5 tonna megengedett legnagyobb össztömegű szállítóegységekre:

A, B és C tűzosztályú tűzek<sup>1)</sup> oltására alkalmas, összesen legalább 8 kg por oltóanyagú (vagy más oltóanyagú, de azonos oltási képességű) hordozható tűzoltó készülék(ek), amelyek közül legalább az egyiknek legalább 6 kg-osnak kell lennie;

iii) a legfeljebb 3,5 tonna megengedett legnagyobb össztömegű szállítóegységekre:

A, B és C tűzosztályú tűzek<sup>1)</sup> oltására alkalmas, összesen legalább 4 kg por oltóanyagú (vagy más oltóanyagú, de azonos oltási képességű) hordozható tűzoltó készülék(ek).

c) A b) pontban előírt tűzoltó készülékek összes szükséges oltóanyag mennyisége az a) pontban előírt tűzoltó készülék(ek) oltóanyag mennyiségével csökkenthető.

**8.1.4.2** Azokat a szállítóegységeket, amelyek az 1.1.3.6 bekezdés szerint végeznek veszélyes áru szállítást, egy darab, A, B és C tűzosztályú tűzek<sup>1)</sup> oltására alkalmas, legalább 2 kg mennyiségű por oltóanyagú (vagy más oltóanyagú, de azonos oltási képességű) hordozható tűzoltó készülékkel kell ellátni.

**8.1.4.3** Az oltóanyagnak alkalmasnak kell lennie a járművön való alkalmazásra, és meg kell felelnie az EN 3 "Hordozható tűzoltó készülékek" c. szabvány<sup>2)</sup>, 1 – 6 rész (EN 3-1:1996, EN3-2:1996, EN 3-3:1994, EN 3-4:1996, EN 3-5:1996, EN 3-6:1995) vonatkozó előírásainak.

Ha a jármű a motorban keletkező tűz leküzdésére önműködő vagy könnyen működésbe hozható, rögzített tűzoltó készülékkel van felszerelve, nincs szükség arra, hogy a hordozható tűzoltó készülék alkalmas legyen a motorban keletkezett tűz oltására. Az oltóanyagoknak olyannak kell lennie, hogy sem a vezetőfülkében, sem a tűz okozta hő hatására ne fejleszthessen mérgező gázokat.

**8.1.4.4** Az előző 8.1.4.1, ill. 8.1.4.2 bekezdés előírásainak megfelelő hordozható tűzoltó készülékeket olyan zárral (plombával) kell ellátni, amely lehetővé teszi annak megállapítását, hogy még nem használták. Ezenkívül el kell látni olyan jelöléssel, amely tanúsítja, hogy az illetékes hatóság által elismert szabványnak megfelel, ill. az érvényesség lejáratának időpontját (hónap, év) vagy a legnagyobb megengedett használati időtartamot is fel kell tüntetni.

Az üzemképesség biztosítása céljából a tűzoltó készülékeket az érvényes nemzeti szabványok előírásai szerint időszakosan ellenőrizni kell.

**8.1.4.5** A tűzoltó készülékeket a jármű személyzete által könnyen elérhető helyre kell elhelyezni oly módon, hogy az időjárás viszontagságaitól védve legyenek és üzemképességük ne csökkenjen.

1) A tűzosztályokra vonatkozóan lásd az MSZ EN 2:1992 „A tűzek osztályozása” c. szabványt.

2) Lásd MSZ EN 3.

**8.1.5 Egyéb felszerelések**

**8.1.5.1** Minden, veszélyes árut szállító szállítóegységet a 8.1.5.2 bekezdés szerinti, általános felszereléssel és személyi védőeszközökkel kell ellátni. Az egyes felszereléseket a berakott áruhoz tartozó veszélyességi bárcák száma alapján kell kiválasztani. A bárcák száma a fuvarokmányból állapítható meg.

**8.1.5.2** A következő felszerelést mindig a szállítóegységen kell tartani, bármelyik veszélyességi bárca, illetve nagybárca használata esetén

- minden járműre egy, a jármű legnagyobb megengedett össztömegének és a kerekek átmérőjének megfelelő méretű kerék kitámasztó éket;
- két, önmagában megálló figyelmeztető jelzőt;
- szemöblítő folyadékot<sup>3)</sup>; valamint

a járműszemélyzet minden tagja részére:

- fényvisszaverő mellényt (ruházatot) (pl. az EN 471 szabványnak megfelelőt vagy azzal egyenértékűt);
- a 8.3.4 szakasz szerinti, hordozható világítókészüléket
- egy pár védőkesztyűt; valamint
- a szem védelmére alkalmas eszközt (pl. védőszemüveget).

**8.1.5.3** Bizonyos osztályokhoz a következő kiegészítő felszerelés szükséges:

- a 2.3 vagy a 6.1 veszélyességi bárca, illetve nagybárca használata esetén a járműszemélyzet minden tagja részére légzésvédő maszk<sup>4)</sup> (menekülő-kámzsa);
- lapát<sup>5)</sup>;
- csatornanyílás lefedésére alkalmas eszköz<sup>5)</sup>;
- műanyag gyűjtőedény<sup>5)</sup>.

3) Nem szükséges az 1, 1.4, 1.5, 1.6, 2.1, 2.2 vagy 2.3 számú veszélyességi bárca, illetve nagybárca használata esetén

4) Például az EN 141 szabványnak megfelelő vagy azzal egyenértékű, A1B1E1K1-P1 vagy A2B2E2K2-P2 típusú, kombinált (gáz és részecske) szűrővel ellátott légzésvédő maszk (menekülő-kámzsa).

5) Csak a 3, 4.1, 4.3, 8 és 9 veszélyességi bárca, illetve nagybárca használata esetén szükséges.

## 8.2 FEJEZET

### A JÁRMŰ SZEMÉLYZET KÉPZÉSÉRE VONATKOZÓ KÖVETELMÉNYEK

#### 8.2.1 A járművezetők képzésére vonatkozó általános követelmények

- 8.2.1.1** A veszélyes árut szállító jármű vezetőjének az illetékes hatóság vagy az általa elismert szervezet által kiállított bizonyítvánnyal kell rendelkeznie, amely igazolja, hogy részt vett a veszélyes áruk szállítása során betartandó különleges követelményekre vonatkozó képzésen és sikeresen levezgázott.
- 8.2.1.2** A veszélyes árut szállító jármű vezetőjét alaptanfolyami képzésben kell részesíteni. A képzést az illetékes hatóság által jóváhagyott tanfolyam keretében kell nyújtani. A képzés alapvető célja, hogy a járművezető tudatában legyen azoknak a veszélyeknek, amelyek a veszélyes anyagok szállítása során keletkeznek, és megszerezze azokat az alapismereteket, amelyek elengedhetetlenül szükségesek ahhoz, hogy egy baleset bekövetkezésének valószínűségét minimálisra csökkentse, illetve, ha a baleset bekövetkezett, képes legyen azoknak a biztonsági intézkedéseknek a megtételére, amelyek szükségesnek bizonyulhatnak a saját maga és a közbiztonság, illetve a környezet védelme érdekében a baleset hatásainak korlátozásához. Ennek a tanfolyamnak, amely minden, veszélyes árut szállító jármű vezetőjének alapképzését jelenti, legalább a 8.2.2.3.2 pontban meghatározott témákra kell kiterjednie és egyéni gyakorlati oktatást is kell tartalmaznia.
- 8.2.1.3** A rögzített tartányban, az 1000 liternél nagyobb befogadóképességű leszerelhető tartányban veszélyes árut szállító járművezetőknek, ill. MEMU-k vezetőinek, 1000 liternél nagyobb összbefogadóképességű battériás járműben veszélyes árut szállító járművezetőknek, a 3000 liternél nagyobb egyedi befogadóképességű tankkonténerben, mobil tartányban, illetve MEG konténerben veszélyes árut szállító szállítóegységek járművezetőinek, ill. MEMU-k vezetőinek tartányos szakosító tanfolyamon is részt kell venniük, amelynek legalább a 8.2.2.3.3 pontban leírt témákra kell kiterjednie.
- 8.2.1.4** Az 1.4S osztályozási kódú anyagok kivételével az 1. osztály anyagait és tárgyait szállító járművek vezetőinek (lásd az S1 kiegészítő követelményt a 8.5 fejezetben), az 1. osztály anyagait és tárgyait és az 5.1 osztály anyagait együtt szállító MEMU-k vezetőinek (lásd 7.5.5.2.3 pontot) és bizonyos radioaktív anyagokat szállító járművek vezetőinek (lásd az S11 és az S12 kiegészítő követelményt a 8.5 fejezetben) szakosító tanfolyamon kell részt venniük, amely legalább a 8.2.2.3.4, ill. a 8.2.2.3.5 pontban leírt témákra terjed ki.
- 8.2.1.5** A járművezetőnek az illetékes hatóság vagy az általa elismert szerv által a bizonyítványába öt évenként tett bejegyzéssel igazolni kell, hogy a bizonyítvány lejártá előtti egy évben „ismeretfelújító” képzésen vett részt, és a megfelelő vizsgát sikeresen letette. Az érvényesség új időtartama a bizonyítvány lejárataától számít.
- 8.2.1.6** A kezdő alap- és szakosító, illetve az ismeretfelújító alap- és szakosító tanfolyami képzés egyazon képző szerv által, egyazon alkalommal összevont tanfolyam keretében is megszervezhető.
- 8.2.1.7** A kezdő és az ismeretfelújító tanfolyamoknak, a gyakorlati képzésnek, a vizsgáknak és az illetékes hatóság tevékenységének meg kell felelnie a 8.2.2 szakasz előírásainak.
- 8.2.1.8** Minden olyan bizonyítványt, amely megfelel ezen szakasz előírásainak és amelyet valamely Szerződő Fél illetékes hatósága vagy az általa elismert szervezet a 8.2.2.8.3 pontban szereplő minta szerint adott ki, a többi Szerződő Fél illetékes hatóságai a bizonyítvány érvényességi idején belül elfogadják.



**8.2.1.9** A bizonyítványt azon illetékes hatóság országának nyelvén (vagy valamelyik nyelvén) kell kiállítani, amely hatóság a bizonyítványt kibocsátotta vagy a kibocsátó szervezetet elismerte, és ha ez a nyelv nem angol, francia vagy német, akkor angol, francia vagy német nyelven is, hacsak a szállításban érintett országok közötti egyezmények nem írnak mást elő.

**8.2.2 A járművezetők képzésére vonatkozó különleges követelmények**

**8.2.2.1** A szükséges ismereteket és jártasságot elméleti tanfolyamot és gyakorlati oktatást magában foglaló képzésen kell megszerezni. A tudásról vizsgán kell számot adni.

**8.2.2.2** A képzőszervnek biztosítania kell, hogy az oktatók megfelelő tudással rendelkeznek a veszélyes áru szállítás szabályozásáról és az azzal kapcsolatos képzési követelményekről, illetve figyelembe veszik az ezekben bekövetkezett fejlődést. A képzésnek gyakorlatiasnak kell lennie. A képzési programnak a 8.2.2.3.2 – 8.2.2.3.5 pontban feltüntetett témák tekintetében meg kell felelnie a jóváhagyásnak. A kezdő és az ismeretfelújító tanfolyamnak egyéni gyakorlati oktatást is kell tartalmaznia (lásd a 8.2.2.4.5 pontot).

**8.2.2.3 A képzés felépítése**

**8.2.2.3.1** A kezdő és az ismeretfelújító képzést alaptanfolyam és – ha szükséges – szakosító tanfolyam keretében kell nyújtani.

**8.2.2.3.2** Az alaptanfolyamnak legalább a következő témákra kell kiterjednie:

- a) a veszélyes áruk szállítására vonatkozó általános előírásokra;
- b) a főbb veszélytípusokra;
- c) a hulladékok szállításával kapcsolatos környezetvédelmi információkra;
- d) a különböző veszélytípusoknak megfelelő megelőző és biztonsági intézkedésekre;
- e) a baleset utáni magatartásra (elsősegélynyújtás, a forgalom biztosítása, a védőfelszerelések használatára vonatkozó alapismeretek stb.);
- f) a jelölésre, a bárcázásra, a nagybárcákkal és a narancssárga táblákkal való jelölésre;
- g) arra, hogy a járművezetőnek mit kell és mit nem szabad tennie a veszélyes áruk szállítása során;
- h) a járművek műszaki felszerelésének céljára és működés módjára;
- i) az ugyanazon járműbe vagy konténerbe való együvé rakási tilalmakra;
- j) a veszélyes áruk be- és kirakása során betartandó óvintézkedésekre;
- k) a polgári felelősségre vonatkozó általános információkra;
- l) a multimodális szállítási tevékenységekre vonatkozó információkra;
- m) a küldeménydarabok kezelésére és rakodására;
- n) az alagutakban való forgalomkorlátozásra és az alagutakban való viselkedésre (megelőzés és biztonság, teendők tűz vagy más veszélyhelyzet esetén stb.).

**8.2.2.3.3** A tartányos szállításra vonatkozó szakosító tanfolyamnak legalább a következő témákra kell kiterjednie:

- a) a járművek menet közbeni viselkedésére, beleértve a rakomány mozgását is;
- b) a járművekre vonatkozó különleges követelményekre;
- c) a különböző töltési- és ürítési rendszerek elméleti ismeretére;

- d) az ilyen járművek használatával kapcsolatos kiegészítő előírásokra (jóváhagyási igazolás, jóváhagyási jel, nagybárcával és narancssárga táblával való jelölés stb.).

**8.2.2.3.4** Az 1 osztályba tartozó anyagok szállítására vonatkozó szakosító tanfolyamnak legalább a következő témákra kell kiterjednie:

- a) a robbanó- és pirotechnikai anyagokban rejlő különleges veszélyekre;
- b) az 1 osztályba tartozó anyagok és tárgyak együvé rakásával kapcsolatos különleges követelményekre.

**8.2.2.3.5** A 7 osztályba tartozó, radioaktív anyagok szállítására vonatkozó szakosító tanfolyamnak legalább a következő témákra kell kiterjednie:

- a) az ionizáló sugárzásban rejlő különleges veszélyekre;
- b) a radioaktív anyagok csomagolására, kezelésére, együvé rakására és rakodására vonatkozó különleges követelményekre;
- c) a radioaktív anyaggal történt baleset esetén teendő intézkedésekre.

#### **8.2.2.4** *Kezdő képzési program*

**8.2.2.4.1** A kezdő tanfolyamoknak, ill. az összevont tanfolyamok egyes részeinek legalább a következő időtartamúaknak kell lenniük:

|  |                               |
|--|-------------------------------|
| alaptanfolyam  | 18 tanítási óra <sup>6)</sup> |
| tartányos szakosító tanfolyam  | 12 tanítási óra <sup>6)</sup> |
| az 1 osztály anyagainak és tárgyainak szállítására vonatkozó szakosító tanfolyam | 8 tanítási óra                |
| a 7 osztály radioaktív anyagainak szállítására vonatkozó szakosító tanfolyam     | 8 tanítási óra                |

**8.2.2.4.2** Az összevont tanfolyam teljes időtartamát az illetékes hatóság rövidebb időtartamban is meghatározhatja úgy, hogy az alaptanfolyam, ill. a tartányos szakosító tanfolyam időtartamát az 1 és a 7 osztályra vonatkozó szakosító tanfolyam rövidített időtartamával egészíti ki.

**8.2.2.4.3** Egy tanítási óra 45 perces.

**8.2.2.4.4** Rendes körülmények között a tanfolyam során egy napon legfeljebb 8 tanítási óra engedélyezett.

**8.2.2.4.5** Az egyéni gyakorlati oktatásnak az elméleti képzéshez kell kapcsolódnia, és legalább az elsősegélynyújtásra, tűzoltásra és a rendkívüli esemény, illetve baleset esetén teendőkre kell kiterjednie.

#### **8.2.2.5** *Ismeretfelújító képzési program*

**8.2.2.5.1** A szabályos időközönként történő ismeretfelújító képzés célja, hogy a járművezetők tudását korszerűsítse; a képzésnek ki kell terjednie a műszaki, a jogi és a veszélyes anyagokkal kapcsolatos előírások fejlődésére.

**8.2.2.5.2** Az ismeretfelújító képzésben a 8.2.1.5 bekezdésében jelzett idő lejárta előtt kell részt venni.

6) A következő 8.2.2.4.5 pont szerinti gyakorlati oktatáshoz a járművezetők számától függő, további tanítási órák szükségesek.

- 8.2.2.5.3** Az ismeretfelújító képzésnek – az egyéni gyakorlati oktatással együtt – legalább két naposnak kell lennie.
- 8.2.2.5.4** Rendes körülmények között a képzés során egy napon legfeljebb 8 tanítási óra engedélyezett.
- 8.2.2.6** *A képzés jóváhagyása*
- 8.2.2.6.1** A tanfolyamokat az illetékes hatóságnak kell jóváhagynia.
- 8.2.2.6.2** Jóváhagyás csak írásban benyújtott kérelemre adható.
- 8.2.2.6.3** A kérelemhez a következőket tartalmazó iratokat kell csatolni:
- a) részletes képzési program, a témák, az órarend és a tervezett oktatási módszerek megjelölésével;
  - b) az oktatók képzettsége és tevékenységi köre;
  - c) a tanfolyam helyszínére, az oktatási (segéd)anyagra és a gyakorlati oktatáshoz rendelkezésre álló lehetőségekről, berendezésekről szóló információ;
  - d) a tanfolyamon való részvétel körülményei, pl. a résztvevők létszáma.
- 8.2.2.6.4** Az illetékes hatóságnak meg kell szerveznie a képzés és a vizsgák felügyeletét.
- 8.2.2.6.5** A jóváhagyást az illetékes hatóságnak írásban kell megadnia, ha legalább a következő feltételek teljesülnek:
- a) a képzés a kérelemben feltüntetettek szerint történik;
  - b) az illetékes hatóságnak joga van arra, hogy egy általa felhatalmazott személyt küldjön, hogy a tanfolyamon vagy vizsgán jelen legyen;
  - c) az illetékes hatóságot kellő időben értesíteni kell az egyes tanfolyamok idejéről és helyéről;
  - d) a jóváhagyás visszavonható, ha a feltételeket nem teljesítik.
- 8.2.2.6.6** A jóváhagyásnak tartalmaznia kell, hogy a jóváhagyott tanfolyam kezdő vagy ismeret-felújító, alap- vagy szakosító tanfolyam-e.
- 8.2.2.6.7** Ha egy képzőszerv változtatni kíván egy jóváhagyott tanfolyam valamely, a jóváhagyás szempontjából lényeges részletén, az illetékes hatóságtól előzetesen engedélyt kell kérnie. Különösen érvényes ez a képzési programmal kapcsolatos változtatásokra.
- 8.2.2.7** *Vizsga*
- 8.2.2.7.1** *A kezdő alaptanfolyam vizsgája*
- 8.2.2.7.1.1** A gyakorlati oktatást is magába foglaló alaptanfolyami képzés befejezése után vizsgát kell tartani.
- 8.2.2.7.1.2** A vizsgán a jelöltnek bizonyítania kell, hogy rendelkezik mindazzal a tudással, áttekinthetőséggel és jártassággal, amely egy veszélyes árut szállító jármű vezetőjének hivatása gyakorlásához szükséges, és amely az alaptanfolyam tárgyát képezte.
- 8.2.2.7.1.3** E célból az illetékes hatóságnak vagy az általa jóváhagyott vizsgáztató testületnek a 8.2.2.3.2. pontban összefoglalt témákra vonatkozó kérdés gyűjteményt kell összeállítania. A vizsgán e gyűjteményből való kérdéseket kell feltenni. A vizsgázóknak a vizsga előtt nem lehet tudomásuk arról, hogy mely kérdéseket választották ki a gyűjteményből az adott

vizsgára.

- 8.2.2.7.1.4** Az összevont tanfolyam végén együttes vizsga is tartható.
- 8.2.2.7.1.5** Minden illetékes hatóságnak felügyelnie kell a vizsga lefolyását.
- 8.2.2.7.1.6** A vizsga lehet írásbeli, vagy írásbeli és szóbeli vizsga kombinációja. Minden jelöltnek legalább 25 írásbeli kérdést kell feltenni. A vizsgának legalább 45 percesnek kell lennie. A kérdések különböző nehézségűek lehetnek és különböző súllyal értékelhetők.
- 8.2.2.7.2** *Kezdő szakosító tanfolyami vizsga tartányos szállításra, illetve a robbanóanyagok és a radioaktív anyagok szállítására*
- 8.2.2.7.2.1** Az alaptanfolyami vizsga letétele és a tartányos, illetve robbanóanyag vagy radioaktív anyag szállítására vonatkozó szakosító tanfolyamon való részvétel után a jelöltet vizsgára kell bocsátani.
- 8.2.2.7.2.2** A vizsgát ugyanúgy kell tartani és felügyelni, mint a 8.2.2.7.1 pont esetében.
- 8.2.2.7.2.3** Minden szakosító tanfolyam anyagára vonatkozóan legalább 15 kérdést kell feltenni.
- 8.2.2.7.3** *Az ismeretfelújító képzés vizsgája*
- 8.2.2.7.3.1** Az ismeretfelújító képzést követően a jelölt számára levetővé kell tenni a megfelelő vizsga letételét.
- 8.2.2.7.3.2** A vizsgát ugyanúgy kell tartani és felügyelni, mint a 8.2.2.7.1 pont esetében.
- 8.2.2.7.3.3** A vizsgán legalább 15, az ismeretfelújító képzés anyagára vonatkozó kérdést kell feltenni.
- 8.2.2.8** *Az oktatási bizonyítvány*
- 8.2.2.8.1** A 8.2.1.8 bekezdés szerint bizonyítványt kell kiadni:
- a) az alaptanfolyam elvégzése után, ha a jelölt sikeresen letette a 8.2.2.7.1 pont szerinti vizsgát;
  - b) amennyiben szükséges, a tartányos szállításra, illetve robbanó vagy radioaktív anyagok szállítására vonatkozó szakosító tanfolyam elvégzése után, illetve a 8.5 fejezetben található S1 és S11 különleges követelmény szerinti tudás megszerzése után, ha a jelölt sikeresen letette a 8.2.2.7.2 pont szerinti vizsgát.
- 8.2.2.8.2** A bizonyítvány érvényességét meg kell hosszabbítani, ha a jelölt a 8.2.1.5 pont szerint ismeretfelújító képzésben részt vett és sikeresen letette a 8.2.2.7.3 pont szerinti vizsgát.
- 8.2.2.8.3** A bizonyítványnak meg kell felelnie a következő mintának (lásd a következő oldalon). Ajánlott, hogy az okmány mérete egyezzen meg az európai nemzetközi gépkocsi-vezetői engedély méretével, vagyis A7 formátumú (74 mm x 105 mm) legyen, vagy ekkora méretre legyen kettéhajtható.

## A bizonyítvány mintája

| 1   |  | 2   |  |
|---|--|---|--|
| <b>ADR</b><br><b>OKTATÁSI BIZONYÍTVÁNY</b><br><b>VESZÉLYES ÁRUKAT SZÁLLÍTÓ</b><br><b>JÁRMŰVEK VEZETŐI RÉSZÉRE</b>   |  | Név: .....<br><br>Szül. idő: .....<br><br>Állampolgársága: .....<br><br>A járművezető aláírása: .....<br><br>Kiadta:.....<br><br>Kelt:.....<br><br>Aláírás <sup>4)</sup> .....<br><br>Meghosszabbítva:.....<br>.....által<br><br>Kelt:.....<br><br>Aláírás: <sup>4)</sup> ..... |  |
| Tartányban <sup>1)</sup> Nem tartányban <sup>1)</sup><br>Sorszám .....<br>A bizonyítványt kiállító ország jele .....<br>Érvényes az alábbi osztály(ok)ra <sup>1) 2)</sup><br>Tartányban                      Nem tartányban<br>1                                      1<br>2                                      2<br>3                                      3<br>4.1   4.2   4.3                      4.1   4.2   4.3<br>5.1   5.2                              5.1   5.2<br>6.1   6.2                              6.1   6.2<br>7                                      7<br>8                                      8<br>9                                      9<br>Érvényes <sup>3)</sup> : .....<br>1) A nem kívánt rész törlendő<br>2) Más osztályokra kiterjesztés a 3. oldalon<br>3) Az érvényesség meghosszabbítása a 2. oldalon |  | 4) és /vagy a bizonyítványt kiadó hatóság bélyegzője  |  |
| <b>3</b><br><b>ÉRVÉNYESSÉGÉT KITERJESZTETTÜK AZ</b><br><b>ALÁBBI OSZTÁLY(OK)RA<sup>5)</sup></b>   |  | <b>4</b><br>Csak a belföldi előírások számára   |  |
| Tartányban<br>1<br>2<br>3<br>4.1   4.2   4.3                      Kelt: .....<br>5.1   5.2                              .....<br>6.1   6.2<br>7<br>8                                      .....<br>9                                      Aláírás és/vagy bélyegző  |  |   |  |
| Nem tartányban<br>1<br>2<br>3<br>4.1   4.2   4.3                      Kelt:.....<br>5.1   5.2                              .....<br>6.1   6.2<br>7<br>8                                      .....<br>9                                      Aláírás és/vagy bélyegző<br>5) A nem kívánt rész törlendő  |  |   |  |

**8.2.3            A veszélyes áruk közúti szállításában résztvevő, a 8.2.1 szakasz szerinti bizonyítvánnyal rendelkező járművezetőkön kívüli személyek képzése**

A veszélyes áruk közúti szállításával kapcsolatos munkakört ellátó személyeknek, az 1.3 fejezet szerinti feladatukhoz és felelősségükhöz igazodó képzésben kell részesülniük a veszélyes áruk szállítására vonatkozó előírásokból. Ez az előírás a jármű üzemben tartója, a feladó és a szállítmányozó által alkalmazott személyzetre és a veszélyes áruk be- vagy kirakását végzőkre, ill. a veszélyes áruk közúti szállításában résztvevő olyan járművezetőkre is vonatkozik, akik nem rendelkeznek a 8.2.1 szakasz szerinti bizonyítvánnyal.

## 8.3 FEJEZET

### JÁRMŰVEK SZEMÉLYZETÉRE VONATKOZÓ KÖVETELMÉNYEK

#### 8.3.1      **Utasok szállítása**

A veszélyes anyagot szállító szállítóegységen – a jármű személyzetén kívül – utas nem szállítható.

#### 8.3.2      **A tűzoltó eszközök használata**

A jármű személyzet tagjainak ismerniük kell a tűzoltó eszközök használatát.

#### 8.3.3      **Küldeménydarabok felnyitásának tilalma**

A jármű vezetője vagy a kísérő személy veszélyes anyagot tartalmazó küldeménydarabot nem nyithat fel.

#### 8.3.4      **Hordozható világítókészülék**

A hordozható világítókészüléken nem lehet olyan fémfelület, amely szikrát okozhat.

#### 8.3.5      **Dohányzási tilalom**

A kezelési műveletek alatt tilos a dohányzás a járművek környezetében és a járművek belsejében.

#### 8.3.6      **A motor működtetése be- és kirakás alatt**

A motort a be- és kirakási műveletek alatt le kell állítani, kivéve ha a motor használata a szivattyú vagy más, a töltést vagy ürítést biztosító gépezet működtetéséhez szükséges, illetve ha annak az országnak a jogszabályai, ahol a jármű tartózkodik, ezt a használatot megengedik.

#### 8.3.7      **A rögzítőfék és a kerék kitámasztó ékek használata**

Veszélyes anyagot szállító szállítóegység csak úgy várakozhat, ha rögzítőfékje be van húzva. A fékberendezés nélküli pótkocsik elmozdulását legalább egy, a 8.1.5.2 bekezdés szerinti kerék kitámasztó ék alkalmazásával kell megakadályozni.

#### 8.3.8      **A kábelek használata**

A gépjárműből és O<sub>3</sub> vagy O<sub>4</sub> pótkocsiból álló, blokkolásgátló fékrendszerrel ellátott szállítóegységeknél a 9.2.2.6.3 pontban említett villamos csatlakozásnak a vontató jármű és a pótkocsi között a szállítás teljes időtartama alatt meg kell lennie.

## 8.4 FEJEZET

### A JÁRMŰVEK FELÜGYELETÉRE VONATKOZÓ KÖVETELMÉNYEK

- 8.4.1** Azokat a járműveket, amelyek a 3.2 fejezet „A” táblázat 19 oszlopában az adott anyagra vonatkozó, a 8.5 fejezetben található S1 6) és S14 – S24 különleges előírásban feltüntetett mennyiségű veszélyes árut szállítanak, felügyelet alatt kell tartani, azonban biztonságos telephelyen vagy üzemi területen felügyelet nélkül is várakozhatnak. Ha ilyen várakozási lehetőség nincs, akkor a szállítóegység, ha megfelelően lezárták, a következő a), b) vagy c) pontban leírt feltételek valamelyikének megfelelő helyen elkülönítve várakozhat:
- a) felügyelő személy által felügyelt parkolóhely; a felügyelőt tájékoztatni kell a rakomány természetéről, és arról, hogy a gépkocsivezető hol tartózkodik;
  - b) nyilvános vagy magán parkolóhely, ahol a szállítóegység valószínűleg nem fog más járműtől sérülést szenvedni;
  - c) főközlekedési utaktól és lakott területektől távol eső megfelelő szabad tér, amelyet rendes körülmények között sem átjárásra, sem gyülekezésre nem használnak.
- A b) pontban engedélyezett parkolóhelyet csak az a) pontban jelzett parkolóhely hiányában szabad igénybe venni; a c) pont alatt leírt parkolóhelyet csak az a) és a b) pontban jelzett parkolóhely hiányában szabad igénybe venni.
- 8.4.2** A rakott MEMU-t felügyelet alatt kell tartani, azonban biztonságos telephelyen vagy üzemi területen felügyelet nélkül is várakozhat. Az üres, tisztítatlan MEMU-ra ez a követelmény nem vonatkozik.



## 8.5 FEJEZET

### KIEGÉSZÍTŐ KÖVETELMÉNYEK EGYES OSZTÁLYOKRA VAGY ANYAGOKRA

A 8.1 – 8.4 fejezet követelményein felül, amennyiben a 3.2 fejezet “A” táblázat 19 oszlopában erre utalás található, akkor a következő előírásokat kell betartani az érintett veszélyes anyagok vagy tárgyak szállítására. Amennyiben a 8.1 – 8.4 fejezet követelményeivel ellentétben állnak, akkor ezen fejezet követelményei érvényesek.

#### **S1 Kiegészítő követelmények a robbanóanyagok és tárgyak (1 osztály) szállítására**

- 1) A járművezetők különleges képzése
  - a) A 8.2.1 szakasz követelményeit az 1.4 alosztály S összeférhetőségi csoportjába tartozók kivételével az 1 osztály anyagait és tárgyait szállító járművek vezetőire alkalmazni kell.
  - b) Az 1.4 alosztály S összeférhetőségi csoportjába tartozók kivételével az 1 osztály anyagait és tárgyait szállító járművek vezetőinek szakosító tanfolyamon kell részt venniük, amely legalább a 8.2.2.3.4 pontban leírt témákra terjed ki.
  - c) A szakosító tanfolyam egy részén vagy az egész tanfolyamon való részvétel alól felmentés adható, ha a Szerződő Fél országában érvényes más szabályozások értelmében a járművezetők olyan, más rendszerű vagy más célra szolgáló, de azonos értékű, jóváhagyott tanfolyamon vesznek részt, amely kiterjed a b) pontban előírt témákra.

#### 2) Hivatalos személy

Amennyiben a belföldi szabályok előírják, az ADR Szerződő Felek illetékes hatósága megkövetelheti, hogy a járművön – a fuvarozó (szállító) költségére – hivatalos személy legyen jelen.

#### 3) Dohányzás, tűz és nyílt láng használatának tilalma

A dohányzás, a tűz és nyílt láng használata tilos az 1 osztályba tartozó anyagokat vagy tárgyakat szállító járműveken, azok közelében, ill. be- és kirakáskor.

#### 4) A be- és kirakás helye

- a) Lakott területen belüli közterületen 1 osztályba tartozó anyagokat és tárgyakat tilos be- és kirakodni az illetékes hatóságok külön engedélye nélkül.
- b) Lakott területen kívüli közterületen 1 osztályba tartozó anyagokat és tárgyakat tilos be- és kirakodni anélkül, hogy erről az illetékes hatóságokat előzetesen értesítették volna, hacsak nem biztonsági okból van szükség sürgős rakodásra.
- c) Ha az árukezelést bármilyen okból is közterületen kell végezni, a különböző anyagokat és tárgyakat a veszélyességi bárcáknak megfelelően el kell különíteni egymástól.
- d) Ha az 1 osztályba tartozó anyagokat és tárgyakat szállító járművek be-

és kirakodás céljából kénytelenek közterületeken megállni, az álló járművektől legalább 50 m távolságot kell tartani.

5) Járműoszlop

- a) Ha az 1 osztályba tartozó anyagokat és tárgyakat szállító járművek oszlopban közlekednek, a szállítóegységek között legalább 50 m távolságot kell tartani.
- b) Az illetékes hatóság előírhatja a járműoszlop sorrendjét és összetételét.

6) A járművek felügyelete

A 8.4 fejezet előírásait csak akkor kell betartani, ha egy járművel az 1 osztály anyagaiból és tárgyaiból a következőknél nagyobb össztömegű robbanóanyagot szállítanak.

|  |       |
|--|-------|
| 1.1 alosztály:   | 0 kg  |
| 1.2 alosztály:   | 0 kg  |
| 1.3 alosztály, C összeférhetőségi csoport:   | 0 kg  |
| 1.3 alosztály, a C összeférhetőségi csoport kivételével:   | 50 kg |
| 1.4 alosztály, az alább felsoroltak kivételével:   | 50 kg |
| 1.5 alosztály:   | 0 kg  |
| 1.6 alosztály:   | 50 kg |
| 1.4 alosztály UN 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 és 0500 tételei: | 0 kg  |

Különböző áruk együvé rakása esetén a szállított anyagokra, ill. tárgyra vonatkozó legalacsonyabb értéket kell betartani az egész rakományra.

Ezen kívül minden rosszindulatú beavatkozás megakadályozása érdekében, ill. azért, hogy kár vagy tűz esetén a gépkocsivezetőt és az illetékes hatóságokat riasztani lehessen, ezeket az anyagokat és tárgyakat állandó felügyelet alatt kell tartani.

Kivételek ez alól a tisztítatlan, üres csomagolóeszközök.

7) A járművek lezárása

Az EX/II járművek rakterének ajtajait és fedeleit, ill. EX/III járművek rakterének minden nyílását az 1 osztályba tartozó anyagok, ill. tárgyak szállítása közben zárva kell tartani, kivéve a be- és kirakodás idejét.

**S2 A gyúlékony folyékony anyagok és gyúlékony gázok szállítására vonatkozó kiegészítő követelmények**

1) Hordozható világítókészülék

A legfeljebb 60 °C lobbáspontú folyadékokat, ill. a 2 osztály gyúlékony anyagait vagy tárgyait szállító fedett jármű rakterébe csak olyan hordozható világítókészülékkel szabad belépni, amely úgy van kialakítva, hogy a jármű belsejébe esetleg behatolt gyúlékony gőzöket és gázokat nem tudja meggyújtani.

2) Az égéshő felhasználásával működő fűtőberendezés működtetése a berakás vagy kirakás alatt

Az FL járműveken (lásd a 9. részt) tilos működtetni az égéshő

felhasználásával működő fűtőberendezést a berakás és kirakás alatt, ill. a rakodóhelyeken.

3) Elektrosztatikus feltöltődés elkerülése

Az FL járművek (lásd a 9. részt) esetén a tartányok töltése és ürítése előtt a jármű alváza és a föld között jó villamos összeköttetést kell létesíteni. Ezenkívül a töltési sebességet korlátozni kell.

**S3 A fertőző anyagok szállítására vonatkozó különleges előírások**

A 6.2 osztály fertőző anyagait szállító szállítóegységekre nem kell alkalmazni a 8.1.4.1 b) pont és a 8.3.4 szakasz előírásait.

**S4 A veszélyes áruk hőmérséklet-szabályozással történő szállítására vonatkozó kiegészítő előírások**

Az előírt hőmérséklet fenntartása a biztonságos szállításnak alapvető feltétele. Ehhez általában a következők szükségesek:

- berakodás előtt a szállítóegység alapos szemrevételezése;
- az útmutatások a fuvarozó számára a hűtőrendszer működésére vonatkozóan, beleértve a menet során a hűtőközeg beszerzésére rendelkezésre álló helyek felsorolását;
- a szabályozás megszűnése esetén követendő eljárások megadása;
- az üzemi hőmérséklet rendszeres ellenőrzése; és
- felkészülés a hűtőhatás támogatására tartalék hűtési módszerrel/rendszerrel.

A légtér hőmérsékletét a szállítóegységen belül két egymástól független érzékelővel kell mérni és ezek adatait úgy kell rögzíteni, hogy minden hőmérséklet változás könnyen észlelhető legyen.

A hőmérsékletet négy-hat óránként kell ellenőrizni és feljegyezni.

Amennyiben a szállítás alatt a hőmérséklet meghaladja a szabályozási hőmérsékletet, azonnal riadóeljárást kell kezdeményezni, beleértve a hűtőberendezés esetleges javítását vagy a hűtőkapacitás növelését (pl. szilárd vagy folyékony hűtőközeg hozzáadásával). Gyakran kell ellenőrizni a hőmérsékletet és a vész helyzetben teendő intézkedésekre fel kell készülni. Amennyiben a vészhőmérsékletet (lásd a 2.2.41.1.17 és a 2.2.52.1.15 – 2.2.52.1.18 pontot) elérték, a vész eljárásokat meg kell indítani.

**Megjegyzés:** Az S4 előírást nem kell betartani a 3.1.2.6 bekezdésben hivatkozott anyagokra, ha ezek az anyagok kémiai inhibitor hozzáadásával vannak stabilizálva úgy, hogy az ÖBH nagyobb, mint 50 °C. Ilyen esetben akkor lehet szükség hőmérséklet-szabályozásra, ha az adott szállítási körülmények között a hőmérséklet meghaladhatja az 55 °C-ot.

**S5 A 7 osztály radioaktív anyagainak engedményes küldeménydarabokban (UN 2908, 2909, 2910 és 2911 szám) történő szállítására vonatkozó különleges előírások**

Az írásbeli utasításra vonatkozó 8.1.2.1 b) pont, továbbá a 8.2.1, 8.3.1 és 8.3.4 szakasz előírásait nem kell betartani.

**S6 A 7 osztály radioaktív anyagainak nem engedményes küldeménydarabokban történő szállítására vonatkozó különleges előírások**

A 8.3.1 szakasz előírását nem kell betartani a csak I-FEHÉR kategória bárcával ellátott küldeménydarabokat, egyesítőcsomagolásokat vagy konténereket szállító járművekre.

A 8.3.4 szakasz előírásait nem kell betartani, ha nincs járulékos veszély.

*Egyéb kiegészítő követelmények vagy különleges előírások*

**S7** (törölve)

**S8** Ha a szállítóegység ezekből az anyagokból 2000 kg-nál többet tartalmaz, kerülni kell az üzemi okokból történő várakozást lakott területek vagy gyülekezésre szolgáló helyek közelében. Ilyen helyek közelében hosszabban várakozni csak az illetékes hatóság hozzájárulásával lehet.

**S9** Ezen anyagok szállítása során kerülni kell az üzemi okokból történő várakozást lakott területek vagy gyülekezésre szolgáló helyek közelében. Ilyen helyek közelében hosszabban várakozni csak az illetékes hatóság hozzájárulásával lehet.

**S10** Ha az adott ország jogszabályai megkövetelik, akkor az április elsejétől október végéig terjedő időszakban a járművet várakozás közben a napsugárzás ellen hatásosan védeni kell pl. a rakomány fölött legalább 20 cm magasságban elhelyezett ponyvával.

- S11**
- 1) A 8.2.1 szakasz követelményeit alkalmazni kell.
  - 2) A járművezetőknek szakosító tanfolyamon kell részt venniük, amely legalább a 8.2.2.3.5 pontban leírt témákra terjed ki.
  - 3) A szakosító tanfolyam egy részén vagy az egész tanfolyamon való részvétel alól felmentés adható, ha a Szerződő Fél országában érvényes más szabályozások értelmében a járművezetők olyan, más rendszerű vagy más célra szolgáló, de azonos értékű, jóváhagyott tanfolyamon vesznek részt, amely kiterjed az előző 2) pontban előírt témákra is.

**S12** Az S11 különleges előírást nem kell betartani, ha a radioaktív anyagot tartalmazó küldeménydarabok száma legfeljebb 10, és a szállított küldeménydarabok szállítási mutatószámának összege legfeljebb 3. A gépjárművezetőknek azonban feladatuknak megfelelő, azzal arányban álló képzésben kell részesülniük, amely tudatosítja bennük a radioaktív anyagok szállításában rejlő sugárveszélyt. A képzésben való részvételt a munkáltató által kiadott tanúsítvánnyal kell igazolni.

**S13** Ha a küldemény nem szolgáltatható ki, akkor biztonságos helyen kell tárolni, az illetékes hatóságokat a lehető leggyorsabban tájékoztatni kell, és a további eljárásra nézve utasítást kell kérni.

**S14** A 8.4 fejezet előírásait a járművek felügyeletére a szállított anyag mennyiségétől függetlenül be kell betartani.

**S15** A 8.4 fejezet előírásait a járművek felügyeletére a szállított anyag mennyiségétől

függetlenül be kell tartani. A 8.4 fejezet előírásait azonban nem kell alkalmazni, ha a megrakott rakodótér le van zárva vagy a szállított küldeménydarabok más módon vannak védve az illetéktelen kirakás ellen.

- S16** A 8.4 fejezet előírásait a járművek felügyeletére akkor kell betartani, ha ezen anyagok össz tömege a járművön meghaladja az 500 kg-ot.

Ezenkívül az ezen anyagokból 500 kg-nál többet szállító járműveket folyamatosan felügyelet alatt kell tartani, hogy az esetleges rosszindulatú cselekményeket megakadályozzák, ill. kár vagy tűz esetében a gépjárművezetőt és az illetékes hatóságokat riasztani lehessen.

- S17** A 8.4 fejezet előírásait a járművek felügyeletére akkor kell betartani, ha ezen anyagok össz tömege a járművön meghaladja az 1000 kg-ot.

- S18** A 8.4 fejezet előírásait a járművek felügyeletére akkor kell betartani, ha ezen anyagok össz tömege a járművön meghaladja a 2000 kg-ot.

- S19** A 8.4 fejezet előírásait a járművek felügyeletére akkor kell betartani, ha ezen anyagok össz tömege a járművön meghaladja az 5000 kg-ot.

- S20** A 8.4 fejezet előírásait a járművek felügyeletére akkor kell betartani, ha ezen anyagok összes tömege, ill. térfogata a járművön meghaladja küldeménydarabos szállítás esetén a 10 000 kg-ot, tartányos szállítás esetén a 3000 litert.

- S21** A 8.4 fejezet előírásait a járművek felügyeletére a mennyiségtől függetlenül minden anyagra be kell tartani. Ezenkívül minden rosszindulatú beavatkozás megakadályozása érdekében, ill. azért, hogy kár vagy tűz esetén a gépkocsivezetőt és az illetékes hatóságokat riasztani lehessen, ezeket az árukat állandó felügyelet alatt kell tartani. A 8.4 fejezet előírásait nem kell azonban betartani, ha

- a) a rakodótér le van zárva vagy a szállított küldeménydarabokat illetéktelen lerakás ellen más módon védik; és
- b) a sugárzási szint a jármű felületének bármely hozzáférhető pontján nem haladja meg az 5  $\mu\text{Sv/h}$  értéket.

- S22** A 8.4 fejezet előírásait a járművek felügyeletére akkor kell betartani, ha ezen anyagok összes tömege, ill. térfogata a járművön meghaladja küldeménydarabos szállítás esetén az 5 000 kg-ot, tartányos szállítás esetén a 3000 litert.

- S23** A 8.4 fejezet előírásait a járművek felügyeletére akkor kell betartani, ha ezt az anyagot ömlesztve vagy tartányban szállítják és az összes tömege, ill. térfogata a járművön meghaladjaz 3 000 kg-ot, ill. a 3000 litert.

- S24** A 8.4 fejezet előírásait a járművek felügyeletére akkor kell betartani, ha ezen anyagok össz tömege a járművön meghaladja az 100 kg-ot.

**8.6 FEJEZET****VESZÉLYES ÁRUT SZÁLLÍTÓ JÁRMŰVEK KÖZLEKEDÉSÉNEK  
KORLÁTOZÁSA KÖZÚTI ALAGUTAKBAN****8.6.1      Általános előírások**

Ha a járművek közúti alagutakon való áthaladását az 1.9.5 szakasz szerint korlátozzák, e fejezet előírásait kell alkalmazni.

*Megjegyzés:* Az 1.9.5 szakasz előírásainak nem megfelelő korlátozásokat 2009. december 31-ig lehet alkalmazni (lásd az 1.6.1.12 bekezdést).

**8.6.2      A veszélyes árut szállító járművek áthaladását szabályozó közúti jelzések**

Az alagút kategóriát – melyet egy adott közúti alagútra az illetékes hatóság határoz meg, hogy a veszélyes árut szállító járművek áthaladást korlátozza – a következők szerint kell közúti jelzésekkel jelölni:

| Közúti jelzés                                       | Alagút kategória |
|---|------------------|
| Nincs jelzőtábla                                    | „A”              |
| Jelzőtábla „B” betűt tartalmazó kiegészítő táblával | „B”              |
| Jelzőtábla „C” betűt tartalmazó kiegészítő táblával | „C”              |
| Jelzőtábla „D” betűt tartalmazó kiegészítő táblával | „D”              |
| Jelzőtábla „E” betűt tartalmazó kiegészítő táblával | „E”              |

**8.6.3      Alagút korlátozási kód**

**8.6.3.1** Az egyes veszélyes áruk alagútban való szállításának korlátozása az adott árura a 3.2 fejezet „A” táblázat (15) oszlopában feltüntetett alagútkorlátozási kódon alapul. Az alagútkorlátozási kód a rovat alsó részében, zárójelben található. Ha az alagútkorlátozási kód helyett a „(–)” jelölés szerepel, az adott veszélyes árura nincs alagútkorlátozás; az UN 2919 és 3331 tétel alá tartozó veszélyes árukra azonban az illetékes hatóság(ok) által jóváhagyott, az 1.7.4.2 bekezdés szerinti különleges megegyezés tartalmazhat alagútkorlátozást.

**8.6.3.2** Ha egy szállítóegységen olyan veszélyes áruk vannak, melyekhez különböző alagútkorlátozási kód tartozik, ezek közül a legszigorúbbat kell az egész rakományhoz rendelni.

**8.6.3.3** Az 1.1.3 szakasz szerint szállított veszélyes árukra az alagút korlátozás nem vonatkozik, és ezeket az árukat nem kell figyelembe venni, amikor a szállítóegység egész rakományának az alagútkorlátozási kódját állapítják meg.

**8.6.4      A veszélyes árut tartalmazó szállítóegységek alagútban való közlekedésére vonatkozó korlátozások**

A szállítóegység alagútban való közlekedésére vonatkozó korlátozás a szállítóegység egész rakományára meghatározott alagútkorlátozási kód alapján a következő:

| Az egész rakomány<br>alagútkorlátozási<br>kódja | Korlátozás  |
|---|---|
| B   | Tilos áthaladni a B, a C, a D és az E kategóriájú alagutakon  |
| B1000C  | Ha a szállítóegységben a nettó robbanóanyag összes tömege:<br>– több mint 1000 kg: tilos áthaladni a B, a C, a D és az E kategóriájú alagutakon,<br>– legfeljebb 1000 kg: tilos áthaladni a C, a D és az E kategóriájú alagutakon |
| B/D   | Tartányos szállítás esetén: tilos áthaladni a B, a C, a D és az E kategóriájú alagutakon;<br>Egyéb szállítás esetén: tilos áthaladni a D és az E kategóriájú alagutakon   |
| B/E   | Tartányos szállítás esetén: tilos áthaladni a B, a C, a D és az E kategóriájú alagutakon;<br>Egyéb szállítás esetén: tilos áthaladni az E kategóriájú alagutakon  |
| C   | Tilos áthaladni a C, a D és az E kategóriájú alagutakon   |
| C5000D  | Ha a szállítóegységben a nettó robbanóanyag összes tömege:<br>– több mint 5000 kg: tilos áthaladni a C, a D és az E kategóriájú alagutakon,<br>– legfeljebb 5000 kg: tilos áthaladni a D és az E kategóriájú alagutakon           |
| C/D   | Tartányos szállítás esetén: tilos áthaladni a C, a D és az E kategóriájú alagutakon;<br>Egyéb szállítás esetén: tilos áthaladni a D és az E kategóriájú alagutakon  |
| C/E   | Tartányos szállítás esetén: tilos áthaladni a C, a D és az E kategóriájú alagutakon;<br>Egyéb szállítás esetén: tilos áthaladni az E kategóriájú alagutakon   |
| D   | Tilos áthaladni a D és az E kategóriájú alagutakon  |
| D/E   | Ömlesztett és tartányos szállítás esetén:<br>tilos áthaladni a D és az E kategóriájú alagutakon;<br>Egyéb szállítás esetén: tilos áthaladni az E kategóriájú alagutakon   |
| E   | Tilos áthaladni az E kategóriájú alagutakon   |
| –   | A közlekedés minden alagútban megengedett (az UN 2919 és 3331 tételekre lásd a 8.6.3.1 bekezdést is)  |

**Megjegyzés:** Példa: egy szállítóegység 1.3C osztályozási kódú UN 0161 füstnélküli lőport szállít, melynek az alagútkorlátozási kódja C5000D. Ha a szállítóegységben a nettó robbanóanyag összes tömege 3000 kg, tilos áthaladni a D és az E kategóriájú alagutakon.

**9. RÉSZ****A JÁRMŰVEK SZERKEZETÉRE ÉS  
JÓVÁHAGYÁSÁRA VONATKOZÓ  
KÖVETELMÉNYEK**



**9.1 FEJEZET****ALKALMAZÁSI TERÜLET, MEGHATÁROZÁSOK ÉS  
A JÁRMŰVEK JÓVÁHAGYÁSÁRA VONATKOZÓ  
KÖVETELMÉNYEK****9.1.1 Alkalmazási terület és meghatározások****9.1.1.1 Alkalmazási terület**

A 9. rész követelményei a „Közös határozat a járművek szerkezetére” (R.E.3)<sup>1)</sup> 7 Melléklete szerinti N és O kategóriájú, veszélyes árut szállító járművekre vonatkoznak.

Ezeket a követelményeket a járművek szerkezetére, típusjóváhagyására, ADR jóváhagyására és éves műszaki vizsgálatára kell alkalmazni.

**9.1.1.2 Meghatározások**

A 9 rész alkalmazásában:

**Jármű:** minden olyan kész (teljes) jármű, befejezetlen (nem teljes) jármű, vagy befejezett jármű, amelyet veszélyes áruk közúti szállítására szántak;

**EX/II és**

**EX/III jármű:** az 1 osztályba tartozó robbanóanyagok és tárgyak szállítására szánt jármű;

**FL jármű:** a) a legfeljebb 60 °C lobbanáspontú folyadékok (kivéve az UN 1202 számú, EN 590:2004 szabvány szerinti dízelolajat, EN 590:2004 szabvány szerinti lobbanáspontú gázolajat és könnyű fűtőolajat) rögzített tartányban vagy 1 m<sup>3</sup>-nél nagyobb befogadóképességű leszerelhető tartányban, ill. 3 m<sup>3</sup>-nél nagyobb befogadóképességű tankkonténerben vagy mobil tartányban való szállítására szolgáló jármű; vagy

b) a gyúlékony gázok rögzített tartányban vagy 1 m<sup>3</sup>-nél nagyobb befogadóképességű leszerelhető tartányban, ill. 3 m<sup>3</sup>-nél nagyobb befogadóképességű tankkonténerben, mobil tartányban vagy MEG-konténerben való szállítására szolgáló jármű; vagy

c) a gyúlékony gázok szállítására szolgáló, 1 m<sup>3</sup>-nél nagyobb összbefogadóképességű battériás jármű;

**OX jármű:** a stabilizált hidrogén-peroxid, ill. a 60%-nál több hidrogén-peroxidot tartalmazó stabilizált hidrogén-peroxid (5.1 osztály UN 2015) rögzített tartányban vagy 1 m<sup>3</sup>-nél nagyobb befogadóképességű leszerelhető tartányban, ill. 3 m<sup>3</sup>-nél nagyobb befogadóképességű tankkonténerben vagy mobil tartányban való szállítására szolgáló jármű;

**AT jármű:** a) veszélyes anyagok rögzített tartányban vagy 1 m<sup>3</sup>-nél nagyobb befogadóképességű leszerelhető tartányban, ill. 3 m<sup>3</sup>-nél nagyobb befogadóképességű tankkonténerben, mobil tartányban vagy MEG-konténerben való szállítására szolgáló, az EX/III-tól, az FL-től és az OX-tól eltérő jármű;

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1) Az ENSZ Európai Gazdasági Bizottsága TRANS/WP.29/78/Rev.1 jelű dokumentuma módosított változata. Magyarországon lásd még az 5/1990.(IV.12.)KöHÉM rendeletet.

- b) 1 m<sup>3</sup>-nél nagyobb összbefogadóképességű, az FL-től eltérő battériás jármű;

**MEMU** az 1.2.1 szakasz robbanóanyag előállító mobil egység meghatározását kielégítő jármű

**Kész (teljes)**

**jármű:** minden olyan jármű, amely nem igényel további összeszerelési munkát (pl. egy gyártási lépcsőben készült tehergépkocsi, vontató, pótkocsi);

**Befejezetlen (nem**

**teljes) jármű:** minden olyan jármű, amely legalább egy további gyártási lépcsőt igényel (pl. járóképes alváz, pótkocsi alváz);

**Befejezett jármű:** minden olyan jármű, amely több lépcsős gyártási művelet eredménye (pl. felépítménnyel ellátott járóképes alváz);

**Típusjóváhagyással**

**rendelkező jármű:** minden olyan jármű, amelyet az ENSZ-EGB 105. sz. előírás<sup>2)</sup> vagy a 98/91/EK irányelv<sup>3)</sup> szerint jóváhagytak;

**ADR jóváhagyás:** valamely Szerződő Fél illetékes hatósága általi tanúsítása annak, hogy a veszélyes áru szállításra használni kívánt járműegyed, mint EX/II, EX/III, FL, OX, ill. AT jármű, megfelel az előírt műszaki követelményeknek.

#### 9.1.2 Az EX/II, az EX/III, az FL, az OX ,az AT járművek és a MEMU-k jóváhagyása

**Megjegyzés:** A származási ország általános biztonsági szabályai által megkövetelt igazolásokon túlmenően különleges jóváhagyási igazolás csak az EX/II, az EX/III, az FL, az OX, az AT járművekre és a MEMU-kra szükséges.

##### 9.1.2.1 Általános előírások

Az EX/II, az EX/III, az FL, az OX, az AT járműveknek és a MEMU-knak meg kell felelniük a fejezet vonatkozó követelményeinek.

Minden kész, ill. befejezett jármű első vizsgálata során az illetékes hatóságnak ezen fejezet eljárási követelményei szerint ellenőriznie kell, hogy megfelel-e a 9.2 – 9.8 fejezet vonatkozó műszaki követelményeinek.

A 9.1.2.2 bekezdés szerinti típusjóváhagyással ellátott nyerges vontatók esetében az illetékes hatóság eltekinthet az első vizsgálatától, ha a gyártó vagy megfelelően felhatalmazott képviselője vagy az illetékes hatóság által elismert szervezet nyilatkozatot adott ki arról, hogy megfelel a 9.2 fejezet követelményeinek.

A járművek megfelelőségét a 9.1.3 szakasz szerinti jóváhagyási igazolás kiadásával kell tanúsítani.

Ha a járműre visszatartó féket (tartós lassító féket) kell felszerelni, a jármű gyártójának vagy megfelelően felhatalmazott képviselőjének nyilatkozatot kell adni arról, hogy a visszatartó fék (tartós lassító fék) megfelel az ENSZ-EGB 13. sz. előírás<sup>4)</sup> 5. Melléklete előírásainak.

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- 2) ENSZ-EGB 105. sz. előírás (Egységes feltételek a veszélyes áruk szállítására szánt járművek jóváhagyására a különleges szerkezeti jellemzők szempontjából)
- 3) Az Európai Parlament és a Tanács 1998. december 14-i 98/91/EK irányelve a veszélyes áruk közúti szállítására szánt gépjárművekről és pótkocsijaikról, valamint a gépjárművek és pótkocsijaik típusjóváhagyására vonatkozó 70/156/EGK irányelv módosításáról (lásd az EK Hivatalos Lapja L011 sz., 1999.01.16, 25-36 o.)
- 4) ENSZ-EGB 13. sz. előírás (Egységes feltételek az M, N és O kategóriájú járművek jóváhagyására a fékezés vonatkozásában)

Ezt a nyilatkozatot az első műszaki vizsgálatnál be kell mutatni.

#### **9.1.2.2 A típusjóváhagyással rendelkező járművekre vonatkozó követelmények**

A gyártó vagy a megfelelően felhatalmazott képviselője kérésére a 9.1.2.1 bekezdés szerint jóváhagyásra kötelezett járművek az illetékes hatóság által típusjóváhagyással láthatók el. A 9.2 fejezet vonatkozó műszaki követelményei kielégítettnek tekinthetők, ha az illetékes hatóság az ENSZ-EGB 105. sz. előírása<sup>2)</sup> vagy a 98/91/EK irányelv<sup>3)</sup> szerint típusjóváhagyást adott ki, amennyiben az említett előírás, ill. irányelv követelményei a 9.2 fejezet előírásaival megegyeznek, kivéve, ha a jármű valamilyen módosítása befolyásolja a típusjóváhagyás érvényességét. Az ENSZ-EGB 105. előírás szerinti típusjóváhagyási jel szerint a MEMU lehet MEMU vagy EX/III. Kifejezetten MEMU-ként csak a 9.1.3 szakasz szerinti jóváhagyási igazoláson kell szerepelnie.

A valamely Szerződő Fél által kiadott típusjóváhagyást a többi Szerződő Félnek el kell fogadnia a jármű megfelelőségének bizonyítékául, amikor a járműegyetet ADR szerinti jóváhagyásra bemutatják.

Az ADR szerinti jóváhagyás során végzett vizsgálatnál, ha a befejezetlen járműre típusjóváhagyást adtak ki, akkor a járműnek csak azokat a részeit kell a 9.2 fejezet vonatkozó követelményeinek való megfelelőségük szempontjából vizsgálni, amelyeket a befejezési munka során adtak hozzá vagy módosítottak.

#### **9.1.2.3 Éves műszaki vizsgálat**

Az EX/II, az EX/III, az FL, az OX, az AT járműveket és a MEMU-kat a forgalomba helyezés országában évente műszaki vizsgálatnak kell alávetni annak megállapítására, hogy megfelelnek-e ennek a résznek a vonatkozó előírásainak és a származási ország érvényben levő általános biztonsági előírásainak (fékek, világítás stb.).

A jármű megfelelőségét a 9.1.3 szakasz szerinti jóváhagyási igazolás érvényességének meghosszabbításával vagy új jóváhagyási igazolás kiadásával kell tanúsítani.

#### **9.1.3 Jóváhagyási igazolás**

**9.1.3.1** Az EX/II, az EX/III, az FL, az OX, az AT járművek és a MEMU-k esetében az e rész előírásainak való megfelelőség tanúsításaként a forgalomba helyező ország illetékes hatóságának mindazokra a járműegyetekre, amelyek vizsgálata kielégítő eredménnyel járt vagy amelyekre a vizsgálat alapján a 9.2 fejezetnek való megfelelőségről a 9.1.2.1 bekezdés szerint nyilatkozatot adtak ki, jóváhagyási igazolást (ADR jóváhagyási igazolást) kell kiadnia.

**9.1.3.2** Bármely Szerződő Fél illetékes hatósága által, a területén forgalomba helyezett járműre kiadott minden jóváhagyási igazolást – érvényességének időtartamán belül – a többi Szerződő Fél illetékes hatóságai elfogadják.

**9.1.3.3** A jóváhagyási igazolásnak meg kell egyeznie a 9.1.3.5 bekezdésben szereplő mintával. Az igazolás mérete 210 x 297 mm (A4 formátum). A lap mindkét oldala használható. Az űrlap színe fehér, rózsaszínű átlós sávval.

Az igazolást a kibocsátó ország (egyik) nyelvén kell kiállítani. Ha ez a nyelv nem angol, nem francia vagy nem német, akkor a jóváhagyási igazolás címét és a 11. pontban szereplő megjegyzéseket e nyelvek egyikén is meg kell adni.

A hulladékok szállítására használt, vákuummal üzemelő tartányjárművek jóváhagyási igazolásában szerepelnie kell a „hulladék szállítására használt, vákuummal üzemelő tartányjármű” megjegyzésnek.

**9.1.3.4** A jóváhagyási igazolás érvényessége legkésőbb a járműnek az igazolás kiadását megelőző műszaki vizsgálata időpontját követő egy év elteltével lejár. A következő érvényességi határidőt azonban az előző lejáratási időtől kell számítani, ha a műszaki vizsgálat a lejáratási idő

előtt vagy után egy hónapon belül történt.

Ennek az előírásnak a betartása azonban nem jelenti azt, hogy az időszakos vizsgálat kötelezettségének alávetett tartányok tömörségi vizsgálatát, folyadéknomás-próbáját vagy belső vizsgálatát rövidebb időközökben kellene elvégezni, mint ahogy azt a 6.8 és a 6.9 fejezet előírja.

**9.1.3.5**

***Jóváhagyási igazolás bizonyos veszélyes árut szállító járművek részére***

| <b>Jóváhagyási igazolás bizonyos veszélyes árut szállító járművek részére</b><br><i>Certificate of approval for vehicles carrying certain dangerous goods</i>   |                      |                               |                                |
|---|----------------------|-------------------------------|--------------------------------|
| Ez az igazolás tanúsítja, hogy az alábbiakban meghatározott jármű megfelel a „Veszélyes Áruk Nemzetközi Közúti Szállításáról szóló Európai Megállapodás” (ADR) által előírt feltételeknek.  |                      |                               |                                |
| 1. Az igazolás száma:   | 2. A jármű gyártója: | 3. A jármű azonosítási száma: | 4. A jármű rendszáma (ha van): |
| 5. A fuvarozó, az üzemben tartó vagy a tulajdonos neve és hivatalos címe:   |                      |                               |                                |
| 6. A jármű kategóriája <sup>1)</sup> :  |                      |                               |                                |
| 7. A jármű rendeltetése(i) az ADR 9.1.1.2 bekezdése szerint <sup>2)</sup> :   |                      |                               |                                |
| EX/II   | EX/III               | FL                            | OX AT MEMU                     |
| 8. Visszatartó fék (tartós lassítófék) <sup>3)</sup> :  |                      |                               |                                |
| <input type="checkbox"/> Tárgytalan<br><input type="checkbox"/> Az ADR 9.2.3.1.2 pontja szerint a teljesítmény megfelelő, ha a járműszerelvény össztömege: ..... tonna <sup>4)</sup>  |                      |                               |                                |
| 9. A tartányjármű vagy battériás jármű tartányának (tartányainak) leírása (ha van):   |                      |                               |                                |
| 9.1 A tartány gyártója:   |                      |                               |                                |
| 9.2 A tartány vagy battériás jármű engedély száma:  |                      |                               |                                |
| 9.3 A tartány gyártási sorozat száma vagy a battériás jármű elemeinek azonosítója:  |                      |                               |                                |
| 9.4 A gyártás éve:  |                      |                               |                                |
| 9.5 Az ADR 4.3.3.1 vagy 4.3.4.1 bekezdése szerinti tartánykód:  |                      |                               |                                |
| 9.6 Az ADR 6.8.4 szakasza szerinti – esetleges – TC és TE különleges előírás(ok): <sup>6)</sup>   |                      |                               |                                |
| 10. A következő veszélyes áruk szállíthatók:  |                      |                               |                                |
| A jármű megfelel a 7. pontban szereplő rendeltetése szerinti veszélyes áruk szállítására vonatkozó követelményeknek.  |                      |                               |                                |
| 10.1 EX/II vagy EX/III jármű esetén: <sup>3)</sup> <input type="checkbox"/> az 1 osztály anyagai, beleértve a J összeférhetőségi csoport anyagainak <input type="checkbox"/> az 1 osztály anyagai, kivéve a J összeférhetőségi csoport anyagainak   |                      |                               |                                |
| 10.2 Tartányjármű vagy battériás jármű esetén: <sup>3)</sup>  |                      |                               |                                |
| <input type="checkbox"/> csak a 9. pontban feltüntetett tartánykód és az esetleges különleges előírások szerint szállítható anyagok <sup>5)</sup> ; vagy<br><input type="checkbox"/> csak a következő anyagok (az osztály, az UN szám, ha szükséges a csomagolási csoport és a „helyes szállítási megnevezés” megadásával): |                      |                               |                                |
| Csak olyan anyagok szállíthatók, amelyek a tartány anyagával, tömítéseivel, szerelvényeivel és – ha van – a belső bevonatával nem lépnek veszélyes reakcióba.   |                      |                               |                                |
| 11. Megjegyzések (Remarks):   |                      |                               |                                |
| 12. Érvényes: .....-ig  |                      |                               |                                |
| A kiállító szerv bélyegzője   |                      |                               |                                |
| Hely, dátum .....   |                      |                               |                                |
| Aláírás .....   |                      |                               |                                |

1) A „Közös határozat a járművek szerkezetére” (R.E.3.) 7 Mellékletének (vagy a 97/27/EK irányelvnek) az N és O kategóriájú gépjárművekre, illetve pótkocsikra vonatkozó meghatározása szerint.

2) A nem kívánt rész áthúzandó.

3) A megfelelő négyzetet be kell jelölni.

4) A megfelelő értéket be kell írni. Ha itt 44 t van feltüntetve, ez nem módosítja a forgalmi engedélyben szereplő megengedett legnagyobb össztömeget.

5) Azok az anyagok, amelyek a 9. pontban feltüntetett tartánykód, vagy a 4.3.3.1.2 és 4.3.4.1.2 pontok szerinti tartányrangsor alapján engedélyezett egyéb tartánykód és az esetleges különleges előírások szerint szállíthatók.

6) Nem szükséges megadni, ha a szállítható anyagok a 10.2 pontban fel vannak sorolva.

13. Az érvényesség meghosszabbítva: .....-ig

A kiállító szerv bélyegzője

Hely, dátum .....

Aláírás .....

**Megjegyzés:** Ezt az igazolást a kiállító szervnek vissza kell adni, ha a járművet a forgalomból kivonták; ha a jármű más fuvarozó, üzemben tartó vagy tulajdonos birtokába kerül, mint ami az 5. pontban fel van tüntetve; ha a jóváhagyási igazolás érvényessége lejárt; ha a jármű egy vagy több lényeges jellemzőjében érdemi változás történt.

**9.2 FEJEZET****A JÁRMŰVEK SZERKEZETÉRE VONATKOZÓ  
KÖVETELMÉNYEK****9.2.1 E fejezet követelményeinek alkalmazása****9.2.1.1** Az EX/II, az EX/III, az FL, az OX és az AT járműveknek meg kell felelniük e fejezet követelményeinek, amint azt a következő táblázat tartalmazza.

A többi (nem EX/II, EX/III, FL, OX és AT) jármű esetében:

- a 9.2.3.1.1 pont követelményeit (az ENSZ-EGB 13. sz. előírás vagy a 71/320/EGK irányelv szerinti fékberendezés) azokra a járművekre kell alkalmazni, amelyeket első alkalommal 1997. június 30-a után helyeztek forgalomba (vagy vettek használatba, ahol a forgalomba helyezés nem kötelező);
- a 9.2.5 szakasz követelményeit (az ENSZ-EGB 89. sz. előírás vagy a 92/24/EGK Tanácsi Irányelv szerinti sebességkorlátozó készülék) minden olyan gépjárműre alkalmazni kell, amelynek megengedett legnagyobb össztömege meghaladja a 12 tonnát és 1987. december 31-e után helyezték először forgalomba, valamint minden olyan gépjárműre, amelynek megengedett legnagyobb össztömege meghaladja a 3,5 tonnát, de legfeljebb 12 tonna és 2007. december 31-e után helyezték először forgalomba.

**9.2.1.2** A MEMU-knak az e fejezet EX/III járművekre vonatkozó követelményeinek kell megfelelniük.

|                   |   | Járművek |                    |                    |                    |                    | Megjegyzés  |
|-------------------|---|----------|--------------------|--------------------|--------------------|--------------------|---|
| Műszaki előírások |   | EX/II    | EX/III             | AT                 | FL                 | OX                 |   |
| <b>9.2.2</b>      | <b>Villamos felszerelés</b>                   |          |                    |                    |                    |                    |   |
| 9.2.2.2           | – kábelezés                                   |          | X                  | X                  | X                  | X                  |   |
| 9.2.2.3           | – akkumulátortelep-főkapcsoló                 |          |                    |                    |                    |                    |   |
| 9.2.2.3.1         |   |          | X <sup>a)</sup>    |                    | X <sup>a)</sup>    |                    | a) A 9.2.2.3.1 pont utolsó mondatát azokra a járművekre kell alkalmazni, amelyeket 2005. július 1-je után helyeztek először forgalomba (vagy vettek használatba, ahol a forgalomba helyezés nem kötelező).  |
| 9.2.2.3.2         |   |          | X                  |                    | X                  |                    |   |
| 9.2.2.3.3         |   |          |                    |                    | X                  |                    |   |
| 9.2.2.3.4         |   |          | X                  |                    | X                  |                    |   |
| 9.2.2.4           | – akkumulátortelep                            | X        | X                  |                    | X                  |                    |   |
| 9.2.2.5           | – tartósan feszültség alatt lévő áramkörök    |          |                    |                    |                    |                    |   |
| 9.2.2.5.1         |   |          |                    |                    | X                  |                    |   |
| 9.2.2.5.2         |   |          | X                  |                    |                    |                    |   |
| 9.2.2.6           | – a vezetőfülke mögötti villamos berendezések |          | X                  |                    | X                  |                    |   |
| <b>9.2.3</b>      | <b>Fékberendezés</b>                          |          |                    |                    |                    |                    |   |
| 9.2.3.1           | – általános előírások                         | X        | X                  | X                  | X                  | X                  |   |
|                   | – blokkolásgátló fékrendszer                  |          | X <sup>b, d)</sup> | X <sup>b, d)</sup> | X <sup>b, d)</sup> | X <sup>b, d)</sup> | <p>b) A 16 tonnánál nagyobb megengedett legnagyobb össztömegű gépjárművekre (vontatóra és tehergépkocsira), ill. a 10 tonnánál nagyobb megengedett legnagyobb össztömegű pótkocsikra (pótkocsira, félpótkocsira és középtengelyes pótkocsira) akkor kell alkalmazni, ha 1993. június 30-a után helyezték először forgalomba (vagy vették használatba, ahol a forgalomba helyezés nem kötelező). A 10 tonnánál nagyobb megengedett legnagyobb össztömegű pótkocsi vontatására engedélyezett gépjárművekre akkor kell alkalmazni, ha 1995. június 30-a után helyezték először forgalomba. Az első forgalomba helyezés (vagy használatba vétel) idejétől függetlenül alkalmazni kell minden járműre, ha a 9.1.2 pont szerinti jóváhagyása először 2001. június 30-a után történik.</p> <p>d) 2010. január 1-je után minden járműnek meg kell felelnie a jármű első forgalomba helyezése (vagy használatba vétele, ahol a forgalomba helyezés nem kötelező) idején érvényes ENSZ-EGB 13. sz. előírás vagy a (módosított) 71/320/EGK irányelv műszaki követelményeinek, de legalább az ENSZ-EGB 13. sz. előírás 06. módosítási sorozat vagy a 91/422/EGK irányelvvel módosított 71/320/EGK irányelv műszaki követelményeinek. A pótkocsikat (pótkocsit, félpótkocsit és középtengelyes pótkocsit) A kategóriájú blokkolásgátló fékrendszerrel kell ellátni. A gépjárműveket 1. kategóriájú blokkolásgátló fékrendszerrel kell ellátni.</p> |



|                                     |   | Járművek        |                    |                    |                    |                    | Megjegyzés  |
|-------------------------------------|---|-----------------|--------------------|--------------------|--------------------|--------------------|---|
| Műszaki előírások                   |   | EX/II           | EX/III             | AT                 | FL                 | OX                 |   |
|                                     | – visszatartó fékrendszer                       |                 | X <sup>c, g)</sup> | X <sup>c, g)</sup> | X <sup>c, g)</sup> | X <sup>c, g)</sup> | c) A 16 tonnánál nagyobb megengedett legnagyobb össztömegű gépjárművekre, ill. a 10 tonnánál nagyobb megengedett legnagyobb össztömegű pótkocsi vontatására engedélyezett gépjárművekre kell alkalmazni, ha 1993. június 30. után helyezték először forgalomba.<br>g) 2010. január 1-je után minden gépjárműnek meg kell felelnie a jármű első forgalomba helyezése idején érvényes ENSZ-EGB 13. sz. előírás vagy a (módosított) 71/320/EGK irányelv műszaki követelményeinek, de legalább az ENSZ-EGB 13. sz. előírás 06. módosítási sorozat vagy a 91/422/EGK irányelvvel módosított 71/320/EGK irányelv műszaki követelményeinek.<br>A visszatartó fékrendszernek IIA típusúnak kell lennie. |
| <b>9.2.4</b>                        | <b>Tűzveszély kiküszöbölése</b>                 |                 |                    |                    |                    |                    |   |
| 9.2.4.2                             | – vezetőfülke                                   |                 |                    |                    |                    | X                  |   |
| 9.2.4.3                             | – tüzelőanyagtartály                            | X               | X                  |                    | X                  | X                  |   |
| 9.2.4.4                             | – motor   | X               | X                  |                    | X                  | X                  |   |
| 9.2.4.5                             | – kipufogórendszer                              | X               | X                  |                    | X                  |                    |   |
| 9.2.4.6                             | – a jármű visszatartó fékrendszere              |                 | X                  | X                  | X                  | X                  |   |
| 9.2.4.7                             | – égéshő felhasználásával működő fűtőberendezés |                 |                    |                    |                    |                    |   |
| 9.2.4.7.1<br>9.2.4.7.2<br>9.2.4.7.5 |   | X <sup>e)</sup> | X <sup>e)</sup>    | X <sup>e)</sup>    | X <sup>e)</sup>    | X <sup>e)</sup>    | e) Az 1999. június 30-a után felszerelt gépjárművekre vonatkozik. Az 1999. július 1-je előtt felszerelt gépjárművekre 2010. január 1-jétől kell alkalmazni.   |
| 9.2.4.7.3<br>9.2.4.7.4              |   |                 |                    |                    | X <sup>e)</sup>    |                    | e) Az 1999. június 30-a után felszerelt gépjárművekre vonatkozik. Az 1999. július 1-je előtt felszerelt gépjárművekre 2010. január 1-jétől kell alkalmazni.   |
| 9.2.4.7.6                           |   | X               | X                  |                    |                    |                    |   |
| <b>9.2.5</b>                        | <b>Sebességhorlátozó készülék</b>               | X <sup>f)</sup> | X <sup>f)</sup>    | X <sup>f)</sup>    | X <sup>f)</sup>    | X <sup>f)</sup>    | f) Az először 1987. december 31-e után forgalomba helyezett, 12 tonnánál nagyobb megengedett legnagyobb össztömegű gépjárművekre, valamint az először 2007. december 31-e után forgalomba helyezett, 3,5 tonnánál nagyobb, de legfeljebb 12 tonna megengedett legnagyobb össztömegű gépjárművekre vonatkozik.   |
| <b>9.2.6</b>                        | <b>Kapcsolószervezet</b>                        | X               | X                  |                    |                    |                    |   |

**9.2.2 Villamos felszerelés****9.2.2.1 Általános előírások**

A villamos felszerelésnek teljes egészében ki kell elégítenie a 9.2.2.2 – 9.2.2.6 bekezdés előírásait a 9.2.1 szakasz táblázatával összhangban.

**9.2.2.2 Kábelezés****9.2.2.2.1** A vezetékeket a túlmelegedés elkerülése érdekében bőségesen kell méretezni. A vezetékeket megfelelően szigetelni kell. Minden áramkört olvadó biztosítóval vagy önműködő megszakítóval kell védeni a túláram ellen a következők kivételével:

- az akkumulátorteleptől a hidegindítóig és a motorleállító rendszerig;
- az akkumulátorteleptől a generátorig;
- a generátortól a biztosíték vagy megszakító dobozáig;
- az akkumulátorteleptől az indítómotorig;
- az akkumulátorteleptől a visszatartó fékrendszer vezérlő dobozig (lásd a 9.2.3.1.2 pontot), ha ez a rendszer villamos vagy elektromágneses működtetésű;
- az akkumulátorteleptől a felemelhető tengely villamos emelőszerkezetéig.

Ezeket a védelem nélküli áramköröket a lehető legrövidebbre kell kialakítani.

**9.2.2.2.2** A kábeleket szilárdan kell rögzíteni, és oly módon kell fektetni, hogy a mechanikai és a hőhatásoktól védve legyenek.**9.2.2.3 Akkumulátortelep-főkapcsoló****9.2.2.3.1** Az akkumulátortelephez a lehető legközelebb villamos áramköröket megszakító főkapcsolót kell elhelyezni. Egypólusú kapcsoló használata esetén azt a tápvezetékbe, nem pedig a testvezetékbe kell elhelyezni.**9.2.2.3.2** A gépkocsi vezetőlülkájében olyan eszközt kell elhelyezni, amely lehetővé teszi az akkumulátortelep főkapcsoló kikapcsolását és újra bekapcsolását. Ezt a járművezető számára könnyen hozzáférhető helyre kell szerelni, jól megkülönböztethető jelöléssel kell ellátni, és védőburkolattal, kettős kapcsolómozgású kialakítással vagy más alkalmas módon védeni kell a nem szándékos működésbe hozás ellen. További kapcsolóeszközök is elhelyezhetők, ha megkülönböztethető jelöléssel vannak ellátva, illetve a nem szándékos működésbe hozás ellen védve vannak. Ha a kapcsolóeszköz(ök) villamos működtetésű(ek), az áramkörökre a 9.2.2.5 bekezdés előírásait be kell tartani.**9.2.2.3.3** Az akkumulátortelep főkapcsolót az IEC 529 szabvány szerinti IP65 védelmi fokozatú tokozással kell ellátni.**9.2.2.3.4** Az akkumulátortelep főkapcsoló csatlakozásainak IP54 védelmi fokozatúnak kell lenniük. Erre azonban nincs szükség, ha a csatlakozások burkolatban vannak, ami lehet maga az akkumulátordoboz is. Ebben az esetben elegendő a csatlakozásokat rövidzárlat ellen szigetelni, például gumisapkával.**9.2.2.4 Akkumulátortelep**

Az akkumulátortelep sorkapcsait elektromosan szigetelni kell, vagy szigetelő akkumulátordoboz fedéllel kell lefedni. Ha az akkumulátortelep nem a motorháztető alatt

van elhelyezve, akkor szellőztetett tartóban kell rögzíteni.

#### **9.2.2.5 Tartósan feszültség alatt lévő áramkörök**

**9.2.2.5.1** a) A villamos berendezések azon részeinek (beleértve a vezetékeket is), melyeknek az akkumulátortelep-főkapcsoló nyitott állásában is feszültség alatt kell maradniuk, alkalmasnak kell lenniük a veszélyes környezetben történő üzemeltetésre és ki kell elégíteniük az IEC 60079 szabvány 0 és 14<sup>5)</sup> részének általános követelményeit, valamint az IEC 60079 szabvány 1, 2, 5, 6, 7, 11, 15 vagy 18 részének<sup>6)</sup> vonatkozó kiegészítő követelményeit.

b) Az IEC 60079 szabvány 14<sup>5)</sup> részének alkalmazása szempontjából a következő osztályozást kell használni:

A 9.2.2.3, ill. a 9.2.2.4 bekezdésbe nem tartozó, tartósan feszültség alatt lévő villamos berendezésekre (beleértve a vezetékeket is) általában az 1 zóna, illetve a vezetőfülke mögött elhelyezett villamos berendezésekre a 2 zóna követelményeit kell teljesíteni. A IIC robbanási csoport és a T6 hőmérsékleti osztály követelményeit kell teljesíteni.

A T4 hőmérsékleti osztályba kell viszont sorolni azokat a tartósan feszültség alatt lévő villamos berendezéseket, amelyek olyan környezetben vannak, ahol az ott elhelyezett nemvillamos berendezések által okozott hőmérséklet magasabb, mint a T6 hőmérsékleti osztály határa.

c) A tartósan feszültség alatt lévő berendezések tápvezetékeinek vagy az IEC 60079 szabvány 7 rész („Fokozott biztonság”) előírásainak kell megfelelniük és az áramforráshoz a lehető legközelebb elhelyezett olvadó biztosítóval, ill. önműködő megszakítóval kell védeni, vagy „gyújtószikra mentes berendezés” esetén az áramforráshoz a lehető legközelebb elhelyezett biztonsági retesszel kell védeni.

**9.2.2.5.2** Azoknak a villamos berendezéseknek, amelyeknek az akkumulátortelep-főkapcsoló nyitott állásában is feszültség alatt kell maradniuk, a telepfőkapcsolót megkerülő vezetékeit a túlmelegedés ellen megfelelő eszközzel védeni, pl. olvadó biztosítóval, megszakítóval vagy biztonsági retesszel (áramkorlátozóval).

#### **9.2.2.6 A villamos berendezések vezetőfülke mögött elhelyezett részére vonatkozó előírások**

Az egész berendezést úgy kell kialakítani, felszerelni és védeni, hogy a jármű normál üzemi feltételei mellett ne idézhessen elő sem gyulladást, sem rövidzárlatot, és a legkisebb mértékre csökkentse ütődések vagy alakváltozások esetén ezek kockázatát. Különösen ügyelni kell a következőkre:

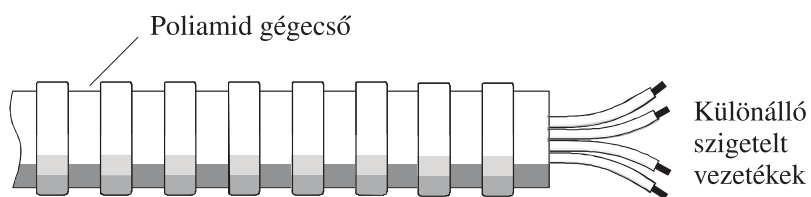
##### **9.2.2.6.1 Kábelezés**

A vezetőfülke mögötti kábeleket védeni kell a normális jármű üzemelés során fellépő ütéssel, kopással és dörzsölődéssel szemben. A megfelelő védelem példái az 1 – 4. ábrán láthatók. A blokkolásgátló fékszerkezet érzékelő kábele azonban nem igényel kiegészítő védelmet.

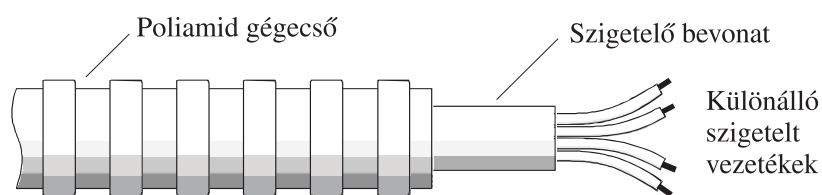
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5) E rész előírásai elsősorban érvényesek az IEC 60079 szabvány 14 részével szemben.

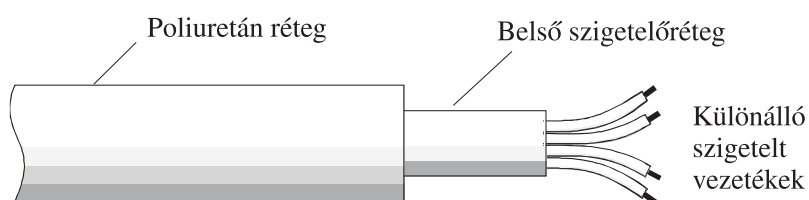
6) Alternatívaként az EN 50014 szabvány általános követelményei, ill. az EN 50015, 50016, 50017, 50018, 50019, 50020, 50021 és 50028 kiegészítő követelményei is használhatók.



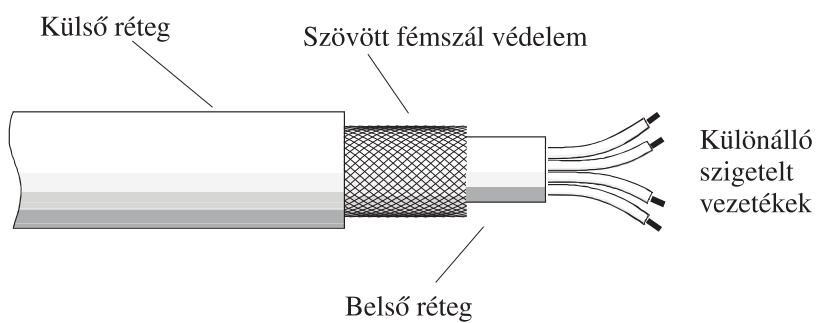
1. ábra



2. ábra



3. ábra



4. ábra

**9.2.2.6.2**      *Világítás*

Menetes foglalatú izzólámpák nem használhatók.

**9.2.2.6.3**      *Villamos csatlakozás*

A gépjármű és a pótkocsi közötti villamos csatlakozásnak az IEC 529 szabvány szerinti IP54 fokozatú védettséggel kell rendelkeznie, és úgy kell azt kialakítani, hogy a véletlenszerű megszakítást megakadályozza. Ilyen megfelelő csatlakozás szerepel pl. az ISO 12098:2004. vagy az ISO 7638:1997. szabványban.

**9.2.3**            **Fékberendezés****9.2.3.1**        *Általános előírások*

**9.2.3.1.1**      A veszélyes áru szállításához szállítóegységként használt gépjárműveknek és pótkocsiknak ki kell elégíteniük az ENSZ-EGB 13. sz. előírás<sup>7)</sup> vagy a 71/320/EGK irányelv<sup>8)</sup> vonatkozó műszaki követelményeit (a bennük szereplő alkalmazási időpontok szerinti változatban).

**9.2.3.1.2**      Az EX/III, az FL, az OX és az AT járműveknek az ENSZ-EGB 13. sz. előírás<sup>7)</sup> 5. Mellékletének követelményeit kell teljesíteni.

**9.2.3.2**        (törölve)

**9.2.4**            **Tűzveszély kiküszöbölése****9.2.4.1**        *Általános előírások*

A következő műszaki előírásokat a 9.2.1 szakaszban lévő táblázattal összhangban kell alkalmazni.

**9.2.4.2**        *Vezetőfülke*

Ha a vezetőfülke nem nehezen éghető anyagokból készült, fémből vagy más alkalmas anyagból készült, a tartánnyal azonos szélességű pajzsot kell a fülke mögött elhelyezni. A fülke hátsó felén vagy a pajzson levő ablakokat légmentesen zárt kivitelben, tűzálló, biztonsági üvegből és tűzálló keretekkel kell kialakítani. Ezenkívül legalább 15 cm üres térnek kell lennie a tartány és a fülke vagy a pajzs között.

**9.2.4.3**        *Tüzelőanyagtartály*

A gépjármű motorját ellátó tüzelőanyagtartályoknak a következő követelményeket kell kielégíteniük:

- a) Szivárgás esetén a tüzelőanyag a talajra folyjon, anélkül, hogy érintkezésbe kerülne a jármű forró részeivel vagy a rakománnyal.
- b) A benzint tartalmazó tüzelőanyagtartályok töltőnyílását hatékony lángzáró szerkezettel vagy légmentesen zárva tartható zárószerkezettel kell ellátni.

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7) Az ENSZ-EGB 13. sz. előírás (Egységes feltételek az M, N és O kategóriájú járművek jóváhagyására a fékezés vonatkozásában).

8) A 71/320/EGK Tanácsi Irányelv (lásd az EK Hivatalos Lapja L202 sz., 1971.09.06.) módosított változata

**9.2.4.4 Motor**

A járművet meghajtó motort úgy kell felszerelni és elhelyezni, hogy elkerüljük a rakomány melegedésének vagy meggyulladásának veszélyét. Az EX/II és az EX/III járművek motorja csak kompressziógyújtású (dízelmotor) lehet.

**9.2.4.5 Kipufogó rendszer**

A kipufogórendszert, valamint a kipufogó csővezetékeket olyan irányban kell elhelyezni vagy úgy kell védeni, hogy elkerüljük a rakomány melegedésének vagy gyulladásának veszélyét. A kipufogórendszernek közvetlenül a tüzelőanyag-tartály (dízeltöltő-tartály) alatt elhelyezett részeinek attól legalább 100 mm távolságban vagy hőszigetelő pajzzsal védettnek kell lenniük.

**9.2.4.6 A jármű visszatartó fékrendszere**

Ha a jármű visszatartó fékrendszere a vezetőfülke hátsó fala mögött van elhelyezve és forró hőt bocsát ki, akkor a fékrendszer és a tartány vagy rakomány közé biztonságosan rögzített hővédő pajzsot kell elhelyezni annak érdekében, hogy ne következhessek be a tartánynak vagy a rakománynak akár csak helyi felmelegedése se.

Ezenkívül ennek a hővédő pajzsnak védenie kell a fékrendszert a szállított anyag még véletlen kifolyásától vagy szivárgásától is, pl. kettős falú pajzsot tartalmazó védelem kielégítőnek tekinthető.

**9.2.4.7 Égéshő felhasználásával működő fűtőberendezés**

**9.2.4.7.1** Az égéshő felhasználásával működő fűtőberendezésnek meg kell felelnie az ENSZ-EGB 122. sz. előírás<sup>9)</sup> vagy a 2001/56/EK Irányelv<sup>10)</sup> előírásainak (a bennük szereplő alkalmazási időpontok szerinti változatban) és a 9.2.4.7.2 – 9.2.4.7.6 pont követelményeinek, a 9.2.1 szakasz táblázatával összhangban.

**9.2.4.7.2** A égéshő felhasználásával működő fűtőberendezést, illetve az égéstermék elvezető rendszerét úgy kell kialakítani, elhelyezni, védeni vagy lefedni, hogy a rakomány meggyulladásának vagy megengedhetetlen felmelegedésének veszélyét elkerüljük. E követelmény teljesítettnek tekinthető, ha a berendezés tüzelőanyag-tartálya és az égéstermék elvezető rendszere hasonlóan van kialakítva ahhoz, ahogy a 9.2.4.3, ill. a 9.2.4.5 bekezdésben a jármű tüzelőanyag-tartályára és a kipufogó rendszerére elő van írva.

**9.2.4.7.3** Az égéshő felhasználásával működő fűtőberendezésnek legalább a következő esetekben ki kell kapcsolnia:

- a) a kézi kapcsoló vezetőfülkéből történő, szándékos működtetésekor;
- b) a jármű motorjának leállásakor, ez esetben a fűtőberendezést a gépjárművezető kézzel visszakapcsolhatja;
- c) a gépjárműnek a szállítandó anyag betöltéséhez használt szivattyúja beindításakor.

**9.2.4.7.4** Az égéshő felhasználásával működő fűtőberendezés kikapcsolása után utóégés megengedett. A 9.2.4.7.3 pont b) és c) alpontja esetén a porlasztólevegő ellátást legfeljebb 40 s-ig tartó utóégés után, alkalmas eszközzel meg kell szakítani. Csak olyan fűtőberendezések használhatók, amelyeknél bizonyított, hogy normális használati idejük alatt a hőcserélő elviseli a 40 s-ig tartó mérsékelt utóégéseket.

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9) ENSZ-EGB 122. sz. előírás (Előírások a fűtési rendszerek típusjövahagyásáról és a járművek fűtési rendszerek vonatkozásában történő típusjövahagyásáról).

10) Az Európai Parlament és a Tanács 2001. szeptember 27-i 2001/56/EK Irányelve a gépjárművek és pótkocsijaik fűtési rendszereiről (lásd az EK Hivatalos Lapja L292 sz., 2001.11.09.).

**9.2.4.7.5** Az égéshő felhasználásával működő fűtőberendezésnek kézzel kapcsolhatónak kell lennie. Programozott kapcsoló nem alkalmazható.

**9.2.4.7.6** Az égéshő felhasználásával működő fűtőberendezéshez gáznemű tüzelőanyag nem használható.

**9.2.5 Sebességkorlátozó készülék**

A 3,5 tonnát meghaladó legnagyobb megengedett össztömegű gépjárműveket (tehergépkocsikat és nyerges vontatókat) az ENSZ-EGB 89. számú előírás<sup>11)</sup> szerinti sebességkorlátozó készülékkel kell ellátni. A készüléket – a technológiai tűrés figyelembevételével – úgy kell beállítani, hogy a sebesség ne lépesse túl a 90 km/h értéket.

**9.2.6 A pótkocsik kapcsolószerkezete**

A pótkocsik kapcsolószerkezetének meg kell felelnie az ENSZ-EGB 55. sz. előírás<sup>12)</sup> vagy a 94/20/EK Irányelv<sup>13)</sup> műszaki követelményeinek (a bennük szereplő alkalmazási időpontok szerinti változatban).

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11) Az ENSZ-EGB 89. sz. előírás: Egységes feltételek a járművek jóváhagyására:

I. maximális sebességük korlátozása szempontjából;

II. a jóváhagyott típusú sebességkorlátozó (SLD) beépítése szempontjából;

III. a sebességkorlátozó készülékek jóváhagyására.

Alternatívaként az 1992. március 31-i 92/24/EEC Tanácsi Irányelv (lásd az EK Hivatalos Lapja L129 sz., 1992.05.14.) megfelelő előírásai is alkalmazhatók, feltéve, ha a jármű jóváhagyás idejében érvényes ENSZ-EGB 89. sz. előírással összhangban módosítva vannak.

12) Az ENSZ-EGB 55. sz. előírás: Egységes feltételek a járműszerelvények mechanikus kapcsolószerkezeteinek jóváhagyására, legújabb módosított változata.

13) Az Európai Parlament és a Tanács 1994. május 30-i 94/20/EK Irányelve (lásd az EK Hivatalos Lapja L195 sz., 1994.07.29.).

**9.3 FEJEZET****KIEGÉSZÍTŐ KÖVETELMÉNYEK AZ 1 OSZTÁLYBA TARTOZÓ  
ROBBANÓANYAGOK ÉS -TÁRGYAK KÜLDEMÉNYDARABOKBAN TÖRTÉNŐ  
SZÁLLÍTÁSÁRA SZOLGÁLÓ, EX/II ÉS EX/III  
(KÉSZ, ill. BEFEJEZETT) JÁRMŰVEKRE****9.3.1 A járműszekrény gyártásához használt anyagok**

A járműszekrény gyártásához nem szabad olyan anyagot használni, amely a szállított anyaggal veszélyes vegyületet képezhet.

**9.3.2 Égéshő felhasználásával működő fűtőberendezés**

**9.3.2.1** Az EX/II és az EX/III járműveken égéshő felhasználásával működő fűtőberendezést csak a vezetőfülke fűtésére, ill. a motor melegítésére lehet használni

**9.3.2.2** Az égéshő felhasználásával működő fűtőberendezésnek meg kell felelnie a 9.2.4.7.1, a 9.2.4.7.2, a 9.2.4.7.5 és a 9.2.4.7.6 pont követelményeinek.

**9.3.2.3** Az égéshő felhasználásával működő fűtőberendezés kapcsolója a vezetőfülkén kívül is elhelyezhető.

Nem szükséges bizonyítani, hogy a hőcserélő elviseli a mérsékelt utóégéseket.

**9.3.2.4** Nem szabad a raktéren belül elhelyezni az égéshő felhasználásával működő fűtőberendezést, ill. a működéséhez szükséges tüzelőanyagtartályt, áramforrást, porlasztó levegő (égési levegő) és fűtőlevegő beszívónyílást, illetve égéstermék kivezetőnyílást.

**9.3.3 EX/II jármű**

A járműveket úgy kell kialakítani és felszerelni, hogy a robbanóanyagot megvédjék a külső veszélyektől és az időjárás hatásaitól, lehetnek fedettek vagy ponyvásak. A ponyvát nagy szakítószilárdságú, vízhatlan és lángmentesített anyagból<sup>14)</sup> kell készíteni. A ponyvát úgy kell kifeszíteni, hogy a rakfelületet minden oldalon fedje.

A fedett járművek rakterében minden nyílást hézag nélkül illeszkedő, zárható ajtóval vagy fedéllel kell ellátni. A vezetőfülkét a raktértől hézagmentes fallal kell elválasztani.

**9.3.4 EX/III jármű**

**9.3.4.1** A járműveket úgy kell kialakítani és felszerelni, hogy a robbanóanyagot megvédjék a külső veszélyektől és az időjárás hatásaitól. A járműnek fedettnek kell lennie. A vezetőfülkét a raktértől hézagmentes fallal kell elválasztani. A rakfelületnek megszakítás nélkülinek kell lennie. Rakomány lehorgonyzó szerelvények elhelyezhetők. Minden illesztést tömíteni kell. Minden nyílást úgy kell kialakítani, hogy zárható legyen, és úgy kell elhelyezni, hogy a csuklópántok el legyenek fedve.

**9.3.4.2** A járműszekrényt legalább 10 mm vastag, hő- és lángálló anyagból kell készíteni. E követelmény az EN 13501-1:2002 szabvány szerinti B-S<sub>3</sub>-d<sub>2</sub> osztályba sorolt anyagok

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14) A gyúlékonyság tekintetében ez a követelmény teljesítettnek tekinthető, ha a ponyva mintákat az ISO 3795:1989 „Közüti járművek, valamint mező- és erdőgazdasági vontatók és munkagépek – A belső anyagok égési viselkedésének meghatározása” c. szabványban meghatározott módszerrel vizsgálva az égési sebesség nem haladja meg a 100 mm/min értéket.



használata esetén teljesítettnek tekinthető.

Ha a járműszekrényhez használt anyag fém, annak teljes belső felületét ezen követelményt kielégítő anyaggal kell bevonni.

#### **9.3.5            Motor és raktér**

Az EX/II, ill. az EX/III járművet meghajtó motort a raktér elülső fala előtt kell elhelyezni; ha azonban a kialakítás olyan, hogy semmilyen hőhatás nem jár azzal a veszéllyel, hogy a raktér belső felületének hőmérséklete 80 °C fölé emelkedik, akkor a motor a raktér alatt is elhelyezhető.

#### **9.3.6            Külső hőforrások és raktér**

A (kész vagy befejezett) EX/II és az EX/III járművek kipufogó rendszerét, illetve minden más részét úgy kell kialakítani és elhelyezni, hogy semmilyen hőhatás ne járjon azzal a veszéllyel, hogy a raktér belső felületének hőmérséklete 80 °C fölé emelkedik.

#### **9.3.7            Villamos berendezések**

**9.3.7.1**            A villamos berendezések névleges feszültsége nem haladhatja meg a 24 V-ot.

**9.3.7.2**            Az EX/II járművek rakterében minden világítást a mennyezeten kell elhelyezni és burkolattal kell ellátni, azaz szabadon álló vezetékek vagy izzók nem alkalmazhatók.

A villamos berendezéseknek a J összeférhetőségi csoport esetén legalább IP65 (pl. EEx d nyomásálló tokozású) típusúnak kell lenniük. A raktér belsejéből hozzáférhető villamos berendezéseket megfelelő módon védeni kell a belülről fellépő mechanikai hatásokkal szemben.

**9.3.7.3**            Az EX/III járművek villamos berendezéseinek a 9.2.2.2, a 9.2.2.3, a 9.2.2.4, a 9.2.2.5.2 és a 9.2.2.6 bekezdés vonatkozó követelményeinek kell megfelelniük.

A raktérben a villamos berendezésnek pormentesnek (legalább IP54 típusúnak vagy azzal egyenértékűnek), vagy a J összeférhetőségi csoport esetén legalább IP65 (pl. EEx d nyomásálló tokozású) típusúnak kell lennie.

**9.4 FEJEZET****KIEGÉSZÍTŐ KÖVETELMÉNYEK A VESZÉLYES ÁRUT  
KÜLDEMÉNYDARABOKBAN SZÁLLÍTÓ (KÉSZ, ill. BEFEJEZETT)  
JÁRMŰVEK (KIVÉVE AZ EX/II ÉS EX/III JÁRMŰVEK) FELÉPÍTMÉNYÉNEK  
SZERKEZETÉRE**

- 9.4.1** Az égéshő felhasználásával működő fűtőberendezésnek ki kell elégítenie a következő követelményeket:
- a) a kapcsoló a vezetőfülkén kívül is elhelyezhető;
  - b) a fűtőberendezést a raktéren kívülről is ki lehet kapcsolni; és
  - c) nem szükséges bizonyítani, hogy a hőcserélő elviseli a mérsékelt utóégéseket.
- 9.4.2** Ha a járművel olyan veszélyes árut szállítanak, amelyre 1, 1.4, 1.5, 1.6, 3, 4.1, 4.3, 5.1 vagy 5.2 veszélyességi bárca van előírva, akkor nem szabad a raktéren belül elhelyezni az égéshő felhasználásával működő fűtőberendezés működéséhez szükséges tüzelőanyagtartályt, áramforrást, porlasztó levegő (égési levegő) és fűtőlevegő beszívónyílást, illetve égéstermék kivezetőnyílást. Biztosítani kell, hogy a rakomány ne torlaszolja el a fűtőlevegő kivezetőnyílást. A küldeménydarabok legfeljebb 50 °C-ra melegedhetnek fel. A raktéren belül elhelyezett fűtőberendezésnek olyannak kell lennie, hogy üzemi körülmények között a robbanóképes környezetben ne okozzon gyulladást.
- 9.4.3** Egyes veszélyes áruk vagy egyes csomagolások szállítása esetén a jármű felépítményének szerkezetére további követelmények lehetnek még a 7. rész 7.2 fejezetében, ahogy azt az egyes anyagokra vonatkozóan a 3.2 fejezet „A” táblázat 16 oszlopa feltünteti.

**9.5 FEJEZET****KIEGÉSZÍTŐ KÖVETELMÉNYEK A SZILÁRD VESZÉLYES ÁRUT  
ÖMLESZTVE SZÁLLÍTÓ (KÉSZ, ill. BEFEJEZETT) JÁRMŰVEK  
FELÉPÍTMÉNYÉNEK SZERKEZETÉRE**

- 9.5.1** Az égéshő felhasználásával működő fűtőberendezésnek ki kell elégítenie a következő követelményeket:
- a) a kapcsoló a vezetőfülkén kívül is elhelyezhető;
  - b) a fűtőberendezést a raktéren kívülről is ki lehet kapcsolni; és
  - c) nem szükséges bizonyítani, hogy a hőcserélő elviseli a mérsékelt utóégéseket.
- 9.5.2** Ha a járművel olyan veszélyes árut szállítanak, amelyre 4.1, 4.3 vagy 5.1 veszélyességi bárca van előírva, akkor nem szabad a raktéren belül elhelyezni az égéshő felhasználásával működő fűtőberendezés működéséhez szükséges tüzelőanyagtartályt, áramforrást, porlasztó levegő (égési levegő) és fűtőlevegő beszívónyílást, illetve égéstermék kivezetőnyílást. Biztosítani kell, hogy a rakomány ne torlaszolja el a fűtőlevegő kivezetőnyílást. A rakomány legfeljebb 50 °C-ra melegedhet fel. A raktéren belül elhelyezett fűtőberendezésnek olyannak kell lennie, hogy üzemi körülmények között a robbanóképes környezetben ne okozzon gyulladást.
- 9.5.3** Szilárd veszélyes áruk ömlesztett szállítása esetén a jármű felépítményének meg kell felelnie a 6.11, ill. a 7.3 fejezet követelményeinek, beleértve a 7.3.2, ill. a 7.3.3 szakaszt, ahogy azt az egyes anyagokra vonatkozóan a 3.2 fejezet „A” táblázat 10, ill. 17 oszlopa feltünteti.

**9.6 FEJEZET****KIEGÉSZÍTŐ KÖVETELMÉNYEK A HŐMÉRSÉKLET-  
SZABÁLYOZÁSSAL TÖRTÉNŐ SZÁLLÍTÁSRA SZOLGÁLÓ  
(KÉSZ, ill. BEFEJEZETT) JÁRMŰVEKRE****9.6.1**

A veszélyes anyagok hőmérséklet-szabályozással történő szállítására szolgáló hőszigetelt, hűtött vagy hűtőgépes járműveknek a következő feltételeknek kell megfelelniük:

- a) a járműveknek hőszigetelésüket és hűtési módjukat illetően olyanoknak kell lenniük és úgy kell azokat felszerelni, hogy a hőmérséklet ne haladja meg a 2.2.41.1.17 és a 2.2.52.1.16 pontokban, ill. a 2.2.41.4 és a 2.2.52.4 bekezdésben a szállított anyagra előírt szabályozási hőmérsékletet. Az együttes hőátadási együttható nem haladhatja meg a  $0,4 \text{ W}/(\text{m}^2 \cdot \text{K})$  értéket;
- b) a járművet úgy kell felszerelni, hogy a szállított anyagból vagy a hűtőközezből származó gőzök ne juthassanak a vezetőfülkébe;
- c) megfelelő készülékkel lehetővé kell tenni a raktérben uralkodó hőmérséklet meghatározását bármely időpontban a vezetőfülkéből;
- d) a raktérben biztosítani kell a szellőzést, vagy azt szellőző szelepekkel kell ellátni, ha fennáll benne a veszélyes túlnyomás kialakulásának veszélye. Ilyen esetekben kellő óvatossággal kell eljárni, hogy a szellőzés vagy a szellőző szelepek ne csökkentsék a hűtést;
- e) a hűtőközeg nem lehet gyúlékony; és
- f) a hűtőgépes jármű hűtőkészülékének alkalmasnak kell lennie arra, hogy a jármű meghajtására szolgáló motortól függetlenül működjön.

**9.6.2**

A szabályozási hőmérséklet túllépésének elkerülésére szolgáló módszerek a 7.2 fejezetben vannak felsorolva (R1 – R5). Az alkalmazott módszertől függően a jármű felépítményének szerkezetére további követelmények lehetnek a 7.2 fejezetben.

**9.7 FEJEZET****KIEGÉSZÍTŐ KÖVETELMÉNYEK A TARTÁNYJÁRMŰVEKRE (RÖGZÍTETT TARTÁNYOKRA), AZ 1 m<sup>3</sup>-NÉL NAGYOBB BEFOGADÓKÉPESSÉGŰ BATTÉRIÁS JÁRMŰVEKRE, A VESZÉLYES ÁRUK 1 m<sup>3</sup>-NÉL NAGYOBB BEFOGADÓKÉPESSÉGŰ LESZERELHETŐ TARTÁNYBAN, 3 m<sup>3</sup>-NÉL NAGYOBB BEFOGADÓKÉPESSÉGŰ TANKKONTÉNERBEN, MOBIL TARTÁNYBAN VAGY MEG-KONTÉNERBEN VALÓ SZÁLLÍTÁSÁRA SZOLGÁLÓ (KÉSZ, ill. BEFEJEZETT) JÁRMŰVEKRE (EX/III, FL, AT, OX JÁRMŰVEKRE)****9.7.1 Általános előírások**

- 9.7.1.1** A tartányjármű a járműből vagy az azt helyettesítő közúti futómű-elemekből, egy vagy több tartányból, szerelvényeikből és a tartányokat a járműhöz vagy a futómű-elemekhez csatlakoztató alkatrészekből áll.
- 9.7.1.2** A hordozó-járműhöz erősített leszerelhető tartánynak a tartányjárműre vonatkozó előírásoknak meg kell felelnie.

**9.7.2 A tartányokra vonatkozó követelmények**

- 9.7.2.1** A fémből készült rögzített vagy leszerelhető tartányoknak meg kell felelniük a 6.8 fejezet vonatkozó követelményeinek.
- 9.7.2.2** Abban az esetben, ha a MEG-konténer elemei palackok, nagypalackok, gázhordók vagy palackkötegek, a 6.2 fejezet, ha tartányok, a 6.8 fejezet vonatkozó követelményeit kell betartani.
- 9.7.2.3** A fémből készült tankkonténereknek a 6.8 fejezet, a mobil tartányoknak a 6.7 fejezet, illetve – ahol alkalmazható – az IMDG Kódex (lásd az 1.1.4.2 bekezdést) vonatkozó követelményeinek kell megfelelniük.
- 9.7.2.4** A szálvázaz műanyagból gyártott tartányoknak a 6.9 fejezet követelményeinek kell megfelelniük.
- 9.7.2.5** A hulladékok szállítására szolgáló, vákuummal üzemelő tartányoknak a 6.10 fejezet követelményeinek kell megfelelniük.

**9.7.3 Rögzítőelemek**

A rögzítőelemeket úgy kell kialakítani, hogy a normál szállítási körülmények között fellépő statikus és dinamikus terheléseket, ill. a tartányjárművekre, a battériás járművekre és a leszerelhető tartányt hordozó járművekre a 6.8.2.1.2, a 6.8.2.1.11 – 6.8.2.1.16 pontban meghatározott minimális igénybevételeket el tudják viselni.

**9.7.4 Az FL járművek földelése**

Az FL tartányjárművek fémből vagy szálvázaz műanyagból készült tartányait, ill. az FL battériás jármű elemeit a jármű alvázával legalább egy, jó elektromos csatlakozással össze kell kötni. Elektrokémiai korróziót okozó fémes kapcsolatot nem szabad létesíteni.

*Megjegyzés: Lásd még a 6.9.1.2 bekezdést és a 6.9.2.14.3 pontot is.*

**9.7.5 A tartányjárművek stabilitása**

**9.7.5.1** A talajon támaszkodó felület teljes szélességének (az ugyanazon tengely jobb és bal oldali gumibroncsának a talajjal érintkező legkülső pontjai közötti távolságnak) legalább akkorának kell lennie, mint a terhelt tartányjármű tömegközéppont magasságának 90 %-a. Nyerges szerelvényeknél a terhelt félpótkocsit hordozó egység tengelyeire eső tömeg nem haladhatja meg a terhelt nyerges szerelvény összes névleges tömegének 60%-át.

**9.7.5.2** Az előzőeken túlmenően a folyadékok vagy olvadékok szállítására szolgáló, 3 m<sup>3</sup>-nél nagyobb befogadóképességű rögzített tartányt hordozó járműveknek (tartányjárműveknek), amelyeknél a tartány próbanyomása 4 bar-nál kisebb, meg kell felelniük az ENSZ-EGB 111. sz. előírás<sup>15)</sup> oldalirányú stabilitásra vonatkozó követelményeinek. Ezeket a követelményeket az először 2003. július 1-je után forgalomba helyezett járművekre kell alkalmazni.

**9.7.6 A járművek hátsó védelme**

A jármű hátsó részét a hátulról jövő lökésekkel szemben a tartány teljes szélességben kielégítően védő lökhárítóval kell felszerelni. A tartány hátsó fala és a lökhárító hátsó része között legalább 100 mm távolságnak kell lennie; ezt a távolságot a tartány hátsó falának leghátsó pontjától, vagy a szállított anyaggal érintkezésben lévő, kiálló tartozékoktól vagy szerelvényektől kell mérni. A por alakú vagy szemcsés anyagok szállítására használt, hátsó ürítésű, billenthető tartánnyal ellátott járműveknél és a hulladékok szállítására szolgáló, vákuummal üzemelő, hátsó ürítésű, billenthető tartánnyal ellátott járműveknél nem szükséges lökhárító, ha a tartány hátsó szerelvényei el vannak látva olyan védőszerkezettel, amely a tartányt a lökhárítóhoz hasonló módon védi.

**Megjegyzés:** 1. Ezt az előírás nem vonatkozik a veszélyes árut tankkonténerben, mobil tartányban vagy MEG-konténerben szállító járművekre.

2. A tartányok oldalirányú lökésekkel vagy felborulással szembeni védelmére tartányok esetében lásd a 6.8.2.1.20 és a 6.8.2.1.21 pontot, ill. mobil tartányok esetében a 6.7.2.4.3 és a 6.7.2.4.5 pontot.

**9.7.7 Égéshő felhasználásával működő fűtőberendezés**

**9.7.7.1** Az égéshő felhasználásával működő fűtőberendezésnek meg kell felelnie a 9.2.4.7.1, a 9.2.4.7.2, a 9.2.4.7.5 pont követelményeinek és a következő feltételeknek:

- a) a kapcsoló a vezetőfülkén kívül is elhelyezhető;
- b) a fűtőberendezést a raktéren kívülről is ki lehet kapcsolni; és
- c) nem szükséges bizonyítani, hogy a hőcserélő elviseli a mérsékelt utóégéseket.

Az FL járművek esetében az előzőeken túlmenően a 9.2.4.7.3 és a 9.2.4.7.4 pont előírásainak is meg kell felelni.

**9.7.7.2** Ha a járművel olyan veszélyes árut szállítanak, amelyre 1.5, 3, 4.1, 4.3, 5.1 vagy 5.2 veszélyességi bárca van előírva, akkor nem szabad a raktéren belül elhelyezni az égéshő felhasználásával működő fűtőberendezés működéséhez szükséges tüzelőanyagtartályt, áramforrást, porlasztó levegő (égési levegő) és fűtőlevegő beszívónyílást, illetve égéstermék kivezetőnyílást. Biztosítani kell, hogy a rakomány ne torlaszolja el a fűtőlevegő kivezetőnyílást. A rakomány legfeljebb 50 °C-ra melegezhet fel. A raktéren belül elhelyezett fűtőberendezésnek olyannak kell lennie, hogy üzemi körülmények között a robbanóképes környezetben ne okozzon gyulladást.

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15) Az ENSZ-EGB 111. sz. előírás: Egységes feltételek az N és O kategóriájú tartányjárművek jóváhagyására a borulási stabilitás vonatkozásában.

**9.7.8 Villamos berendezések**

**9.7.8.1** A 9.1.2 szakasz szerint jóváhagyásra kötelezett FL járművek villamos berendezéseinek a 9.2.2.2, a 9.2.2.3, a 9.2.2.4, a 9.2.2.5.1 és a 9.2.2.6 bekezdés követelményeinek kell megfelelniük.

A villamos berendezések kiegészítése vagy változtatása esetén a szállítandó anyagoknak megfelelő csoport és hőmérsékleti osztály villamos berendezésekre vonatkozó követelményeit teljesíteni kell.

***Megjegyzés:** Az átmeneti előírásokra lásd az 1.6.5 szakaszt is.*

**9.7.8.2** Az FL járművek villamos berendezéseinek, amelyek olyan helyen vannak, ahol robbanóképes környezet van vagy várható, a veszélyes környezetben történő használatra alkalmasnak kell lenniük. Az ilyen berendezéseknek meg kell felelniük az IEC 60079 szabvány 0 és 14 részének általános követelményeinek és az IEC 60079 szabvány 1, 2, 5, 6, 7, 11 vagy 18 részének<sup>16)</sup> vonatkozó kiegészítő követelményeinek. A villamos berendezéseknek meg kell felelniük a szállítandó anyag szerinti megfelelő csoport és hőmérsékleti osztály villamos berendezéseire vonatkozó követelményeknek.

Az IEC 60079 szabvány 14 részének<sup>16)</sup> alkalmazása szempontjából a következő osztályozást kell használni:

0 zóna: a tartány belseje, a töltő és ürítő szerelvények és gőzviszavezető.

1 zóna: a töltéshez és ürítéshez használt felszerelések kezelőszekrényének belseje, valamint a szellőztető szerkezetek és a biztonsági szelepek 0,5 m-es környezete.

**9.7.8.3** A 0 és 1 zónán kívül elhelyezkedő, tartósan feszültség alatt levő villamos berendezésekre (beleértve a vezetékeket is), általában az 1 zóna, illetve a vezetőfülkében elhelyezett villamos berendezésekre az IEC 60079 szabvány 14<sup>16)</sup> része szerinti 2 zóna követelményeit kell teljesíteni. A szállítandó anyagoknak megfelelő csoport és hőmérsékleti osztály villamos berendezésekre vonatkozó követelményeit teljesíteni kell.

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16) Alternatívaként az EN 50014 szabvány általános követelményei, ill. az EN 50015, 50016, 50017, 50018, 50019, 50020, 50021 és 50028 kiegészítő követelményei is használhatók.

## 9.8 FEJEZET

### KIEGÉSZÍTŐ KÖVETELMÉNYEK A KÉSZ, ill. BEFEJEZETT MEMU-KRA

#### 9.8.1 Általános előírások

A MEMU a járműből vagy az azt helyettesítő közúti futómű-elemekből, egy vagy több tartányból és ömlesztettáru-konténerből, szerelvényeikből és a járműhöz vagy a futómű-elemekhez csatlakoztató alkatrészekből áll.

#### 9.8.2 Tartányokra és ömlesztettáru-konténerekre vonatkozó követelmények

A tartányokra, az ömlesztettáru-konténerekre és a robbanóanyag szállítására szolgáló, különleges rakterekre a 6.12 fejezet követelményeit kell betartani.

#### 9.8.3 A MEMU-k földelése

A MEMU egységek fémből vagy szálvázazás műanyagból készült tartányait, ömlesztettáru-konténerait, ill. a robbanóanyag szállítására szolgáló, különleges raktereit az alvázal legalább egy, jó elektromos csatlakozással össze kell kötni. Elektrokémiai korróziót okozó vagy a tartányban, ill. ömlesztettáru-konténerben szállított veszélyes áruval reakcióba lépő fémes kapcsolatot nem szabad létesíteni

#### 9.8.4 A MEMU-k stabilitása

A talajon támaszkodó felület teljes szélességének (az ugyanazon tengely jobb és bal oldali gumiabroncsának a talajjal érintkező legkülső pontjai közötti távolságnak) legalább akkorának kell lennie, mint a terhelt jármű tömegközéppont magasságának 90%-a. Nyerges szerelvényeknél a terhelt félpótkocsit hordozó egység tengelyeire eső tömeg nem haladhatja meg a terhelt nyerges szerelvény összes névleges tömegének 60%-át.

#### 9.8.5 A MEMU-k hátsó védelme

A jármű hátsó részét a hátulról jövő lökésekkel szemben a tartány teljes szélességben kielégítően védő lökhárítóval kell felszerelni. A tartány hátsó fala és a lökhárító hátsó része között legalább 100 mm távolságnak kell lennie; ezt a távolságot a tartány hátsó falának leghátsó pontjától, vagy a szállított anyaggal érintkezésben lévő, kiálló tartozékoktól vagy szerelvényektől kell mérni. A hátsó ürítésű, billenthető tartánnyal ellátott járműveknél nem szükséges lökhárító, ha a tartány hátsó szerelvényei el vannak látva olyan védőszerkezettel, amely a tartányt a lökhárítóhoz hasonló módon védi.

**Megjegyzés:** Ez az előírás nem vonatkozik az olyan MEMU-ra, amelynek a tartánya a hátulról jövő lökésekkel szemben más módon védve van, pl. a gépszerkezet vagy a veszélyes árut nem tartalmazó csővezeték által.

#### 9.8.6 Égéshő felhasználásával működő fűtőberendezés

##### 9.8.6.1 Az égéshő felhasználásával működő fűtőberendezésnek meg kell felelnie a 9.2.4.7.1, a 9.2.4.7.2, a 9.2.4.7.5, a 9.2.4.7.6 pont követelményeinek és a következő feltételeknek:

- a kapcsoló a vezetőfülkén kívül is elhelyezhető;
- a fűtőberendezést a MEMU rakterén kívülről lehet kikapcsolni; és
- nem szükséges bizonyítani, hogy a hőcserélő elviseli a mérsékelt utóégetéseket.



**9.8.6.2** Abban a raktérben, ahol tartány van nem szabad elhelyezni az égéshő felhasználásával működő fűtőberendezés működéséhez szükséges tüzelőanyag-tartályt, áramforrást, porlasztó levegő (égési levegő) és fűtőlevegő beszívónyílást, illetve égéstermék kivezetőnyílást. Biztosítani kell, hogy a fűtőlevegő kivezetőnyílása ne legyen eltorlaszolva. Bármelyik szerelvény legfeljebb 50 °C-ra melegedhet fel. A raktéren belül elhelyezett fűtőberendezésnek olyannak kell lennie, hogy üzemi körülmények között a robbanóképes környezetben ne okozzon gyulladást.

**9.8.7            Kiegészítő biztonsági követelmények**

**9.8.7.1** A MEMU-kat a motortérben keletkező tűz leküzdésére önműködő tűzoltó készülékkel kell felszerelni.

**9.8.7.2** A rakományt az abroncs tüzzel szemben fémből készült hőszigetelő pajzzsal kell védeni.

**9.8.8            Kiegészítő közbiztonsági követelmények**

A MEMU-n a keverő- és töltőberendezést és a különleges rakteret zárral kell ellátni.